

## **Phase II Property Assessment**

City of Lorain Former St. Joseph Hospital Assessment Project 205 & 208 West 20<sup>th</sup> Street Lorain, Ohio 44052

December 2022

Prepared for: City of Lorain 200 W Erie Avenue

Lorain, Ohio 44052

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## **EXECUTIVE SUMMARY**

Verdantas LLC (Verdantas) was retained by the City of Lorain to implement Phase II Assessment activities for the City of Lorain Former St. Joseph Hospital Assessment Project, located at 205 & 208 West 20<sup>th</sup> Street in Lorain, Lorain County, Ohio (hereafter referred to as the Property). The activities were implemented as part of an Ohio Department of Development (ODOD) Ohio Brownfield Remediation Program (BRP) Assessment Grant awarded for the Property in July 2022 (ODOD Grant Project Number 190623).

Historically, a large portion of the Property was established as the St. Joseph Hospital complex. In January 2021, demolition of buildings on the Property ensued without the required environmental clearance activities. The Property currently consists of the abandoned parking garage structure, a rubblized field, concrete building slabs, rubble filled-in basements and elevator pit areas, rubble mound piles, a paved parking area north of West 20th Street, driveway and sidewalks, and two partially demolished former concrete x-ray structures. The investigation activities detailed herein were conducted to support determination of the appropriate response actions associated with multiple Notice of Violations (NOVs) issued for the Property by both the Ohio EPA and the Lorain County Public Health Department (LCPH). Investigation activities conducted at the Property, which are detailed herein, include:

- Radiation screening activities associated with former x-ray room structures.
- Advancement of eighteen (18) test pits for visual observations and characterization of potential Regulated ACM (RACM), lead sheeting, and demolition debris. The test pit investigation included the collection of the following:
  - o Ten (10) building debris samples for chemical characterization;
  - Four (4) building debris samples surrounding observed pieces of lead sheeting (VL-1 through VL-4) to characterize the potential for the lead sheeting to have leached to the surrounding building debris;
  - o Four (4) samples of residual liquids (W-1 through W-4) accumulated in basement voids for chemical disposal characterization; and,
  - o Forty-four (44) samples of suspect ACM by an Ohio licensed Asbestos Hazardous Abatement specialist (Pardee Environmental).
- Verdantas also installed and sampled six soil borings (VSB-1 through VSB-6), five of which were converted to permanent monitoring wells (VMW-1 through VMW-5), for the characterization of soil and groundwater media at the Property.

The findings of these activities were utilized in effort to provide the City an Evaluation of Remedial Options cost estimate for potential remedial activities at the Property that would be protective of human health and the environment and allow for the redevelopment of the Property. The Phase II assessment scope did not include evaluation of any potential remedial activities associated with the existing parking garage structure, which is known to contain RACM. This investigation also did not evaluate additional remedial activities associated with the partially demolished former x-ray room structures, which contain thick concrete walls that may contain additional

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lead sheeting material that would require further characterization and proper handling during demolition and disposal activities.

It must be noted that additional data collection activities of environmental will need to be completed following removal of C&DD material in order to meet the requirements of the Ohio VAP in support of an NFA Letter, should the Property proceed through the VAP. Given the current nature of the Property and understanding that the configuration will be significantly altered following removal of C&DD, it was not deemed prudent to collect the additional data at this time. At a minimum, additional investigation activities are reasonably anticipated to include further characterization of groundwater and soil vapor for evaluation potential future indoor air exposures. Soil sampling may not be necessary, provided that any borrow material from off-site is properly characterized and determined to meet applicable standards prior to import.

Based on the information gathered to date, primary findings include the following:

- The building demolition debris generated on the Property primarily consists of C&DD materials, as defined in OAC 3745-400-01(C)(4).
- There is no indication of radiological materials remaining at the Property based upon the radiation screening activities conducted of both surficial areas and during test pit activities. However, the partially demolished x-ray structures should be further evaluated for proper demolition and disposal activities.
- Based on toxicity characteristic leaching procedure (TCLP) analysis of building debris from test pits and surrounding observed lead sheeting material, the C&DD is not characteristically hazardous.
- Given the co-mingled nature of the C&DD materials, and the fact that it has been used to fill in former basement areas, there is potential that once removal is initiated, some minor amount of solid waste (as defined in OAC 3745-27-01(S)(22) and OAC 3734;0101(E)) could be encountered. Therefore, as a contingency for appropriate disposal purposes, it is assumed that approximately 5% of the C&DD material could be characterized as solid waste.
- RACM is present and co-mingled within the southern portion of the large rubble mound pile (in the vicinity of test pits TP12-2 and TP12-3) and within the western portion of the Former Building E basement area. These areas consist of approximately 4,000 cubic yards.
- Universal wastes may be encountered and require additional disposal considerations. However, given that components of light ballasts were observed in only 2 of the 18 test pits (TP-3 and TP-8), the potential to encounter additional universal wastes is considered isolated and nominal.
- Residual liquids should not be considered "leachate" given that the Property is not a licensed C&DD facility, and solid waste was not identified. The residual liquids will require proper disposal off-Property in accordance with applicable laws and regulations.
- Soil samples generally met Ohio VAP generic numerical standards (GNS) for residential land use with two exceptions. Arsenic in soil exceeds the residential GNS but concentrations are below the Ohio EPA-established background value for Lorain County. Thallium was reported in soil marginally above the VAP residential criteria and may require additional characterization; concentrations are below

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the VAP criteria for commercial/industrial land use and construction/excavation activities.

• Additional groundwater sampling will be required to confirm the exceedances of unrestricted potable use standards and to determine applicable groundwater response requirements. Nevertheless, the upper saturated unit was determined to be Class B as part of the VAP NFA Letter for the southern portion of the Property, and groundwater is not utilized for potable purposes.

Verdantas recommends that an Ohio licensed Asbestos Hazardous Abatement Inspector be present on Property during the completion of remedial activities to observe and properly direct and document the removal and handling of ACM and RACM. Based on the information gathered and the assumptions identified herein, a Project Assumptions and Cost Estimate (PACE) table was developed to provide a summary of remedial cleanup alternatives and professional environmental support services for consideration of selecting the most feasible remedial approaches. The array of budgeting initial cost estimates were developed for use as the basis for future planning, and are not intended for final project budgeting. Due to the preliminary nature of our study, the cost estimate developed accounts only for the initial proposed implementation of the various potential remedial alternatives and does not include any cost estimates associated with demolition, grading, and potential future redevelopment activities. For reference, the PACE table was provided to the City in a Memorandum that is included in Appendix A (refer to Table 2 in Appendix A-7).

It is anticipated that completion of proposed remedial activities might range from approximately \$3,265,625 (does not include contingency or off-site residual liquid disposal) to \$4,545,993 (include contingency and off-site disposal of residual liquids).

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## 1.0 INTRODUCTION

## 1.1 GENERAL

Verdantas LLC (Verdantas) was retained by the City of Lorain (Client) to implement Phase II Assessment activities for the City of Lorain Former St. Joseph Hospital Assessment Project, located at 205 & 208 West 20<sup>th</sup> Street in Lorain, Lorain County, Ohio (hereafter referred to as the Property). The general location of the Property is shown on Figure 1.

The activities detailed herein were completed as part of an Ohio Department of Development (ODOD) Ohio Brownfield Remediation Program (BRP) Assessment Grant awarded for the Property in July 2022 (ODOD Grant Project Number 190623). The assessment activities completed through the implementation of the grant were conducted in general accordance with the Ohio Voluntary Action Program (VAP), as codified in the Ohio Administrative Code (OAC) 3745-300-07, given that it is anticipated that the Property will proceed through the VAP in pursuit of a No Further Action (NFA) Letter from an Ohio VAP Certified Professional (CP) and a request for a Covenant Not to Sue (CNS) from the Director of Ohio EPA in the future. It must be noted that additional investigation or confirmation sampling activities will likely need to be completed in order to comply with post remedy applicable portions of OAC 3745-300-07 to support the issuance of an NFA Letter.

As detailed further herein, it is important to note that the Property is subject to several citations and Notice of Violations (NOVs) from the Ohio Environmental Protection Agency (EPA) and the Lorain County Public Health (LCPH) Department in relation to building demolition activities that occurred prior to the completion of proper environmental clearance activities (e.g., asbestos abatement, universal waste and building residual removal and disposal). Due to these NOVs, the Phase II activities detailed herein were completed in effort to characterize the construction & demolition debris (C&DD) material abandoned on Property (present in the form of several demolished and partially demolished structures and rubble mound piles) in effort to determine the appropriate remedial activities that will need to be completed. The remedial activities determined based upon the findings of the Phase II investigation activities detailed further herein were developed with the objective of demonstrating compliance with applicable Ohio VAP standards that are protective of human health and the environment to allow for future redevelopment of the Property as a mixed-use land use scenario, including restricted residential and commercial/industrial land use.

#### 1.2 PROPERTY DESCRIPTION

Addresses: 205 & 208 West 20th Street

Lorain, Lorain County, Ohio

Acreage: 6.3 acres

Parcel Number(s): 0201003701001, 0201003701004, 0201003163002, 0201003155032,

0201003155013, 0201003155012, 0201003155025, 0201003155026, 0201003155027, 0201003155028, 0201003155024, 0201003155023,

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0201003701005, and 0201003701006

Current Owner: A7 Development Group LLC

Resource: Lorain County Auditor's Office

Parcel Zoning: MU – Mixed Use

The following sets of latitude/longitude coordinates generally define the boundary of the Property:

41° 27' 12"N, 82° 10' 7"W, 41° 27' 13"N, 82° 10' 5"W, 41° 27' 8"N, 82° 9' 59"W, 41° 27' 7"N, 82° 9' 58"W, 41° 27' 5"N, 82° 10' 7"W, and 41° 27' 9"N, 82° 10' 8"W

The Property layout is shown on Figure 2, and the layout including parcel boundaries is illustrated on Figure 2.1.

#### 1.3 PROPERTY HISTORY

Historically, a large portion of the Property was established as the St. Joseph Hospital in 1905. By the 1950s, the St. Joseph Hospital facility had expanded to include Buildings C, D and portions of Building E. Buildings A and B were constructed in the 1960s, and a parking garage was constructed in the 1970s along with more additions to Building E, bringing the facility to its full extent. This portion of the Property operated as the St. Joseph Hospital from the early 1900s through 1998 and operated in a lesser capacity as the St. Community Center, Veterans **Affairs** Clinic, and commercial/medical office facilities through the late 2000s. The portion of the Property to the north of West 20th Street was historically occupied by residential structures, and a hotel, which were demolished throughout history, such that this portion of the Property most recently included office buildings related to the Former St. Joseph Hospital and the Community Center, which historically housed two known x-ray structures.

As depicted on Figure 2.1, the 6.3-acre Property includes a 4-acre tract of land that was previously remediated and received a VAP NFA Letter and CNS from the Director of Ohio Environmental Protection Agency (EPA) in 2017 (16NFA656). This was completed under of a Clean Ohio Revitalization Fund (CORF) grant. This portion of the Property was the location of the Former St. Joseph Hospital complex Buildings A, B, C, and D and the parking garage. This portion of the Property, in addition to other parcels located south of West 21st Street that are not part of the Property, that received a CNS from Ohio EPA. Demolition of Building D was completed between October and May 2016, following proper environmental clearance activities as part of the CORF-funded activities. Up until July 2019, Buildings, A, B, C, E and the parking garage were still standing.

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In January 2021, demolition of Buildings A, B, C, and E and the Community Center ensued. By September 2021, the only building remaining on the Property was the parking garage. The 4-acre NFA portion of the Property currently includes the abandoned 6-story parking garage structure, with the remaining area consisting of a rubblized field, concrete building slabs, rubble filled-in basement and elevator pit areas, and rubble mound piles. The remaining contiguous 2.3-acres of the Property, located to the north of West 20th Street, currently includes a paved parking area, driveway and sidewalks, a rubblized field, concrete building slabs, a partially rubble filled-in basement area, rubble mound piles, and the two former concrete x-ray structures, which have been partially demolished.

## 1.3.1 Previous History of Environmental Investigations and Relevant Documents

Several previous environmental investigations have been performed at the Property, including issuance of a VAP NFA Letter and receipt of a CNS from the Director of Ohio EPA for a 4-acre portion of the Property. A chronological list of these investigations followed by a brief summary of primary findings is provided below.

# Hull & Associates, Inc., Ohio VAP NFA Letter (#16NFA656) and Supporting Documentation, May 2016.

On May 25, 2016, Eric Wilburn, VAP CP#306, issued an NFA Letter for a 4.925-acre tract of land that included a 4-acre portion of the Property. The NFA Letter was completed in accordance with the August 1, 2014, VAP Rules, following completion of remedial activities and demolition of Building D. The remedial activities were implemented through a CORF grant awarded to the South Shore Community Development Corporation and the City of Lorain. The NFA Letter was issued based upon the implementation of activity and use limitations (AULs) recorded through an Environmental Covenant (EC) that included: (1) limitation to commercial and industrial uses, and (2) prohibition of groundwater extraction and use. The following primary documents were relied upon by the VAP CP for issuance of the NFA Letter:

- Auburn Environmental. Asbestos Demolition Survey Report, St. Joseph, Building D. December 2006.
- EA Group, Inc. Pre-Demolition and Pre-Renovation Hazardous Materials Surveys, Saint Joseph Community Center and Associated Structures, Lorain Ohio. December 2010.
- Arcadis/Malcom Pirnie. Ohio Voluntary Action Program Phase I Property Assessment of the St. Joseph Community Center Property. January 2011.
- Arcadis/Malcom Pirnie. Ohio Voluntary Action Program Phase II Property Assessment of the St. Joseph Community Center Property. January 2011.
- Hull & Associates, Inc. Remedial Action Plan of the St. Joseph Community Redevelopment Property. January 2011.
- USFin Development, LLC. Asbestos Removal Project Completion Letter, St. Joseph Community Center – Lorain, OH, Buildings B, D, and E. February 2014.
- Amianthus, LLC. Asbestos Removal Project Completion Clearance Letters, Universal Waste and Building Residuals Removal Project Completion

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Clearance Letters, Certificate of Visual Inspections (Universal Wastes and associated affidavits). October 2016 and December 2015.

- Hull & Associates, Inc., Phase I Property Assessment Update of the St. Joseph Community Center Redevelopment Property. May 2016.
- Hull & Associates, Inc., Phase II Property Assessment of the St. Joseph Community Center Redevelopment Property. May 2016.
- Hull & Associates, Inc., Property-Specific Risk Assessment of the St. Joseph Community Center Redevelopment Property. May 2016.

A copy of the NFA Letter documentation is available as public record and can also be provided upon request.

## Ohio EPA, Covenant Not to Sue (CNS) Director's Final Findings and Orders. August 15, 2017.

The Director of Ohio EPA issued a CNS for the 4.9251-acre tract of land that includes a 4-acre portion of the Property. The CNS was issued based upon a demonstration of compliance with Ohio VAP standards associated with the August 1, 2014 VAP Rules and the implementation of activity and use limitations, including: 1) limit the Property to commercial use, industrial use, or a combination of thereof; and 2) prohibit the extraction and use of groundwater for purposes other than those specified in the EC. A copy of the CNS is available as public record and can also be provided upon request.

**Note:** Following issuance of the CNS, the Property was purchased by A7 Development Group LLC, who commenced demolition of the building structures on the Property. Following demolition of some of the building structures, the City of Lorain retained Pardee Environmental to conduct an inspection of the structures and debris piles for potential regulated asbestos containing material (RACM) to provide information to the City for the protection of public health.

# Pardee Environmental. Environmental Assessment Report for the Former St. Joseph's Community Center Property. October 2021.

Pardee Environmental completed an inspection of the structures and debris piles located at the Property to evaluate they types and conditions of asbestos-containing materials (ACM) to aid the City in determining approach for action for the protection of public health. Several samples were collected for ACM and submitted to an accredited laboratory per applicable National Emissions Standards for Hazardous Air Pollutants (NESHAPs) requirements. Pardee identified ACM within the slab and demolition debris piles (in floor tiles and ACM sheet flooring) in both an undetermined as well as a friable state on the Property. ACM were also identified in both a friable and non-friable state within the parking garage. Pardee noted that while some of the material identified is generally classified as Category I non-friable, some material was present in significantly damaged and eroded condition. Pardee identified at least three partially demolished x-ray labs with lead sheeting on the walls, used to prevent x-ray radiation, and noted the potential for Resource Conservation and Recovery Act (RCRA) obligations and potential for presence of radiological material, mercury-containing equipment, and potential

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presence of polychlorinated biphenyls (PCBs). A copy of the report is provided in Appendix A-1.

Ohio EPA Division of Environmental Response and Revitalization (DERR) Hazardous Waste Program. Notice of Violation (NOV) and Focused Compliance Inspection, dated December 1, 2021, to A7 Development Co. Inc. and Earth Exchange Inc. (#OHD077765782).

Ohio EPA DERR, RCRA hazardous waste program issued an NOV based upon a Focused Compliance Inspection (FCI) completed on November 5, 2021. The unannounced FCI was conducted to evaluate the compliance with certain provisions of the RCRA pertaining to the generation of potentially hazardous waste. Based on the presence of waste demolition debris and observed lead sheeting debris commingled with demolition debris during the inspection, Ohio EPA issued an NOV requiring evaluation of the material to determine whether it was considered a hazardous waste in accordance with OAC 3745-52-11. Pardee Environmental and various Ohio EPA personnel conducted the investigation and collected samples of potential lead sheeting debris. A copy of the NOV is included in Appendix A-2.

**Note:** On November 16, 2021, Pardee Environmental transmitted to Ohio EPA and the City of Lorain the laboratory analytical report for the four lead sheeting samples that Pardee collected with Ohio EPA during the November 5, 2021 inspection. The lead sheeting material was determined to be characteristically hazardous, based on toxicity characteristic leaching procedure (TCLP) results ranging from 730 mg/L to 880 mg/L, which are above the regulatory limit of 5 mg/L. A copy of the laboratory analytical report is also included in Appendix A-2.

Ohio EPA Division of Air Pollution Control (DAPC), Asbestos Emissions Controls. Notice of Violation (NOV), dated December 1, 2021, to A7 Development Co. Inc. and Earth Exchange Inc.

Ohio EPA DAPC conducted an inspection of demolition debris at the Property on November 4, 2021, to determine compliance with Ohio asbestos regulations. Ohio EPA observed multiple violations and requested a paper revision notification to include the amount of Category I nonfriable ACM that was not removed prior to demolition and a compliance plan to address property abatement of asbestos cement board and RACM. A copy of the NOV is included in Appendix A-3.

Lorain County Public Health (LCPH) Solid Waste Program. Notice of Violations (NOVs), dated December 2, 2021, to A7 Development Co. Inc., Earth Exchange Inc., and All Star Demolition.

LCPH conducted an inspection on November 30, 2021, to evaluate illegally disposed of "solid waste and construction and demolition debris". LCPH issued an NOV based on the observation of several violations, including holes in debris at ground level of illegally filled in basements; basements partially filling with water which is considered leachate when in contact with solid waste, unsecured illegal dumping that poses an overall threat to public health, safety, and the environment and is a nuisance. A copy of the NOVs is include in Appendix A-4.

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## Verdantas LLC. Memorandum RE: Summary of Radiation Screening Activities, August 2022.

Verdantas prepared a Memorandum to the City of Lorain documenting the results of radiation screening activities conducted at accessible areas of the Property. The Memo was prepared to document initial screening activities completed prior to the more intrusive Phase II investigation detailed herein to alleviate potential concerns of radiological material being present at the Property. The memo, included in Appendix A-5, documents that radiation levels observed are within the range of background.

## Verdantas LLC. Phase I Property Assessment, September 2022.

Verdantas prepared a *Phase I Property Assessment* (document #15011.0006) in September 2022 for the City of Lorain as part of the BRP Grant implementation. The Phase I was prepared in accordance with the VAP per OAC 3745-300-06 and the American Society for Testing and Materials (ASTM) Standard E 1527-13. The Phase I determined one VAP identified area (IA) and recognized environmental condition (REC) and one controlled-REC associated with the Property:

- <u>IA-1/REC-1 Demolition Debris</u>: The entire Property is considered an IA/REC given the demolition of buildings without proper abatement of asbestos containing material (ACM), solid waste, and potentially hazardous waste materials. The possibility radiological of material was identified to be present due to improper clearance activities, and there is potential for the presence of mercury and lead from medical equipment formerly utilized at the Property
- <u>CREC-1</u> <u>Activity Use Limitation and Groundwater Use Restriction:</u> Historically an Ohio VAP NFA Letter (#16NFA656) was issued for a portion of the Property that limits the use of the Property to commercial industrial land use and prohibits the extraction and use of groundwater as summarized as part of the 2016 NFA Letter and subsequent CNS.

Figure 2.2 illustrates the Property layout with this IA/REC and C-REC boundary. A copy of the Phase I was provided to the City under separate cover and is available upon request.

# Pardee Environmental. Asbestos Demolition Debris Assessment Report for the Former St. Joseph's Community Center Property. September 2022.

Pardee conducted an inspection of the demolition debris to identify and quantify the presence of ACM to provide information regarding public health and determine future courses of action relative to proper handling. Pardee was contracted by Precision Environmental as the Ohio Asbestos Hazard Evaluation Specialist (No 3201), who was retained by Verdantas to assist in test pit investigation activities that are detailed herein. Pardee was present during test pit activities completed between August 29 and August 31, 2022, by Verdantas. A complete copy of the Pardee report is provided in Appendix A-6, and relevant investigation activities and finds are summarized within other sections of this report, which document that approximately 4,000-cubic yards of RACM material

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was observed at the Property that will require proper off-Property disposal.

# Verdantas LLC. Memorandum RE: Summary of Evaluation of Remedial Options for Building Debris Removal, November 2022.

Verdantas prepared a Memorandum to the City of Lorain documenting the primary finding of the investigation activities detailed within this Phase II. The purpose of the Memo was to provide the City with an Evaluation of Remedial Options (ERO) alternatives and Project Assumptions and Cost Estimate (PACE) for potential remedial activities at the Property. A copy of the Memo is included in Appendix A-7. The Memo was developed based upon the more detailed information provided in this report and is therefore not summarized separately.

#### 1.4 PURPOSE

The purpose of conducting the activities detailed herein was to implement the BRP Assessment Grant awarded to the City to investigate potential impacts to soil, groundwater, and soil vapor associated with the IA/RECs identified in connection with the Property. The assessment activities are intended to aid in the determination of probable costs associated with completion of the remedial activities necessary to redevelop the Property in the future.

## 1.5 GEOLOGY AND HYDROGEOLOGY

#### 1.5.1 Regional

The Property lies in the Erie Lake Plain Physiographic Region. The topography slopes gently to the north towards Lake Erie and to the east toward the Black River. The average elevation at the Property is approximately 610 feet AMSL.

As indicated in the United States Department of Agriculture Web Soil Survey (Soil Survey), the soil at the Property is 100% Mahoning-Urban land complex, zero to 2% slopes. The Urban land part of the complex is covered by streets, parking lots, buildings, homes, etc.

Bedrock underlying the Property is Devonian-age shale and siltstone with some sandstone. According to the Glacial Geology of Lorain County, Ohio (open file report 89-2, Stanley Totten), bedrock underlying the Property is encountered at depths ranging from approximately 0 to 10 feet below ground surface (bgs). The Groundwater Resources of Lorain County (Hartzell, 1980) reports that the Property overlies impermeable deposits of clay overlying shale, yielding less than 3 gallons per minute of water and deep drilling usually results in brackish or oily water. Based upon the orientation of the Lake Erie and the general local topography, anticipated groundwater flow direction near the Property is to the north.

The Groundwater Resources of Lorain County also indicates that locally, wells in the county are approximately 65 feet bgs, on average.

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## 1.5.2 Property-Specific

Based upon the information obtained from the 2016 NFA Letter and the borings completed at the Property, the majority of the geologic strata beneath the Property generally consists of unconsolidated discontinuous fill material, lacustrine clay and silt deposits, followed by brown to gray weathered shale bedrock. Competent shale bedrock was encountered beneath the weathered shale at depths ranging between approximately 6.4 and 13.5 feet bgs which is significantly different than indicated by ODNR. The uppermost saturated zone was encountered approximately 4 to 8 feet bgs just above and within the top of weathered shale, which has been determined to be Class B. Based on information obtained during Phase II Assessment activities conducted in support of the initial 2016 NFA Letter, the lower saturated unit is contained within the shale bedrock at approximately 48 feet bgs.

The surface soils and near surface geologic conditions have been modified as a result of the building demolition activities associated with the removal and/or disturbance of existing basement area slabs, walls, and foundations, which subsequently have been either fully or partially filled-in with rubblized building debris. It is reasonably anticipated that these activities have affected the localized groundwater connectivity and flow dynamics. Regional groundwater flow is towards the north. Shallow groundwater encountered in the vicinity of the Property, within the weathered portion of the underlying shale, is to the north-northwest based on the static groundwater level data collected on October 28, 2022 from monitoring wells VMW-1 and VMW-2 installed outside of the building debris areas, at a gradient of 0.092 feet/foot. As shown on the groundwater flow map included as Figure 3, the groundwater flow dynamics is reasonably anticipated to currently be influenced by the bedrock topography and existing surface features, as it is evident that groundwater flow is influenced by the basement cavities, the voids of which are filled with residual liquids. It is anticipated that once the building debris is properly removed, and the basement are properly backfilled groundwater flow will follow regional bedrock topography.

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## 2.0 PHASE II INVESTIGATION ACTIVITIES

#### 2.1 GENERAL SUMMARY OF INVESTIGATION ACTIVITIES

As detailed in the 2022 Work Plan and Verdantas Scope of Work, the assessment activities included:

- 1. Radiation screening;
- 2. Test pit installation activities for Asbestos survey of regulated asbestos containing material (RACM), lead sheeting material, and demolition debris characterization;
- 3. Installation and sampling of soil borings at six (6) locations on the Property; and,
- 4. Installation and sampling of five (5) permanent monitoring wells to characterize conditions of the upper saturated unit.

The Scope of Work also included the installation and sampling of shallow exterior soil vapor probes in the event that volatile organic compounds (VOCs) were detected in soil/groundwater media. Given the lack of detections of VOCs in soil, groundwater, and building debris samples collected at the Property, it was not deemed necessary to characterize soil vapor media at this time. However, following the completion of remedial activities recommended herein, and prior to any future building occupancy at the Property, a vapor intrusion evaluation is recommended to ensure the protection of human health.

A summary of the sampling activities conducted is presented in Table 1A and Table 1B. More specifically, Table 1A summarizes the sampling activities associated with the test pit investigation and Table 1B summarizes the sampling of soil and groundwater media. The building debris sampling locations, including test pit locations (some of which were sampled for asbestos as detailed further herein), lead sheeting locations, and residual liquid sampling locations are illustrated on Figure 4. The locations of soil borings and monitoring wells are illustrated on Figure 4.1. Figure 5 illustrates all of the sample locations (building debris and environmental media), and Figure 5.1 also depicts all of the sampling locations with bounds of the IA/REC investigated.

#### 2.2 RADIATION SCREENING ACTIVITIES

As noted, two former x-ray structures were demolished at the Property without documentation on the completion of proper environmental clearance activities. As a precautionary measure, radiation screening activities were conducted at the Property to ensure that no radiological material remains. On July 28, 2022, Verdantas conducted initial radiation screening activities at the ground surface in accessible areas of the Property and prior to planed intrusive site sampling activities. Screening activities conducted were focused primarily in areas of the Property associated with building debris that were noted in the NOVs to contain lead sheeting material thought to have originated from former x-ray rooms. Verdantas conducted additional radiation screening activities at depths beyond the ground surface during the advancement of test pits using an excavator between August 29 and August 31, 2022. Radiation screening activities

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were conducted using a Ludlum Model 224 radiation meter capable of detecting low-level radiation and suitable for background radiation monitoring. Radiation readings were recorded on each test pit log, which is included in Appendix B.

#### 2.3 TEST PIT ACTIVITIES FOR RACM, LEAD, AND DEMOLITION DEBRIS CHARACTERIZATION

Precision Environmental Co. (Precision) advanced eighteen (18) test pits (TP-1 through TP-11, TP-12-1 through TP-12-3, TP-13, TP-14, TP-15-1 and TP-15-2) at the Property under the observation of Verdantas to further investigate the demolition debris at the Property and investigate the presence of ACM. Locations of the test pits are shown on Figure 4. Precision provided the equipment, labor, and supervision for test pit activities, conducted at the direction of Verdantas personnel, who recorded visual observations and collected applicable samples for characterization, as discussed further below. Due to potential concerns from Ohio EPA regarding circulation of dust, dirt, debris and potential ACM, several areas of the Property were spayed down with potable water by Precision using a garden hose with a spray nozzle connected to a water tank and pump. This also allowed for dust suppression mitigation and provided more accurate observations of the co-mingled demolition debris material for proper characterization and sampling.

During the installation and observation of test pits, Verdantas collected samples of the following materials: building debris for characterization of various chemicals of concern (COCs) discussed below; building debris in the vicinity of observed lead sheeting material to assess potential leaching of the lead sheeting into surrounding debris for disposal characterization; and residual liquid samples of water that has accumulated in the voids of the former basements and rubble areas. Further discussion of these sampling activities is provided in the subsections below. Precision also subcontracted Pardee Environmental, a State of Ohio licensed ACM evaluation specialist, to inspect and sample potential RACM and document ACM observed during the advancement of test pits. The ACM evaluation is considered supplementary to an initial investigation conducted by Pardee with Ohio EPA personnel in October 2021 (as summarized in the previous reports section).

## 2.3.1 Test Pit Installation and Observations

A total of eighteen (18) test pits were advanced at the Property using a Komatsu Excavator operated by Precision under the direction of Verdantas. Test pit locations were intended to investigate and characterize the types of building debris remaining at the Property and were spatially distributed based upon previous knowledge of the former building structures. The depths of the test pits varied depending on whether it was advanced within a former basement area and whether it was to investigate a rubble mound pile located above ground surface. More specifically, test pit locations installed to characterize building debris at the following general areas of the Property:

Former Building B / Building E Basement Footprints: Test pits TP-1 through TP-11 were installed within the Former Building B / Building E basement footprint of the former hospital complex located south of West 20th Street, which were primarily filled with building demolition debris. Observed depths of debris ranged from approximately 3 feet above ground surface where debris material was mounded above the ground surface (for example refer

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to test pit TP-1), to 14 feet below ground surface at the approximate termination of the former basements. It must be noted that voids were also present in some portions of the former basement areas such that some test pits were advanced within a void, starting at a depth beneath the ground surface (for example, refer to test pit TP-3).

- Large Rubble Mound Piles: Test pits TP-12-1 through TP-12-3 were advanced to characterize the large rubble mound piles remaining above ground surface located just east of the remaining parking garage structure, to the west of the Former Building B/ Building E basement areas. Multiple rubble mound piles are clustered in this portion of the Property and range from approximately 6 to 15 feet high.
- <u>Former Radiology Film Room Basement:</u> Test pit TP-13 was advanced to investigate the former radiology film storage room basement area. The former basement area is filled to the existing ground surface with building debris, and the test pit was advanced to the termination of the basement at approximately 12 feet below ground surface.
- <u>Rubble Mound Pile Adjacent to Former X-Ray Rooms:</u> Test pit TP-14 was installed to investigate the rubble mound pile located just outside of the two partially demolished former x-ray room structures north of West 20<sup>th</sup> Street.
- <u>Former Mechanical Room Basement Area:</u> Test pits TP-15-1 and TP-15-2 were advanced to investigate the partially filled former mechanical room abasement area. Note that the northern portion of the former basement exhibits a large void that has filled with water, while the southern portion is generally filled with building debris to the ground surface. Test pits were advanced to approximately 15 feet below the ground surface.

A summary of the test pits including the general area, depth, and samples collected is provided on Table 1A with locations illustrated on Figure 4.

Verdantas personnel collected a representative sample of each test pit from the bucket of the excavator using a trowel and screened the materials a *Mini RAE 3000* photoionization detector (PID) equipped with a 10.6 eV lamp. The maximum PID meter response from test pit was recorded in the test pit logs, included in Appendix B.

Based upon visual observations during test pit activities, several test pits were composited into a single sample for laboratory analysis, as follows:

- CTP-1 represents a composite of test pits TP-1 and TP-2;
- CTP-2 represents a composite of test pits TP-3, TP-4, and TP-7;
- CTP-3 represents a composite of test pits TP-5, TP-8, and TP-9;
- CTP-4 represents a composite of test pits TP-6, TP-10, and TP-11; and,
- CTP-5 represents a composite of test pits TP-15-1 and TP-15-2.

Upon completion of each test pit, the excavated area was backfilled with the original materials using the excavator.

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A total of ten (10) building debris samples were placed in laboratory-supplied and preserved glassware. Verdantas collected a sampling of the building debris material present, including sediment debris, crushed building debris, and debris of appropriate size for a 16-oz sample jar. Samples were shipped for chemical analysis to Alpha Analytical (Alpha) in Westborough, Massachusetts / Mansfield, Massachusetts (Certified Lab #CL0108/#CL0106) under proper chain-of-custody procedures. Alpha provided pulverization of any large pieces of building debris, as applicable, to provide analysis of the following: VOCs in accordance with U.S. EPA Method 8260, semi-volatile organic compounds (SVOCs) in accordance with U.S. EPA Method 8070, polychlorinated biphenyls (PCBs) in accordance with U.S. EPA Method 8082, total petroleum hydrocarbons (TPH) in accordance with U.S. EPA Method 8015, Resource Conservation and Recovery Act (RCRA) 8 Metals in accordance with U.S. EPA Method 6010/7471; and TCLP RCRA 8 Metals by U.S. EPA Method 1311.

## 2.3.2 Lead Sheeting

Based upon previous observations and sampling by Pardee Environmental, lead sheeting material was discovered at the Property, as noted in the NOVs from Ohio EPA. To further characterize potential impacts from the lead sheeting materials, Verdantas collected samples of building debris surrounding lead sheeting to characterize the debris for proper disposal to assess whether lead had leached into the adjacent building debris. It must be noted that the locations of lead sheeting previously identified by Pardee and Ohio EPA during the initial site visits were not observed during test pit activities. Based upon Pardee's observations during Verdantas' assessment, it appeared that some of the lead sheeting previously observed has been removed from the Property. Building debris was sampled in the immediate vicinity of observed lead sheeting present in other areas of the Property (shown on Figure 4) during the test pit investigation activities.

A total of four (4) samples of building debris in the vicinity of observed lead sheeting were collected (sample VL-1 through VL-4 shown on Figure 4). Samples were placed in laboratory-supplied containers and submitted to Alpha (Ohio VAP Certified Lab CL#0106 / CL#0108) under proper chain-of-custody procedures for analysis of total lead by U.S. EPA Method 6010 and TCLP lead by U.S. EPA Method 1311.

#### 2.3.3 Residual Liquids

As noted in the NOV issued for the Property by LCPH, water has infiltrated several voids on the Property. In effort to further characterize this material for proper disposal, Verdantas collected water samples of residual liquids observed in three main areas of the Property:

- voids of the former radiology film room basement area (W-1 near test pit TP-13);
- voids of the former Building B / Building E basement areas (W2 near test pit TP-3, and W-3 near test pit TP-5); and,
- voids of the former mechanical room basement area (W-4 near test pits TP-15-1).

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Residual liquid samples were collected in laboratory-supplied and preserved glassware, as appropriate, and were immediately placed on ice in coolers and shipped for chemical analysis to Alpha (Ohio VAP Certified Lab CL#0106 / CL#0108) under proper chain-of-custody procedures for chemical analysis of the following: VOCs in accordance with U.S. EPA Method 8260, SVOCs in accordance with U.S. EPA Method 8270, PCBs in accordance with U.S. EPA Method 8082, oil & grease in accordance with U.S. EPA Method 1664, and target analyte list (TAL) metals in accordance with U.S. EPA Method 6020/7470.

#### 2.3.4 Asbestos

As indicated, John Pardee of Pardee, an Ohio Asbestos Hazard Evaluation Specialist No 3201, was contracted by Precision to identify and quantify the presence of ACM in the demolition debris at the Property. The inspection was conducted in general accordance with USEPA guidelines for pre-demolition of buildings under the NESHAPs. Mr. Pardee was present on-Property during test pit activities to examine and sample any ACM found in the test pits.

A total of 44 samples of ACM were collected by Pardee under separate chain-of-custody and shipped to EMSL Analytical of Indianapolis, Indiana. General methodologies and findings are summarized herein. A complete copy of the Pardee report is included in Appendix A-6.

#### 2.4 SOIL INVESTIGATION

Envirocore, Inc. (Envirocore) installed a total of six (6) borings (VSB-1/VMW-1 through VSB-5/VMW-5 and VSB-6) under the observation of representatives from Verdantas for the collection of soil samples at the Property. Locations of soil borings are illustrated on Figure 4.1. Soil borings VSB-1/VMW-1 through VSB-5/VMW-5 and VSB-6 were installed on October 24 and October 25, 2022. Prior to the drilling event, the Ohio Utility Protection Service (OUPS) was contacted regarding the locations of buried utilities. Additionally, all locations were investigated for utilities and underground obstructions prior to intrusive work using ground penetrating radar operated by The Underground Detective.

#### 2.4.1 Soil Sampling

Soil borings were continuously sampled from ground surface to depths ranging from approximately seven (7) to thirteen (13) feet bgs. Soil borings were advanced into the top of the weathered shale as far as possible, until auger refusal. Each soil sample was collected using a 5-foot long "dual tube sampler" with single-use acetate sampler liners. Soil boring logs are included in Appendix B.

The Verdantas field personnel wore a clean pair of nitrile gloves while handling each soil sample to maintain sample integrity. Sampling equipment was washed in a non-phosphate soap solution and then rinsed with potable water between each sampling interval. Additionally, all decontamination procedures were performed on-Property under the observation of Verdantas personnel.

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## 2.4.2 Soil Sample Screening

A representative portion from the appropriate sample interval was split and one half of the sample was placed in a clean Zip-loc® type bag for field headspace screening using a Mini RAE 3000 PID equipped with a 10.6 eV lamp. The other half of the sample was placed in a clean Zip-loc® type bag and placed on ice for potential transfer to proper laboratory sampling containers to be shipped to the lab. Before screening samples, the PID was calibrated in accordance with the manufacturer's specifications using an isobutylene gas standard. The portion of each soil sample collected for headspace screening was allowed to warm to ambient temperature to promote volatilization of VOCs. The PID probe was carefully inserted through the seal of each bag and the maximum meter response from each sample was recorded in the soil boring log. Soil sample PID screening results are shown on the boring logs in Appendix B.

## 2.4.3 Soil Sample Analysis

Two samples from each of the six (6) soil borings were selected for submittal to the laboratory. For all of the soil boring locations, the sample from the 0 to 2 feet along with the sample with the highest PID reading between 2 and 10 feet was submitted for laboratory analysis. Samples were collected in laboratory-supplied and preserved glassware, as appropriate, and were immediately placed on ice in coolers and shipped for chemical analysis to Pace Analytical Services, Inc. (Certified Lab #CL0065) under proper chain-of-custody procedures for chemical analysis. Samples were analyzed for one or more of the following: VOCs in accordance with U.S. EPA Method 8260, SVOCs in accordance with U.S. EPA Method 8082, TPH in accordance with U.S. EPA Method 8015, and Ohio VAP 15 metals in accordance with U.S. EPA Method 6010/7471. Trip blanks accompanied coolers that contained samples to be analyzed for VOCs.

#### 2.5 GROUNDWATER INVESTIGATION

A total of five (5) monitoring wells were installed, gauged, and sampled at the Property. Monitoring wells (VMW-1 through VMW-5) were installed between October 24 and October 25, 2022. The monitoring wells were developed on October 26, 2022, and were sampled on October 28, 2022. A summary of monitoring well installation, development, gauging, and sampling activities are detailed in the subsections below.

## 2.5.1 Monitoring Well Installation/Construction

On October 24 and October 25, 2022, five (5) permanent monitoring wells (VMW-1 and VMW-5) were installed at the locations of soil borings VSB-1 through VSB-5 as part of Phase II activities. Each of the soil boring locations was over-drilled using 4.25-inch inside diameter (ID) hollow stem augers.

Monitoring wells VMW-1, VMW-2, and VMW-4 were installed at a depth of approximately 13 feet bgs, upon auger refusal. Monitoring wells VMW-3 and VMW-5 were installed based on auger refusal at a depth of approximately 9 feet bgs. Monitoring wells were constructed of 2-inch diameter PVC machine-slotted PVC screen, and an appropriate

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length of solid PVC riser to ground surface. Ten feet of screen was installed at VMW-1, VMW-2, and VMW-4 and five feet of screen was installed in VMW-3 and VMW-5. Well materials were installed through the augers. The annular space surrounding the well screen consists of a sand pack ranging from approximately 1 to 2 feet above the top of the screen, with the remaining annular space filled with hydrated bentonite chips emplaced via gravity to within 1 to 3 feet of the ground surface. Monitoring wells were finished flush to the ground surface with protective steel covers.

Monitoring well construction diagrams are included in Appendix B and monitoring well locations are shown on Figure 4.1.

Re-useable sampling equipment in contact with soil was decontaminated and washed with a non-phosphate soap solution and then rinsed with potable water between each sampling interval. All augers and drilling equipment were steam cleaned prior to mobilization and between the completion of each monitoring well to minimize the potential for cross contamination between drilling locations.

## 2.5.2 Monitoring Well Development

Monitoring wells VMW-2 through VMW-5 were developed on October 26, 2022. Monitoring well VMW-1 did not contain sufficient water for development when checked on October 26, 2022. However, prior to sampling, monitoring well VMW-1 was developed on October 27, 2022. The wells were developed using a Monsoon pump utilizing single use High Density Polyethylene (HDPE) tubing and foot valves. Groundwater quality parameters, including depth-to-water, temperature, pH, specific conductivity, dissolved oxygen (DO), oxidation-reduction potential (ORP), and turbidity were measured initially and throughout the development process. These measurements were recorded in the field on Monitoring Well Development Field Data Sheets. Approximately two (2) to six (6) well volumes were purged from the monitoring wells during development activities. Development was terminated when indicator parameters (i.e., pH, temperature, and specific conductance) had stabilized, or the well was deemed effectively dry. Copies of the Monitoring Well Development Field Data Sheets are included in Appendix C-1.

Field water quality measurements, such as turbidity, temperature, pH, specific conductivity, ORP, and DO were measured using a Horiba U-52 water quality meter. Non-dedicated equipment was decontaminated using non-phosphate soap solution and then rinsed with potable water prior to each use, and between sampling locations. All purged groundwater collected during monitoring well development activities was containerized in Department of Transportation (DOT)-approved 55-gallon steel drums and was subsequently removed from the Property for disposal in accordance with applicable state, local, or federal regulations.

#### 2.5.3 Groundwater Gauging

Monitoring wells were gauged at the Property on October 28, 2022. Prior to the gauging event, the monitoring wells were opened and allowed to equilibrate with atmospheric pressure and initial measurement of static water levels were made using an interface probe. The interface probe was washed with a non-phosphate detergent solution and

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rinsed with distilled water following each measurement to prevent cross-contamination. Groundwater Gauging Field Data Sheets are provided in Appendix C-2. Groundwater elevations from the gauging event are summarized in Table 2 and are illustrated on Figure 3. As discussed previously, and as shown on Figure 3, the groundwater flow dynamics have been influenced by the current Property configuration (i.e., building debris and basement cavities).

#### 2.5.4 Groundwater Sampling

Groundwater samples were collected from monitoring wells VMW-1 through VMW-5 at the Property on October 28, 2022. Prior to purging and sampling during each event, each monitoring well was opened and allowed to equilibrate with atmospheric pressure and initial measurement of static water levels were made using an interface probe. The interface probe was washed with a non-phosphate detergent solution and rinsed with distilled water following each measurement to prevent cross-contamination. Static water level measurements were recorded on Groundwater Sampling Field Data Sheets. Copies of the Groundwater Sampling Field Data Sheets for each sampling event are included in Appendix C-3.

Monitoring wells VMW-2 through VMW-5 were purged using a bladder pump until turbidity, temperature, pH, and specific conductivity parameters stabilized. Each sample was then collected directly from the dedicated tubing into laboratory-supplied bottles. New low-density polyethylene (LDPE) tubing was used at each monitoring well location. Monitoring well VMW-1 did not contain sufficient water for purging. A grab sample was collected via bailer. Groundwater samples were stored on ice in an insulated cooler pending shipping or field pickup by a laboratory courier. All groundwater samples to be analyzed for metals were field filtered utilizing a single-use, disposable, 0.45 -micron groundwater filter due to high turbidity measurements in the samples (> 5.0 NTUs).

Groundwater samples were collected in laboratory-supplied and preserved glassware, as appropriate, and were immediately placed on ice in coolers and shipped for chemical analysis to Pace Analytical in Indianapolis, Indiana (Ohio VAP Certified Lab #CL0065) under proper chain-of-custody procedures. Groundwater samples were submitted to Pace Analytical for chemical analysis of the following: VOCs in accordance with U.S. EPA Method 8260, SVOCs in accordance with U.S. EPA Method 8270, and Ohio VAP 16 metals in accordance with U.S. EPA Method 6010/6020/7471.

During the sampling event, QA/QC samples were submitted for laboratory analysis, including duplicate samples and field/equipment blanks, where appropriate. Trip blanks accompanied coolers containing samples to be analyzed for VOCs.

Verdantas will oversee the proper abandonment of groundwater monitoring wells VMW-1 through VMW-5 now that groundwater samples have been collected and analyzed. Abandonment of these wells is scheduled for the week of December 21, 2022. An abandonment report and ODNR Well Sealing report will be prepared and filed with ODNR.

## 2.6 INVESTIGATION-DERIVED WASTE DISPOSAL

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Soil cuttings from boring installation and water resulting from decontamination of sampling equipment, monitoring well development, and sampling activities were contained in 55-gallon drums. All drums were temporarily staged on-Property. These drums were removed from the Property, and disposed of in accordance with local, state, and federal regulations.

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## 3.0 PHASE II FINDINGS

This section discusses the results of each of the investigation activities described herein.

#### 3.1 RADIATION SCREENING RESULTS

Radiation screening results from the initial surficial screening activities conducted in July 2022 are discussed in more detail in the Memorandum included in Appendix A-5, and additional screening activities conducted in August are presented within the Daily Field Reports (DFRs) in Appendix D and on the test pit logs in Appendix B.

The radiation screening activities recorded meter readings within the range of normal background levels (8-16 uR/hr). Minor increases were observed in association with yellow clay brick used in some areas of the buildings (17 uR/hr and 21 uR/hr). These minor increases are reasonably anticipated to be associated with the natural clay minerals used to form the bricks which can have trace amounts of naturally occurring radioactive minerals. These anomalies are not related to the use of the brick material and have no impact on the disposal of the building debris.

## 3.2 BUILDING DEBRIS CHARACTERIZATION FINDINGS FROM TEST PITS

As indicated, 18 test pits were installed for visual observations and characterization of building debris at the Property. Verdantas submitted a total of 10 samples for chemical characterization of building debris, four samples surrounding lead sheeting, and four samples of residual liquid. Pardee analyzed 44 samples for ACM.

The test pits advanced at the Property consistently identified C&DD materials, as defined in OAC 3745-400-01 (C)(4), including brick, concrete, masonry, drywall, plaster, glass, wood, metal, wiring, insulation, and carpeting. The C&DD materials are all co-mingled and cannot be easily segregated. Verdantas personnel did not observe solid waste materials (as defined in OAC 3745-400(S)(2), and OAC 3734.0101(E)), such as clothing, refuse bags, mattresses, furniture, or other household materials. Verdantas did observe isolated components of light ballasts in two of the test pits (TP-3 and TP-8) which will need to be separated and properly of disposed off-Property.

## 3.2.1 Chemicals of Concern Detected in Building Debris

A total of 10 test pit samples were submitted for laboratory analysis by Verdantas (CTP-1 through CTP-5, TP-12-1, TP-12-2, TP-12-3, TP-13, and TP-14). Building debris analytical results are presented in Table 3A and 3B (TCLP results). A total of six (6) VOCs, twenty (20) SVOCs, three (3) PCBs, six (6) metals, and two (2) TPH carbon fraction ranges were detected above laboratory practical quantitation limits (PQLs) in samples of building debris collected from the test pits. A summary of the of these COCs detected is provided below. Test pit laboratory analytical results are provided in Tables 3A and 3B. Test pit laboratory analytical reports are included in Appendix E.

Detected VOCs in building debris consisted of the following:

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1,1,1-Trichloroethane
1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene
1,2,4-Trichlorobenzene
1,2-Dichloropropane
Tetrachloroethene
Trichlorofluoromethane

Detected SVOCs in building debris consisted of the following:

2-Methylnaphthalene Benzo(k)fluoranthene Fluoranthene Acenaphthene Benzyl Butyl Phthalate Fluorene

Anthracene Bis(2-ethylhexyl) Phthalate Indeno(1,2,3-cd)pyrene

Benzo(a)anthracene Carbazole Naphthalene Benzo(a)pyrene Chrysene Phenanthrene

Benzo(b)fluoranthene Dibenz(a,h)anthracene Pyrene

Benzo(g,h,i)perylene Dibenzofuran

Detected PCBs in building debris consisted of the following:

Aroclor 1248 Aroclor 1254 Aroclor 1260

Detected metals in building debris consisted of the following:

Arsenic Cadmium Lead
Barium Chromium Mercury

Detected TPH carbon fraction ranges in building debris consisted of the following:

TPH  $(C_{10}-C_{20})$  TPH  $(C_{20}-C_{34})$ 

Additionally, TCLP analysis for RCRA metals reported only lead above laboratory PQLs.

#### 3.2.2 Lead Results of Building Debris Surrounding Lead Sheeting Materials

A total of four (4) areas of the Property were observed to contain lead sheeting. As indicated, samples of building debris adjacent to the lead sheeting material was sampled to characterize the potential that lead had leached into the surrounding materials. Lead was detected in the building debris samples via both standard analysis and TCLP analysis, as shown in Table 4.

## 3.2.3 Chemicals of Concern Detected in Residual Liquids

A total of four (4) residual liquid samples were submitted for laboratory analysis by Verdantas (W-1 through W-4). Residual liquids analytical results are presented in Table 5. The NOV issued for the Property by the LCPH indicated that water in contact with solid waste is considered leachate. However, as indicated, solid waste was not observed in the test pits at the Property, and the residual liquids should not be considered leachate. The following COCs were detected in samples of residual liquid accumulated in former basement void areas: a total of fourteen (14) VOCs, twelve (12) SVOCs, one (1) PCB, and ten (10) metals were detected above laboratory practical quantitation limits (PQLs). Oil and grease were also detected above laboratory PQLs. A summary of the of these COCs

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detected is provided below. Residual liquids laboratory analytical results are provided in Table 5. Residual liquids laboratory analytical reports are included in Appendix E.

Detected VOCs in residual liquids consisted of the following:

1,1,1-TrichloroethaneBenzeneStyrene1,1-DichloroethaneCarbon DisulfideToluene

1,4-Dioxane Dichlorodifluoromethane Trichlorofluoromethane

2-Butanone Methylene Chloride Xylene

Acetone o-Xylene

Detected SVOCs in residual liquids consisted of the following:

3 & 4 Methylphenol Benzo(g,h,i)perylene Indeno(1,2,3-cd)pyrene

Benzo(a)anthracene Benzo(k)fluoranthene Naphthalene

Benzo(a)pyrene Bis(2-ethylhexyl) Phthalate Pentachlorophenol

Benzo(b)fluoranthene Dibenz(a,h)anthracene Phenol

Detected PCBs in residual liquids consisted of the following:

Aroclor 1254

Detected metals in residual liquids consisted of the following:

Aluminum Cadmium Nickel Antimony Chromium Zinc

Arsenic Cobalt Barium Lead

#### 3.2.4 ACM Characterization

Pardee did identify RACM consisting of transite debris in the southern section of the large rubble mound pile. Additionally, RACM consisting of pipe insulation debris was identified in the western section of the main basement fill area in the vicinity of test pit TP-2. No other RACM was identified in the eastern or central sections of the basement cavity. Pardee estimates that approximately 4,000 cubic yards of RACM is present at the Property and is co-mingled within the southern portion of the large rubble mound pile and in the western portion of the Former Building E basement area (refer to Figure 6.0).

#### 3.3 CHEMICALS OF CONCERN DETECTED IN SOIL

As indicated, six (6) soil borings were installed and sampled at the Property. Of the six soil borings installed and sampled, the following COCs were detected: a total of ten (10) SVOCs, thirteen (13) metals, and two (2) TPH carbon fraction ranges were detected above laboratory practical quantitation limits (PQLs). A summary of the of these COCs detected is provided below. Soil laboratory analytical results are provided in Table 6 and laboratory analytical reports are included in Appendix E.

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Detected SVOCs in soil consisted of the following:

Benzo(a)anthracene Chrysene Phenanthrene

Benzo(a)pyrene Fluoranthene Pyrene

Benzo(b)fluoranthene 2-Methylnaphthalene

bis(2-Ethylhexyl) phthalate Naphthalene

Detected metals in soil consisted of the following:

Antimony Chromium Thallium
Arsenic Cobalt Vanadium

Barium Lead Zinc

Beryllium Nickel Cadmium Selenium

Detected TPH carbon fraction ranges in soil consisted of the following:

TPH  $(C_{10}-C_{20})$  TPH  $(C_{20}-C_{34})$ 

#### 3.4 CHEMICALS OF CONCERN DETECTED IN GROUNDWATER

As indicated, five (5) permanent monitoring wells were installed and sampled at the Property. A total of ten (10) metals were detected in samples of groundwater above laboratory PQLs. There were no other COCs detected above laboratory PQLs. A summary of metals detected is provided below. Groundwater laboratory analytical results are summarized in Table 7 and laboratory analytical reports are included in Appendix E.

Detected metals in groundwater consisted of the following:

Barium Lead Vanadium

Cadmium Nickel Zinc

Chromium Selenium Cobalt Thallium

#### 3.5 COMPARISON OF COCS TO APPLICABLE STANDARDS

Analytical results for building debris and soil were compared to the Ohio VAP generic contact with numerical standards (GNS) for direct soil for residential. commercial/industrial land use and construction/excavation activities pursuant to OAC 3745-300-08, effective October 17, 2019. Comparison of building debris to VAP direct contact standards is a conservative evaluation to be used to aid in remedy determination only, as it is anticipated that C&DD will be removed from the Property. TCLP results were compared to the Maximum Concentration of contaminants for the "toxicity" characteristic, as determined by the TCLP "D" List per 40 CFR Part 261.24. Soil TPH concentrations were compared to the residual soil saturation concentrations for sand/aravel soils per OAC 3745-300-09, effective October 17, 2019. The residual liquids and groundwater analytical results were each compared to VAP unrestricted potable use standards (UPUS), pursuant to OAC 3745-300-08, effective October 17, 2019.

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Comparison of residual liquids to VAP UPUS is also not a representative comparison, as the media is not potable water, and it is anticipated that the residual liquids will be removed from the Property.

## 3.5.1 Building Debris

Building debris analytical results are presented in Table 3A and TCLP results are shown in Table 3B in comparison to the applicable standards listed above. The detections of VOCs, PCBs, and TPHs were all reported at concentrations below VAP GNS for residential, commercial/industrial land use, and construction/excavation activities. Detected SVOCs and metals were also reported at concentrations below applicable direct contact soil standards with the exception of benzo(a)pyrene, benzo(b)fluoranthene, dibenz(a,h)anthracene, chromium and lead.

Benzo(a) pyrene was detected in seven of the 10 test pit samples above the residential GNS (2.3 mg/kg) at concentrations ranging from 2.4 to 18 mg/kg but all results are below the commercial/industrial GNS (62 mg/kg) and the construction/excavation GNS (230 mg/kg). Benzo(b)fluoranthene and dibenz(a,h)anthracene were each detected at TP-12-3 (25 mg/kg and 2.9 mg/kg, respectively) marginally above their respective residential GNS (23 mg/kg and 2.3 mg/kg); all other detections are below residential GNS and each COC was below GNS for both commercial/industrial land use and construction/excavation activities. Chromium was detected at concentrations ranging from 10 mg/kg to 47.8 mg/kg in the test pit samples. Three of these results marginally exceed the VAP residential GNS for hexavalent chromium. This is a conservative comparison given that there are no standards for total chromium and chromium speciation analysis was not performed to determine the relative proportions of chromium VI and chromium III. Chromium was below VAP GNS in all samples for both commercial/industrial land use and construction/excavation activities. Lead was reported in two test pit samples (CTP-1 at 651 mg/kg and TP12-1 at 421 mg/kg) above the VAP GNS for both residential land use and construction/excavation activities.

Lead was the only metal reported by TCLP analysis above PQLs. As shown in Table 3B, all detected concentrations of lead are below TCLP criteria; therefore, none of the material is considered characteristically hazardous.

## 3.5.2 Building Debris Surrounding Lead Sheeting Materials

Analytical results of the building debris samples collected adjacent to lead sheeting material are presented in Table 4 in comparison to the applicable standards listed above. Lead was detected at all four sample locations (VL-1 to VL-4) ranging from 48.8 mg/kg to 702 mg/kg. Two of the sample locations, VL-2 (564 mg/kg) and VL-3 (702 mg/kg), exhibited lead at concentrations exceeding residential and construction/excavation direct contact soil standards (400 mg/kg). Nevertheless, as shown, in Table 4 none of the building debris in the vicinity of the lead sheeting is characteristically hazardous based upon TCLP results, consistent with the findings of the TCLP analysis for the debris samples from test pits (shown in Table 3B).

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#### 3.5.3 Residual Liquids

Residual liquids analytical results are presented in Table 5 in comparison to the applicable standards listed above. The detections of VOCs, SVOCs, PCBs, and metals were reported at concentrations below their respective UPUS with the following exceptions. 1,4-Dioxane was detected at W-2, W-3, and W-4 (6.7, 6.6, and 14 ug/L, respectively) above its respective UPUS (4.6 ug/L). Benzo(a)pyrene was detected at W-3 (0.22 ug/L) marginally above its respective UPUS (0.2 ug/L). Pentachlorophenol was detected at W-2 (1.4 ug/L) and W-3 (1.7 ug/L) marginally above its respective UPUS (1 ug/L). Aroclor 1254 was detected at W-3 (0.1) marginally above its respective UPUS (0.08 ug/L). Antimony was detected at W-1 (7.36 ug/L) and W-3 (8.39 ug/L) above its respective UPUS (6 ug/L). As noted previously, comparison of the residual liquid results to potable use criteria is conservative and intended to be utilized only to aid in the determination of proper disposal of the material.

## 3.5.4 Soil

Soil analytical results are presented in Table 6 in comparison to the applicable standards listed above. There were no PCBs or VOCs detected in soil samples collected at the Property above laboratory PQLs. The detections of SVOCs were reported at concentrations below VAP GNS for residential, commercial/industrial land use, and construction/excavation activities and TPH carbon fractions were below residual soil saturation concentrations for sand and gravel soils. Detected metals were also reported at concentrations below applicable direct contact soil standards with the exception of arsenic and thallium. Arsenic was reported in soil at two locations (VMW-2 from 0-2 feet and VMW-5 from both 0-2 feet and 5-7 feet) above the GNS for residential land use but is below the GNS for commercial/industrial land use and construction/excavation activities. Thallium was reported in soil at one location (VMW-5 from 0-2 feet and 5-7 feet) marginally above the VAP residential direct contact with soil supplemental criteria but is below GNS for both commercial/industrial land use and construction/excavation activities. Locations of COCs in soil above GNS are shown on Figure 7.

#### 3.5.5 Groundwater

Groundwater analytical results are presented in Table 7 in comparison to VAP UPUS. There were no VOCs or SVOCs detected in groundwater samples above laboratory reporting limits. Three metals (cadmium, chromium, and cobalt) were detected in groundwater at concentrations marginally above their respective UPUS in one or more monitoring wells. Cadmium was detected above its respective UPUS (5 ug/L) at VMW-5 (7.1 ug/L). Chromium was detected above its respective UPUS (100 ug/L) at VMW-1 (115 ug/L). Cobalt was detected above its respective UPUS (6 ug/L) at monitoring wells VMW-1, VMW-4, and VMW-5 (11.6, 6.3, and 49 ug/L, respectively). These results above UPUS are also illustrated on Figure 8.

Nevertheless, as presented within the VAP NFA Letter prepared for the southern portion of the Property, the upper saturated unit is not sufficiently yielding. Groundwater is considered Class B, which is not suitable for potable purposes. A groundwater use restriction was recorded for the southern 4 acres of the Property as part of the CNS, and

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it is anticipated that a use restriction would be implemented for the entirety of the Property in the future. In accordance with OAC 3745-300-07, additional groundwater sampling must be completed in order to confirm the COCs in groundwater above UPUS to determine the applicable groundwater response requirements in support of an NFA Letter for the Property in the future.

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## 4.0 PRELIMINARY RISK EVALUATION

A PRE is generally completed to further evaluate the potential hazards and risks from exposures to multiple COCs reported in environmental media. The purpose of the PRE is to conduct a pathway completeness determination based on the current and future uses of the Property, the associated configuration and surrounding land use of the Property, and the findings from the limited investigation activities. This evaluation is utilized to aid in determining where data gaps remain or where remedial action may be required if the Property were to formally proceed through the VAP in the future.

A review of the data and information gathered to date was conducted in general accordance with OAC 3745-300-09 to aid in the determination of the remedial activities that would be required to demonstrate compliance with applicable standards for a mixed-use scenario. Ultimately, given that C&DD is present across the Property and is comingled with RACM, it is reasonably anticipated that additional evaluation of analytical results will need to be completed once the C&DD is removed from the Property (i.e., or evaluation of data from a suitable borrow source) prior to redevelopment. Therefore, this PRE includes a cursory review of the soil and groundwater analytical results collected.

#### 4.1 EXPOSURE PATHWAY EVALUATION

Based on an understanding of the Client's objectives, there is potential that the Property may be used for a mix of restricted residential and commercial/industrial purposes in the future, once C&DD is removed and the Property is suitable for redevelopment. Additionally, it is anticipated that construction/excavation activities would need to occur at the Property (i.e., utility work/redevelopment activities). In accordance with OAC 3745-300-07(I)(1), the applicable point of compliance (POC) for direct contact with soil exposures for each of these land use or activity categories is as follows: 4 feet for restricted residential land use, 2 feet for commercial/industrial use, and 10 feet for construction/excavation activities. Based on current knowledge of the Property, the complete and potentially complete exposure pathways in the future may include:

- Direct contact with soil (including incidental ingestion, dermal contact and inhalation of particulate and volatile emissions to outdoor air) by On-Property Residents, On-Property Commercial/Industrial Workers and On-Property Construction/Excavation Workers.
- Potential future inhalation of volatile emissions from soil-to-indoor air and groundwater-to-indoor air by On-Property Residents and On-Property Commercial/Industrial Workers. The parking garage is the only remaining structure at the Property, and it is not an enclosed building space that would be representative of true indoor air exposures under the current land use scenario.
- Direct contact with shallow groundwater (including incidental ingestion, dermal contact, and inhalation of volatile emissions to outdoor air) by On-Property Construction/Excavation Workers.

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The following exposure pathways were not evaluated further as part of this PRE:

- Further Evaluation of Exposures to C&DD Materials and Residual Liquids: The building demolition debris generated on the Property primarily consists of C&DD materials, as defined in OAC 3745-400-01 (C) (4). RACM is present and co-mingled within the southern portion of the large rubble mound pile and within the western portion of the Former Building E basement area. Given the co-minaled nature of the C&DD materials, and the fact that it has been used to fill in former basement areas, there is potential that once removal is initiated, some minor amount of solid waste (as defined in OAC 3745-27-01(S)(22) and OAC 3734;0101(E)) could be encountered. Universal wastes may be encountered and require additional disposal considerations. However, given that components of light ballasts were observed in only 2 of the 18 test pits, the potential to encounter additional universal wastes is considered isolated and nominal. Further evaluation of the data collected herein to characterize the C&DD and residual liquids was not completed given that the intention of the data collection was to characterize the materials for proper disposal off-Property.
- Potential future inhalation of volatile emissions to indoor air: A complete quantitative evaluation of potential future indoor air exposures was not deemed prudent at this time. There were limited VOCs detected in building debris and residual liquids, which are intended to be removed from the Property prior to any redevelopment. There were no VOCs or SVOCs detected in groundwater media, and no VOCs detected in soil media; a few SVOCs detected in soil samples are considered sufficiently volatile but were not present at concentrations that are anticipated to pose a significant vapor intrusion concern. Based on professional judgement, given the lack of VOCs detected and the modifications that will need to occur on the Property to remove C&DD, a soil vapor investigation was not deemed prudent at this time. A vapor intrusion investigation may need to be completed following removal of C&DD and prior to occupancy of future buildings.
- <u>Direct contact with groundwater</u>: Groundwater was encountered within the upper 10 feet bgs. Therefore, there is potential for On-Property Construction/Excavation Workers to encounter groundwater within the applicable POC during intrusive activities. Given that there are no promulgated standards for this exposure pathway, Property-specific standards would need to be derived within a PSRA in accordance with OAC 3745-300-09, which is not within the scope of this project. Nevertheless, it is recommended that proper health and safety protocols through the use of acceptable personal protective equipment (PPE) be utilized to minimize exposures and ensure the protection of Construction/Excavation Workers.
- Off-Property pathways: although there is potential for groundwater to emanate from the Property, and there may be exposures to soils off-Property via inhalation of particulates and volatiles from fugitive dusts, these exposures were not evaluated herein given that this Phase II is being conducted to aid in selecting applicable remedy for removal of C&DD at the Property. Additional activities to ensure the protection of any off-

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Property receptors would need to be completed if the Property proceeds through the VAP.

• Potable groundwater use: As indicated, groundwater in the upper saturated unit is considered Class B (i.e., it lacks sufficient yield to be utilized as a potable use zone), and a groundwater use restriction has been recorded for the southern portion of the Property as part of the 2017 CNS. It is assumed that municipal water would be supplied to the Property for potable purposes, if redeveloped, and it is anticipated a groundwater use limitation would be recorded for the remainder of the Property. As a result, groundwater was not reasonably anticipated to be utilized for potable purposes in this PRE. Note, however, that should the Property formally pursue an NFA Letter through the VAP, a detailed evaluation of groundwater would be necessary to satisfy the applicable groundwater response requirements are met under the VAP.

Furthermore, given that additional characterization of environmental media will need to be completed once the building debris is removed, evaluation of all potentially complete exposure pathways and cumulative (multi-chemical) and aggregate (multi-pathway) hazard and risk in accordance with the VAP was not completed. A complete PSRA in accordance with OAC 3745-300-09 would need to be conducted should the Property proceed through the VAP in the future. Multiple chemical adjustments were completed for soil media, and further discussion of soil and groundwater exceedances is presented below. The discussion provided for this PRE herein is primarily qualitative in effort to further assess potential exposures based on the exceedances of the COCs identified in soil and groundwater.

## 4.2 DIRECT CONTACT WITH SOIL EXPOSURES

As noted, arsenic was reported in soil samples above the VAP GNS for residential land use. Nevertheless, concentrations of arsenic ranged from 4.8 to 18 mg/kg. Although arsenic is above the residential GNS at two of these locations (VMW-2 from 0-2 feet and VMW-5 from both 0-2 feet and 5-7 feet), the maximum reported concentration of arsenic is less than the Ohio EPA-established soil background value for Lorain County of 19.1 mg/kg. Therefore, arsenic is within the range of naturally occurring concentrations and is not quantified further.

Both non-cancer and cancer endpoints were evaluated, as appropriate, for each COC detected in soil samples. For each COC with a non-cancer endpoint, a non-cancer hazard ratio was derived as the ratio of the representative concentration of each COC to the single chemical non-cancer endpoint value for the COC. The non-cancer hazard ratio for each COC is equivalent to its HQ, as described in OAC 3745-300-09(D)(3)(d)(ii)(a); the sum of the hazard ratios is the cumulative non-cancer hazard ratio, which is equivalent to the hazard index (HI) as described in OAC 3745-300-09(D)(3)(d)(ii)(b). Simple additivity was assumed among all COCs with a non-cancer endpoint, irrespective of toxic endpoint.

A cancer risk ratio was derived for each COC with a cancer endpoint as the ratio of the representative concentration of each COC to the single-chemical cancer endpoint

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value for the COC. The cancer risk ratio for each COC is equivalent to the proportion of the target single-chemical ELCR of 1 x  $10^{-5}$  that is attributed to the COC, as described in OAC 3745-300-09(B)(1)(a) and OAC 3745-300-09(D)(3)(d)(i)(a). The sum of the single-chemical risk ratios is the cumulative cancer risk ratio, which is equivalent to the proportion of the target single-chemical ELCR attributed to pathway-specific exposures to all COCs with a cancer endpoint at the Property, as described in OAC 3745 300-09(D)(3)(d)(i)(b).

The estimated non-cancer hazard and cancer risk posed to each receptor population identified at the Property are discussed below.

#### 4.2.1 Restricted Residential Land Use

A cumulative evaluation of soil exposures within the 4-foot POC for potential future residential land use was completed. The maximum detected concentration of each COC detected in soil samples collected within the upper 4 feet was used as the representative concentration. As shown in Table 8A, the cumulative non-cancer hazard ratio is 2.27 which corresponds to an HI of 2 when rounded to one significant digit and is above the target HI of one (1). The cumulative cancer risk ratio presented in Table 8A is 0.912, which corresponds to an ELCR of 9 x 10-6 when rounded to one significant digit and is below the target ELCR of 1 x 10-5.

Approximately 69% of the total cumulative HI is attributed to the maximum detected concentration of thallium. Thallium is a naturally occurring metalloid that is commonly used in manufacturing and sometimes used in the medical industry. The maximum detected concentration of thallium (2.5 mg/kg at VMW-5) is marginally above the VAP supplemental residential criteria of 1.6 mg/kg and is not reasonably anticipated to be associated with a significant source area. The reported concentrations of thallium at the Property are also only marginally above the range of naturally occurring background levels in Lorain County established by Ohio EPA (background value of 0.99 mg/kg, based on a range of concentrations of 0.06 to 1.05 mg/kg). Further evaluation of thallium concentrations is recommended following the removal of building debris. This may include derivation of alternative exposure point concentrations in accordance with OAC 3745-300-09 with the incorporation of additional soil data, as applicable.

## 4.2.2 Commercial / Industrial Land Use

A cumulative evaluation of soil exposures within the 2-foot POC for potential future commercial/industrial land use was completed. The maximum detected concentration of each COC detected in soil samples collected within the upper 2 feet was used as the representative concentration. As shown in Table 8B, the cumulative non-cancer hazard ratio is 0.0875 which corresponds to an HI of 0.09 when rounded to one significant digit and is substantially below the target HI of one (1). The cumulative cancer risk ratio presented in Table 8B is 0.248, which corresponds to an ELCR of  $2 \times 10^{-6}$  when rounded to one significant digit and is below the target ELCR of  $1 \times 10^{-5}$ .

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#### 4.2.3 Construction / Excavation Activities

A cumulative evaluation of soil exposures within the 10-foot POC for construction/excavation activities was completed. The maximum detected concentration of each COC detected in soil samples collected within the upper 10 feet was used as the representative concentration. As shown in Table 8C, the cumulative non-cancer hazard ratio is 0.0534 which corresponds to an HI of 0.05 when rounded to one significant digit and is substantially below the target HI of one (1). The cumulative cancer risk ratio presented in Table 8C is 0.0159, which corresponds to an ELCR of  $2 \times 10^{-7}$  when rounded to one significant digit and is below the target ELCR of  $1 \times 10^{-5}$ .

## 4.2.4 Lead and TPH: All Receptor Scenarios

Lead and TPH are not evaluated with respect to the multiple chemical evaluations, in accordance with OAC 3745-300-08(C)(3)(a)(v) and OAC 3745-300-08(C)(3)(b), respectively. Exposures to lead are evaluated separately and TPH levels are compared to soil saturation concentrations. These comparisons are shown in Table 6.

Lead was detected in soil samples at a maximum concentration of 26 mg/kg. All concentrations of lead detected in soil are below their respective single-chemical VAP GNS for direct contact with soil exposures even for the most stringent residential land use category (400 mg/kg). TPH was detected below soil saturation concentrations for a sand and gravel soil type.

#### 4.3 GROUNDWATER EXPOSURE EVALUATION

As indicated previously, although there were COCs detected in groundwater above UPUS (cadmium, chromium, and cobalt), it is not reasonably anticipated that groundwater underlying the Property was previously classified as Class B and does not have sufficient yield for potable purposes. A groundwater use restriction has been implemented on the southern portion of the Property, and it is assumed that municipal water will be supplied to the Property, should it be developed in the future. Additional sampling activities are necessary to confirm these exceedances in order to determine the applicable groundwater response requirements should the Property proceed through the VAP in the future.

As summarized in Table 9, cadmium was detected in three of the five groundwater samples collected at concentrations ranging from 1.1 to 7.1 ug/L. The maximum detected concentration is marginally above UPUS and would need to be confirmed through additional groundwater sampling. Chromium was detected in one of five samples and the reported concentration of 115 ug/L marginally exceeds UPUS of 100 ug/L. All three reported detections of cobalt (6.3 ug/L, 11.6 ug/L, and 49 ug/L) are above UPUS (6 ug/L). Nevertheless, given that these exceedances are not an order of magnitude, additional sampling to confirm the exceedance of UPUS will be necessary in accordance with VAP requirements.

Potential direct contact with shallow groundwater exposures will be evaluated within a PSRA in the future via the derivation of applicable standards for this pathway, given that

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direct contact with groundwater standards are not promulgated through the Ohio VAP. In the event that concentrations of COCs in groundwater exceed the calculated direct contact criteria, a risk mitigation plan (RMP) would include provisions to be implemented to protect Workers involved in intrusive activities.

### 4.4 VAPOR INTRUSION EXPOSURES

As indicated, limited volatile COCs were detected during this investigation, and there are currently no habitable structures remaining on the Property. In order to prepare the Property for redevelopment, existing C&DD material will need to be removed and it is anticipated that backfill may need to be imported to the Property. Therefore, it was deemed most prudent to conduct a vapor intrusion evaluation in the future prior to building occupancy given the significant modifications to the Property that are anticipated to occur.

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### 5.0 CONCLUSIONS

The information obtained from the radiation screening investigation activities, the advancement and observations of test pits, the Pardee ACM investigation activities, and the analytical results of building debris, residual liquids, soil, and groundwater were utilized in order to develop a reasonably anticipated evaluation of remedial options and for proper removal and disposal of the C&DD at the Property. The primary Phase II investigation activities detailed herein are discussed below by media.

### 5.1 BUILDING DEBRIS CHARACTERIZATION

It must be recognized that the Phase II assessment scope did not include evaluation of any potential remedial activities associated with the existing parking garage structure. As indicated, the multi-level parking garage is the only remaining structure within the Property limits. The parking garage is known to contain RACM based upon the information provided within the October 2021 Pardee report. This investigation also did not evaluate additional remedial activities associated with the partially demolished former x-ray room structures. These structures contain thick concrete walls that were not feasibly accessible for further characterization due to their partially demolished configuration. It must be recognized that these structures may contain additional lead sheeting material that would require further characterization and proper handling during demolition and disposal activities.

- The building demolition debris generated on the Property primarily consists of C&DD materials, as defined in OAC 3745-400-01(C)(4).
- There is no indication of radiological materials remaining at the Property based upon the radiation screening activities conducted of both surficial areas and during test pit activities. However, the partially demolished x-ray structures should be further evaluated for proper demolition and disposal activities.
- Based on TCLP analysis of building debris from test pits and surrounding observed lead sheeting material, the C&DD is not characteristically hazardous.
- Given the co-mingled nature of the C&DD materials, and the fact that it has been used to fill in former basement areas, there is potential that once removal is initiated, some minor amount of solid waste (as defined in OAC 3745-27-01(S)(22) and OAC 3734;0101(E)) could be encountered. Therefore, as a contingency for appropriate disposal purposes, it is assumed that approximately 5% of the C&DD material could be characterized as solid waste.
- RACM is present and co-mingled within the southern portion of the large rubble mound pile (in the vicinity of test pits TP12-2 and TP12-3) and within the western portion of the Former Building E basement area. These areas consist of approximately 4,000 cubic yards.
- Universal wastes may be encountered and require additional disposal considerations. However, given that components of light ballasts were

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observed in only 2 of the 18 test pits (TP-3 and TP-8), the potential to encounter additional universal wastes is considered isolated and nominal.

 Residual liquids should not be considered "leachate" given that the Property is not a licensed C&DD facility, and solid waste was not identified. The residual liquids will require proper disposal off-Property in accordance with applicable laws and regulations.

Verdantas recommends that an Ohio licensed Asbestos Hazardous Abatement Inspector be present on Property during the completion of remedial activities to observe and properly direct and document the removal and handling of ACM and RACM.

### 5.2 ENVIRONMENTAL MEDIA CHARACTERIZATION

It must be noted that additional data collection activities of environmental will need to be completed following removal of C&DD material in order to meet the requirements of the Ohio VAP in support of an NFA Letter. Given the current nature of the Property and understanding that the configuration will be significantly altered following removal of C&DD, it was not deemed prudent to collect the additional data at this time. At a minimum, additional investigation activities are reasonably anticipated to include further characterization of groundwater and soil vapor. Soil sampling may not be necessary, provided that any borrow material from off-site is properly characterized and determined to meet applicable standards prior to import.

Based on the information gathered to date, primary findings include the following:

- Arsenic was detected in soil in three samples at concentrations marginally above VAP GNS for residential land use. However, the maximum detected concentration (18 mg/kg) is below the Ohio EPA-established background value for Lorain County and is within the range of naturally occurring concentrations and, therefore, does not pose a concern.
- Thallium was detected in soil (maximum of 2.5 mg/kg) marginally above the VAP residential supplemental direct contact criteria (1.6 mg/kg) and marginally above the range of background levels for Lorain County (0.06 mg/kg to 1.05 mg/kg) and requires further evaluation following removal of building debris to demonstrate compliance with residential criteria. Concentrations of thallium are below VAP supplemental criteria for commercial/industrial land use and construction/excavation activities.
- The cumulative hazard and risk for direct contact with soil exposures based upon the soil data collected meet applicable target hazard and risk goals for a commercial/industrial land use scenario and construction/excavation activities.
- Lead and TPH were detected in soil at concentrations below applicable standards.
- Additional groundwater sampling will be required to confirm the exceedances of UPUS (for cadmium, cobalt, and chromium) and to determine applicable groundwater response requirements. Nevertheless, the upper saturated unit was determined to be Class B as part of the VAP

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NFA Letter for the southern portion of the Property, and groundwater is not utilized for potable purposes.

- Direct contact with groundwater standards must be derived through a PSRA to evaluate the potential exposures of Construction/Excavation Workers who may encounter shallow groundwater. Ultimately, PPE should be worn to minimize exposures to groundwater (as well as residual liquids during removal).
- There were no volatile COCs detected in soil and groundwater media. Therefore, it was not deemed necessary to conduct soil vapor sampling activities given that the configuration of the Property will also be altered following removal of building debris. A vapor intrusion evaluation may be necessary to ensure the protection of human health prior to redevelopment.

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### 6.0 REFERENCES

- Ohio Administrative Code 3745-300-01, Definitions Rule for the Voluntary Action Program, October 17, 2019. Print.
- Ohio Administrative Code 3745-300-07, Phase II Property Assessment Procedures Rule for the Voluntary Action Program, October 17, 2019. Print.
- Ohio Administrative Code 3745-300-08, Generic Numerical Standards Rule for the Voluntary Action Program, October 17, 2019. Print.
- Ohio Administrative Code 3745-300-09, Property-Specific Risk Assessment Procedures Rule for the Voluntary Action Program, October 17, 2019. Print.
- Ohio Administrative Code 3745-300-10, Ground Water Classification and Response Requirements for the Voluntary Action Program, October 17, 2019. Print.
- Ohio Environmental Protection Agency. Interactive USD Map Viewer and Source Water Protection Area Viewer. November 2022. Web.
- Ohio Environmental Protection Agency. Evaluation of Background Metal Soil Concentrations in Lorain County, Developed in Support of the Ohio Voluntary Action Program. Ohio EPA Division of Environmental Response and Revitalization, July 2019.
- Pace Analytical Services, LLC. Laboratory Analytical Reports and Certified Laboratory Affidavits (Ohio VAP #CL0065).
- Pardee Environmental. Environmental Assessment Report for the Former St. Joseph's Community Center Property. October 2021.
- Pardee Environmental. Asbestos Demolition Debris Assessment Report for the Former St. Joseph's Community Center Property. September 2022.
- Verdantas LLC. Memorandum RE: Summary of Radiation Screening Activities, August 2022.
- Verdantas LLC. Phase I Property Assessment. Verdantas Document Number 15011.0006, September 2022.

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### TABLE 1A SUMMARY OF TEST PIT INVESTIGATION ACTIVITIES PHASE II PROPERTY ASSESSMENT FORMER ST. JOSEPH HOSPITAL REDEVELOPMENT 205 & 208 WEST 20TH STREET, LORAIN, OHIO

		2223								Labo	oratory Anal	ytical Pa	rameters						
Sample Location Area	Test Pit Location /	Sample	Sample Depth	Sample Date	Field Sample ID				2004.0	TCLP	DAG14	WAR 14	0110		TOLD		TPH		Notes
Description	Sample Location	Name				VOCs	SVOCs	PCBs	RCRA 8 Metals	RCRA 8 Metals	RACM Identified *	VAP 16 Metals	Oil & Grease	Lead	TCLP Lead	C6-C12	C <sub>10</sub> -	C <sub>20</sub> -	
	TP-1	CTP-1	0 - 14 feet	8/30/2022	LRN005:CTP-1:D083022	х	X	x	X	X	X					X	X	X	
Former Building E / B	TP-2	CIF-1	0-141661	6/30/2022	LKN005.CTF-1,D065022	_ ^	^	^	_ ^	^	^					_ ^	^	^	
Basement Area - West	TP-6	OTD 4		0.101.10000	LDVIDGE OTD 4 DOGGLOG		v		\ \ \								.,		Several test pits, short in length but
	TP-10 TP-11	CTP-4	0 - 14 feet	8/31/2022	LRN005:CTP-4:D083122	Х	X	X	X	Х	X					_ X	Х	X	deep to characterize material placed
	TP-3																		within the former basement footprint.  Based upon visual observations,
	TP-4	CTP-2	0 - 14 feet	8/30/2022	LRN005:CTP-2:D083022	х	х	Х	х	X		4 6				X	Х	Х	individual test pits were composited
Former Building E / B	TP-7						1 2 1			. 1 222									for into four samples for laboratory
Basement Area - East	TP-5	2020	Ag - 200 - 20								0 01	4 0 1							analysis as noted.
	TP-8 TP-9	CTP-3	0 - 14 feet	8/30/2022	LRN005:CTP-3:D083022	Х	X	Х	X	Х		N . 1			h 1	X	Х	X	
Large Rubble Mound Piles	IP-9																		
East of Parking Garage - North	TP-12-1	TP12-1	0 - 5 feet	8/29/2022	LRN005:TP12-1:D082922	Х	Х	х	Х	X			1 - 4			Х	Х	х	Long shallow transect test pits to characterize the material in the large
Large Rubble Mound Piles	TP-12-2	TP-12-2	0 - 5 feet	8/29/2022	LRN005:TP12-2:D082922	х	х	Х	х	Х	х					х	Х	х	rubble piles. Visual observations will be used to determine RACM, solid waste,
East of Parking Garage - South	TP-12-3	TP-12-3	0 - 5 feet	8/29/2022	LRN005:TP12-3:D082922	х	х	х	x	X	x					x	х	x	and identify any additional lead sheeting material.
Former Radiology Film Storage Basement - Northeast of Parking Garage	TP-13	TP-13	0 - 12 feet	8/29/2022	LRN005:TP-13:D082922	х	х	х	x	х						х	х	х	One long deep test pit to characterize material placed within former radiological storage basement area.
Rubble Outside Partially Demolished Former X-ray Rooms	TP-14	TP-14	0 - 5 feet	8/29/2022	LRN005:TP-14:D082922	х	х	х	х	X						х	X	х	Shallow test pit to characterize debris outside of former x-ray rooms.
Former Mechanical Room Basement Northeast portion	TP-15-1	CTP-5	0 - 14 feet	8/30/2022	LRN005:CTP-5:D083022	x	x	x	x	X						x	X	x	Deep transect test pits to characterize the material in the rubble pile and former basement footprint. Based on
of Property	TP-15-2																		visual observations, the individual test pits were composited into one sample for laboratory analysis as noted.
	TP12-2	VL-1	0 - 0 feet	8/30/2022	LRN005:VL-1:D083022									Х	Х				
Characterization of	TP-4	VL-2	0 - 0 feet	8/30/2022	LRN005:VL-2:D083022								1 4	Х	Х			1	Additional Discrete samples to
materials surrounding Lead	TP-10	VL-3	0 - 0 feet	8/31/2022	LRN005:VL-3:D083122					1				Х	Х				characterize debris around lead
sheeting	Adjacent to Parking Garage	VL-4	0 - 0 feet	8/31/2022	LRN005:VL-4:D083122									х	х				sheeting material
Characterization of residual	W-1	W-1		8/29/2022	LRN005:W-1:W082922	Х	Х	Х				Х	Х						Liquid samples to characterize water
liquid accumulated in	W-2	W-2	Not Applicable	8/30/2022	LRN005:W-2:W083022	X	X	X			-	X	X						that has filled former basement areas
former basement void areas	W-3 W-4	W-3 W-4	(NA)	8/30/2022 8/31/2022	LRN005:W-3:W083022 LRN005:W-4:W083122	X	X	X				X	X						voids of building debris

<sup>\*</sup> Regulated Asbestos Containing Material (RACM) was investigated by Pardee Environmental and identified through analysis at this test pit location.

# TABLE 1B SUMMARY OF SOIL AND GROUNDWATER INVESTIGATION ACTIVITIES PHASE II PROPERTY ASSESSMENT FORMER ST. JOSEPH HOSPITAL REDEVELOPMENT 205 & 208 WEST 20TH STREET, LORAIN, OHIO

	Leave to the control of		Sampl	е Туре			CALUMA STATE OF THE STATE OF TH		Laborato	ory Anal	ytical Parc	meters	b
IA/REC a	IA/REC Description	Sample Location	Soil Boring	Monitoring	Sample Depth	Sample Date	Field Sample ID	VOCs	SVOCs	PCBs	VAP 16		PH
				Well					0.00		Metals	GRO	DRO
					0 - 2 feet		LRN005:VMW-1:S000020	Ιx	Х	X	Х	Х	Ιx
		VSB-1/MW-1	X		7 - 9 feet	10/24/2022	LRN005:VMW-1:S070090	X	X	Х	X	X	X
		\(CD_0 \(\lambda \) \(\lambda \) \(\lambda \)	V		0 - 2 feet	10/05/0000	LRN005:VMW-2:S000020	Х	Х	Х	Х	Х	Х
		VSB-2/VMW-2	Χ		2 - 2.5 feet	10/25/2022	LRN005:VMW-2:S020025	Х	Х	Х	Х	Х	Х
		\(CD 2\(\A\A\A\\)	V		0 - 2 feet	10/04/0000	LRN005:VMW-3:S000020	Х	Х	Х	Х	Х	Х
		VSB-3/VMW-3	Χ	-1	4 - 5 feet	10/24/2022	LRN005:VMW-3:S040050	Х	Х	Х	Х	Х	Х
		\/CD 4/\/\\\\ 4	Х		0 - 2 feet	10/04/0000	LRN005:VMW-4:S000020	Х	Х	Х	Χ	Х	Х
	2000	VSB-4/VMW-4	^	-	5 - 7 feet	10/24/2022	LRN005:VMW-4:S050070	Х	Х	Х	Χ	Х	Х
IA-1/REC-1	Demolition Debris	VSB-5/VMW-5	Х		0 - 2 feet	10/24/2022	LRN005:VMW-5:S000020	Х	Х	Χ	Χ	Χ	Х
	7 7 7 7 8 1 7	A2D-2\ A1MM-2	^		5 - 7 feet	10/24/2022	LRN005:VMW-5:S050070	Х	Х	Х	Χ	Х	Х
		VSB-6	Х		0 - 2 feet	10/24/2022	LRN005:VSB-6:S000020		Х	Х	Χ	Χ	Х
		A2D-0	^		2 - 4 feet	10/24/2022	LRN005:VSB-6:S020040		Х	Х	Χ	Х	Х
		VMW-1		Х	<u> </u>	10/28/2022	LRN005:VMW-1:G102822	Х	Х		Χ		
	1	VMW-2		Х	4	10/28/2022	LRN005:VMW-2:G102822	Х	Х	<u></u>	Χ		
		VMW-3		Х	T <u>-</u>	10/28/2022	LRN005:VMW-3:G102822	Х	Х		Χ		
		VMW-4		Х		10/28/2022	LRN005:VMW-4:G102822	X	Х		Χ		
	4	VMW-5		Х	<u> </u>	10/28/2022	LRN005:VMW-5:G102822	X	Х		X		

### Notes:

- a. Identified Area (IA)/Recognized Environmental Condition (REC), as determined in the 2022 Phase I Property Assessment (Verdantas Document #15011.0006, September 2022).
- b. Laboratory Analytical Parameter Acronym Summary:

Volatile Organic Compounds (VOCs)

Semi-Volatile Organic Compounds (SVOCs)

Voluntary Action Program (VAP) Metals

Polychlorinated Biphenyls (PCBs)

Total Petroleum Hydrocarbons (TPH), gasoline range organics (GRO) and diesel range organics (DRO)

# TABLE 2 GROUNDWATER ELEVATION DATA PHASE II PROPERTY ASSESSMENT FORMER ST. JOSEPH HOSPITAL REDEVELOPMENT 205 & 208 WEST 20TH STREET, LORAIN, OHIO

Monitoring Well	Date	TOC Elevation (Feet BMD)	TOG Elevation (Feet BMD)	water	Total Depth (Feet TOC)	Depth to LNAPL (Feet TOC)	Water Elevation (Feet BMD)
VMW-1	10/28/2022	98.80	99.30	11.44	12.73	NMI	87.36
VMW-2	10/28/2022	99.01	99.34	4.00	12.14	IMN	95.01
VMW-3	10/28/2022	98.53	99.11	6.46	8.53	NMI	92.07
VMW-4	10/28/2022	99.62	100.02	9.37	12.86	NMI	90.25
VMW-5	10/28/2022	99.62	99.98	5.41	8.72	IMN	94.21

#### Notes:

BMD - Benchmark datum referenced to the top of electric vault cover east of MW-1, and assigned an arbitrary elevation of 100.0 feet.

TOC - Top of casing

TOC - Top of ground

LNAPL - Light Non-Aqueous Phase Liquid

NMI - No measurable interface

Sample Location Area: <sup>a</sup>		o VAP Generic or Direct Conto			ilding E / B Area - West		ilding E / B Area - East	Large Rubble Mound Piles East of Parking Garage - North		Mound Piles East arage - South	Former Radiology Film Storage Basement - Northeast of Parking Garage	Rubble Outside Partially Demolished Former X-ray Rooms	Former Mechanical Room Basement Northeast portion of Property
Sample Name: b				CTP-1	CTP-4	CTP-2	CTP-3	TP-12-1	TP-12-2	TP-12-3	TP-13	TP-14	CTP-5
Sample Date:				8/30/2022	8/31/2022	8/30/2022	8/30/2022	8/29/2022	8/29/2022	8/29/2022	8/29/2022	8/29/2022	8/30/2022
Field Sample ID:	Residential	Commercial/ Industrial	Construction / Excavation	LRN005: CTP-1: D083022	LRN005: CTP-4: D083122	LRN005: CTP-2: D083022	LRN005: CTP-3: D083022	LRN005: TP-12-1: D082922	LRN005: TP-12-2: D082922	LRN005: TP-12-3: D082922	LRN005: TP-13: D082922	LRN005: TP-14: D082922	LRN005: CTP-5: D083022
Metals													
Arsenic	14	100	760	6.09	7.25	9.71	7.14	5.76	5.19	6.59	4.91	7.99	5.56
Barium	30,000	760,000	350,000	43.1	73.7	76.2	44.3	58.7	68	54.2	70.9	80.2	64.1
Cadmium	140	3,300	710	0.823	1.05	1.27	0.726	0.671	0.677	<0.586	<0.66	<1.01	0.605
Chromium d	27	240	1,300	10	29.7	47.8	21.6	31.7	13.6	19	11.6	10.1	16
Lead	400	800	400	651	343	61.8	27.9	421	297	276	123	20.3	244
Mercury	3.1	3.1	3.1	0.89	0.391	0.71	0.612	1.67	0.716	0.444	2.51	0.092	0.688
Selenium	780	23,000	12,000	<0.9	<1.1	<1.47	<1.08	<1.22	<1.14	<1.17	<1.32	<2.01	<1.1
Silver	780	23,000	12,000	<0.45	<0.549	<0.737	<0.542	<0.61	<0.569	<0.586	<0.66	<1.01	<0.55
Volatile Organic Compounds (VOCs)													
1,1,1-Trichloroethane	640	640	640	<0.00056	<0.00063	0.001	<0.00068	<0.00076	<0.00071	<0.00073	<0.00072	< 0.00065	<0.00071
1,1,2,2-Tetrachloroethane	15	71	670	<0.00056	<0.00063	<0.00093	<0.00068	<0.00076	<0.00071	<0.00073	<0.00072	< 0.00065	<0.00071
1,1,2-Trichlorethane	28	130	1,200	<0.0011	<0.0013	<0.0019	< 0.0014	< 0.0015	< 0.0014	<0.0014	< 0.0014	< 0.0013	< 0.0014
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	NS <sup>f</sup>	NS	NS	<0.0044	<0.005	<0.0074	<0.0054	<0.0061	<0.0057	<0.0058	<0.0058	< 0.0052	< 0.0057
1,1-Dichloroethane	89	390	1,700	<0.0011	<0.0013	<0.0019	< 0.0014	<0.0015	< 0.0014	<0.0014	<0.0014	<0.0013	< 0.0014
1,1-Dichloroethene	360	1,200	360	<0.0011	<0.0013	<0.0019	< 0.0014	< 0.0015	< 0.0014	<0.0014	< 0.0014	< 0.0013	< 0.0014
1,2,3-Trichlorobenzene	NS	NS	NS	<0.0022	0.045	< 0.0037	< 0.0027	< 0.003	<0.0028	<0.0029	<0.0029	<0.0026	<0.0028
1,2,4-Trichlorobenzene	140	400	400	<0.0022	0.16	<0.0037	<0.0027	< 0.003	<0.0028	<0.0029	<0.0029	<0.0026	<0.0028
1,2,4-Trimethyl-benzene	220	220	220	<0.0022	<0.0025	<0.0037	<0.0027	< 0.003	<0.0028	<0.0029	<0.0029	<0.0026	<0.0028
1,2-Dibromo-3-chloropropane	0.37	1.6	15	<0.0033	<0.0038	<0.0056	<0.0041	<0.0046	<0.0043	<0.0044	<0.0043	<0.0039	<0.0042
1,2-Dibromoethane	0.89	4.2	39	<0.00056	<0.00063	<0.00093	<0.00068	<0.00076	<0.00071	<0.00073	<0.00072	<0.00065	<0.00071
1,2-Dichlorobenzene	380	380	380	<0.0022	<0.0025	<0.0037	<0.0027	<0.003	<0.0028	<0.0029	<0.0029	<0.0026	<0.0028
1,2-Dichloroethane	11	52	480	<0.0011	<0.0013	<0.0019	<0.0014	<0.0015	<0.0014	<0.0014	<0.0014	<0.0013	<0.0014
1,2-Dichloroethene	NS	NS	NS	<0.0011	<0.0013	<0.0019	<0.0014	<0.0015	<0.0014	<0.0014	<0.0014	<0.0013	<0.0014
1,2-Dichloropropane	39	170	180	<0.0011	<0.0013	0.0026	<0.0014	<0.0015	<0.0014	<0.0014	<0.0014	<0.0013	<0.0014
1,3,5-Trimethylbenzene	180	180	180	<0.0022	<0.0025	<0.0037	<0.0027	<0.003	<0.0028	<0.0029	<0.0029	<0.0026	<0.0028
1,3-Dichlorobenzene	NS NS	NS	NS	<0.0022	<0.0025	<0.0037	<0.0027	<0.003	<0.0028	<0.0029	<0.0029	<0.0026	<0.0028
1,3-Dichloropropene	43	230	520	<0.00056	<0.00063	<0.00093	<0.00068	<0.00076	<0.00071	<0.00073	<0.00072	<0.00065	<0.00071
1,4-Dichlorobenzene	65	290	2,600	<0.0022	<0.0025	<0.0037	<0.0027	<0.003	<0.0028	<0.0029	<0.0029	<0.0026	<0.0028
1,4-Dioxane	110	850	9,700	<0.089	<0.1	<0.15	<0.11	<0.12	<0.11	<0.12	<0.12	<0.1	<0.11
2-Butanone	28,000	28,000	28,000	<0.011	<0.013	<0.019	<0.014	<0.015	<0.014	<0.014	<0.014	<0.013	<0.014
2-Hexanone	NS 0.400	NS 0.400	NS 0.400	<0.011	<0.013	<0.019	<0.014	<0.015	<0.014	<0.014	<0.014	<0.013	<0.014
4-Methyl-2-pentanone	3,400	3,400	3,400	<0.011	<0.013	<0.019	<0.014	<0.015	<0.014	<0.014	<0.014	<0.013	<0.014
Acetone	110,000	110,000	110,000	<0.028	<0.032	<0.046	<0.034	<0.038	<0.036	<0.036	<0.036	<0.032	<0.035
Benzene Bromochloromethane	28 NS	130	1,200	<0.00056	<0.00063	<0.00093	<0.00068	<0.00076	<0.00071	<0.00073	<0.00072	<0.00065	<0.00071
	NS 7.2	NS 33	NS 300	<0.0022	<0.0025	<0.0037	<0.0027	<0.003	<0.0028	<0.0029	<0.0029	<0.0026	<0.0028
Bromodichloromethane	7.3	33	300	<0.00056	<0.00063	<0.00093	<0.00068	<0.00076	<0.00071	<0.00073	<0.00072	<0.00065	<0.00071
Bromoform Carbon Disulfido	460 740	910 740	910 740	<0.0044 <0.011	<0.005 <0.013	<0.0074 <0.019	<0.0054	<0.0061 <0.015	<0.0057 <0.014	<0.0058 <0.014	<0.0058 <0.014	<0.0052 <0.013	<0.0057 <0.014
Carbon Disulfide		740				<0.019	<0.014					<0.013	
Carbon Tetrachloride	16 660	760	460 760	<0.0011	<0.0013		<0.0014	<0.0015	<0.0014	<0.0014	<0.0014		<0.0014
Chlorobenzene	2,100	2,100		<0.00056	<0.00063 <0.0025	<0.00093	<0.00068 <0.0027	<0.00076	<0.00071 <0.0028	<0.00073	<0.00072 <0.0029	<0.00065	<0.00071
Chloroethane	J 2,100	2,100	2,100	< 0.0022	I ~U.UU∠5	< 0.0037	\U.UUZ/	< 0.003	<b>\U.UU</b> Z8	<0.0029	<b>~U.UUZ</b> 9	< 0.0026	<0.0028

Sample Location Area: <sup>a</sup>		VAP Generic or Direct Conto		Former Bu Basement A	ilding E / B Area - West		ilding E / B Area - East	Large Rubble Mound Piles East of Parking Garage - North	of Parking G	Mound Piles East arage - South	Former Radiology Film Storage Basement - Northeast of Parking Garage	Rubble Outside Partially Demolished Former X-ray Rooms	Former Mechanical Room Basement Northeast portion of Property
Sample Name: <sup>b</sup>				CTP-1	CTP-4	CTP-2	CTP-3	TP-12-1	TP-12-2	TP-12-3	TP-13	TP-14	CTP-5
Sample Date:				8/30/2022	8/31/2022	8/30/2022	8/30/2022	8/29/2022	8/29/2022	8/29/2022	8/29/2022	8/29/2022	8/30/2022
Field Sample ID:	Residential	Commercial/ Industrial	Construction / Excavation	LRN005: CTP-1: D083022	LRN005: CTP-4: D083122	LRN005: CTP-2: D083022	LRN005: CTP-3: D083022	LRN005: TP-12-1: D082922	LRN005: TP-12-2: D082922	LRN005: TP-12-3: D082922	LRN005: TP-13: D082922	LRN005: TP-14: D082922	LRN005: CTP-5: D083022
cis-1,2-Dichloroethene	310	2,400	2,400	<0.0011	< 0.0013	<0.0019	< 0.0014	< 0.0015	<0.0014	<0.0014	<0.0014	< 0.0013	< 0.0014
cis-1,3-Dichloropropene	43	230	520	<0.00056	<0.00063	<0.00093	<0.00068	<0.00076	<0.00071	<0.00073	<0.00072	<0.00065	<0.00071
Cyclohexane	120	120	120	<0.011	< 0.013	<0.019	< 0.014	<0.015	< 0.014	< 0.014	< 0.014	<0.013	< 0.014
Dibromochloromethane (chlorodibromomethane)	130	800	800	<0.0011	< 0.0013	<0.0019	< 0.0014	<0.0015	<0.0014	<0.0014	<0.0014	<0.0013	<0.0014
Dichlorodifluoromethane (Freon-12)	850	850	850	<0.011	< 0.013	<0.019	< 0.014	<0.015	< 0.014	< 0.014	< 0.014	< 0.013	< 0.014
Ethylbenzene	140	480	480	<0.0011	<0.0013	<0.0019	<0.0014	<0.0015	<0.0014	<0.0014	<0.0014	<0.0013	<0.0014
Isopropylbenzene	270	270	270	<0.0011	<0.0013	<0.0019	<0.0014	<0.0015	<0.0014	<0.0014	<0.0014	<0.0013	<0.0014
m,p-Xylenes	NS	NS	NS	<0.0022	<0.0025	<0.0037	<0.0027	<0.003	<0.0028	<0.0029	<0.0029	<0.0026	<0.0028
Methyl Acetate	NS	NS	NS	<0.0044	<0.005	<0.0074	<0.0054	<0.0061	<0.0057	<0.0058	<0.0058	<0.0052	<0.0057
Methyl Bromide	17	76	550	<0.0022	<0.0025	<0.0037	<0.0027	<0.003	<0.0028	<0.0029	<0.0029	<0.0026	<0.0028
Methyl Chloride	280	1,200	1,300	<0.0044	<0.005	<0.0074	<0.0054	<0.0061	<0.0057	<0.0058	<0.0058	<0.0052	< 0.0057
Methyl Cyclohexane	NS	NS	NS	<0.0044	<0.005	<0.0074	<0.0054	<0.0061	<0.0057	<0.0058	<0.0058	<0.0052	<0.0057
Methylene Chloride	740	3,300	3,300	<0.0056	<0.0063	<0.0093	<0.0068	<0.0076	<0.0071	<0.0073	<0.0072	<0.0065	<0.0071
Methyl-tert-butyl-ether	1,100	5,400	8,900	<0.0022	<0.0025	<0.0037	<0.0027	<0.003	<0.0028	<0.0029	<0.0029	<0.0026	<0.0028
Naphthalene	96	420	560	<0.0044	<0.005	0.022	<0.0054	<0.0061	<0.0057	<0.0058	<0.0058	<0.0052	<0.0057
o-Xylene	NS	NS	NS 070	<0.0011	<0.0013	<0.0019	<0.0014	<0.0015	<0.0014	<0.0014	<0.0014	<0.0013	<0.0014
Styrene	870	870	870	<0.0011	<0.0013	<0.0019	<0.0014	<0.0015	<0.0014	<0.0014	<0.0014	<0.0013	<0.0014
<u>Tetrachloroethene</u>	170	170	170	<0.00056	0.00096	<0.00093	<0.00068	0.0008	<0.00071	<0.00073	<0.00072	<0.00065	<0.00071
Toluene	820	820	820	<0.0011	<0.0013	<0.0019	<0.0014	<0.0015	<0.0014	<0.0014	<0.0014	<0.0013	<0.0014
trans-1,2-Dichloroethene	1,900	1,900	1,900	<0.0017	<0.0019	<0.0028	<0.002 <0.0014	<0.0023	<0.0021	<0.0022	<0.0022	<0.0019	<0.0021
trans-1,3-Dichloropropene	NS 10	NS 49	NS 17	<0.0011	<0.0013	<0.0019		<0.0015	<0.0014	<0.0014	<0.0014	<0.0013	<0.0014 <0.00071
Trichloroethene Trichlorofluoromethane (Freon-11)	1,200	1,200	1,200	<0.00056 <b>0.009</b>	<0.00063 <b>0.033</b>	<0.00093 <b>0.015</b>	<0.00068 <0.0054	<0.00076 <b>0.012</b>	<0.00071 <b>250</b>	<0.00073 <0.0058	<0.00072 <b>0.033</b>	<0.0065 <0.0052	<0.00071
Vinyl Chloride	1.3	49	280	<0.007	<0.0013	<0.0019	<0.0034	<0.0015	<0.0014	<0.0038	<0.0014	<0.0032	<0.003/
Xylene	260	260	260	<0.0011	<0.0013	<0.0019	<0.0014	<0.0015	<0.0014	<0.0014	<0.0014	<0.0013	<0.0014
Semi-Volatile Organic Compounds (SVOCs)	200	200	200	<u> </u>	<u> </u>	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	1 \0.0014	1 10.0013	1 \0.0014	<u> </u>	<b>\0.0014</b>	<u> </u>	\0.0014
1,2,4,5-Tetrachlorobenzene	38	760	4,800	<2.9	<2.3	<0.9	<0.67	<3.7	<3.4	<3.8	<4	<0.63	<0.7
2,3,4,6-Tetrachlorophenol	3,800	76,000	480,000	<2.9	<2.3	<0.9	<0.67	<3.7	<3.4	<3.8	<4	<0.63	<0.7
2,4,5-Trichlorophenol	13,000	250,000	1,000,000	<2.9	<2.3	<0.9	<0.67	<3.7	<3.4	<3.8	<4	<0.63	<0.7
2,4,6-Trichlorophenol	130	2,500	1,600	<1.7	<1.4	<0.54	<0.4	<2.2	<2	<2.3	<2.4	<0.38	<0.42
2,4-Dichlorophenol	380	7,600	32,000	<2.6	<2.1	<0.81	<0.6	<3.4	<3.1	<3.4	<3.6	<0.57	<0.63
2,4-Dimethylphenol	2,500	51,000	95,000	<2.9	<2.3	<0.9	<0.67	<3.7	<3.4	<3.8	<4	<0.63	<0.7
2,4-Dinitrophenol	250	5,100	32,000	<14	<11	<4.3	<3.2	<18	<16	<18	<19	<3	<3.3
2,4-Dinitrotoluene	35	230	3,600	<2.9	<2.3	<0.9	<0.67	<3.7	<3.4	<3.8	<4	<0.63	<0.7
2,6-Dinitrotoluene	7.3	47	750	<2.9	<2.3	<0.9	<0.67	<3.7	<3.4	<3.8	<4	< 0.63	<0.7
2-Chloronaphthalene	13,000	370,000	1,000,000	<2.9	<2.3	<0.9	<0.67	<3.7	<3.4	<3.8	<4	<0.63	<0.7
2-Chlorophenol	780	23,000	27,000	<2.9	<2.3	<0.9	<0.67	<3.7	<3.4	<3.8	<4	<0.63	<0.7
2-Methyl-4,6-dinitrophenol	10	200	1,300	<7.5	<6	<2.3	<1.7	<9.7	<8.9	<9.9	<10	<1.6	<1.8
2-Methylnaphthalene	480	8,900	5,800	<3.4	<2.8	1.5	<0.8	<4.5	<4.1	<4.6	<4.8	<0.76	<0.83
2-Methylphenol	6,300	130,000	790,000	<2.9	<2.3	<0.9	<0.67	<3.7	<3.4	<3.8	<4	<0.63	<0.7
3 & 4 Methylphenol	6,300	130,000	790,000	<4.1	<3.3	<1.3	<0.96	<5.4	<4.9	<5.5	<5.8	<0.91	<1
3,3-Dichlorobenzidine	24	160	2,500	<2.9	<2.3	<0.9	<0.67	<3.7	<3.4	<3.8	<4	<0.63	<0.7
4-Bromophenyl Phenyl Ether	NS	NS	NS	<2.9	<2.3	<0.9	<0.67	<3.7	<3.4	<3.8	<4	<0.63	<0.7

Sample Location Area: <sup>a</sup>		VAP Generic or Direct Conto		Former Bu Basement A			ilding E / B Area - East	Large Rubble Mound Piles East of Parking Garage - North		Mound Piles East arage - South	Former Radiology Film Storage Basement - Northeast of Parking Garage	Rubble Outside Partially Demolished Former X-ray Rooms	Former Mechanical Room Basement Northeast portion of Property
Sample Name: <sup>b</sup>				CTP-1	CTP-4	CTP-2	CTP-3	TP-12-1	TP-12-2	TP-12-3	TP-13	TP-14	CTP-5
Sample Date:				8/30/2022	8/31/2022	8/30/2022	8/30/2022	8/29/2022	8/29/2022	8/29/2022	8/29/2022	8/29/2022	8/30/2022
Field Sample ID:	Residential	Commercial/ Industrial	Construction / Excavation	LRN005: CTP-1: D083022	LRN005: CTP-4: D083122	LRN005: CTP-2: D083022	LRN005: CTP-3: D083022	LRN005: TP-12-1: D082922	LRN005: TP-12-2: D082922	LRN005: TP-12-3: D082922	LRN005: TP-13: D082922	LRN005: TP-14: D082922	LRN005: CTP-5: D083022
4-Chloro-3-methyl Phenol	13,000	250,000	160,000	<2.9	<2.3	<0.9	<0.67	<3.7	<3.4	<3.8	<4	<0.63	<0.7
4-Chloroaniline	54	350	800	<2.9	<2.3	<0.9	<0.67	<3.7	<3.4	<3.8	<4	<0.63	<0.7
4-Chlorophenyl-phenyl Ether	NS	NS	NS	<2.9	<2.3	<0.9	<0.67	<3.7	<3.4	<3.8	<4	<0.63	<0.7
4-Nitroaniline	510	3,500	16,000	<2.9	<2.3	<0.9	<0.67	<3.7	<3.4	<3.8	<4	<0.63	<0.7
4-Nitrophenol	NS	NS	NS	<4	<3.2	<1.2	<0.94	<5.2	<4.8	<5.3	<5.6	<0.88	<0.97
Acenaphthene	7,200	1,000,000	290,000	<2.3	<1.8	3.4	0.56	<3	<2.7	3.5	<3.2	<0.5	<0.56
Acenaphthylene	7,200	130,000	290,000	<2.3	<1.8	<0.72	<0.53	<3	<2.7	<3	<3.2	<0.5	<0.56
Acetophenone	2,500	2,500	2,500	<2.9	<2.3	<0.9	<0.67	<3.7	<3.4	<3.8	<4	<0.63	<0.7
Anthracene	36,000	670,000	1,000,000	<1.7	2.4	7.5	0.41	2.4	7.8	8.1	3.1	<0.38	0.84
Atrazine	47	310	4,800	<2.3	<1.8	<0.72	<0.53	<3	<2.7	<3	<3.2	<0.5	<0.56
Benzaldehyde	NS	NS	NS	<3.8	<3	<1.2	<0.88	<4.9	<4.5	<5	<5.3	<0.83	<0.92
Benzo(a)anthracene	23	610	9,600	<1.7	5	8.7	0.62	6.1	16	21	7.8	<0.38	2.2
Benzo(a)pyrene	2.3	62	230	<2.3	4.9	6.7	0.6	5.3	13	18	6.8	<0.5	2.4
Benzo(b)fluoranthene	23	620	10,000	<1.7	6.9	8.2	0.74	7.3	17	25	9.5	<0.38	3.2
Benzo(g,h,i)perylene	3,600	67,000	430,000	<2.3	2.8	2.9	<0.53	3.1	7.3	12	4.4	<0.5	1.4
Benzo(k)fluoranthene	230	6,200	100,000	<1.7	1.8	2.7	<0.4	<2.2	6.5	8.2	3	<0.38	0.98
Benzyl Butyl Phthalate	5,700	37,000	590,000	<2.9	13	<0.9	<0.67	<3.7	4.8	8.2	<4	6	1.2
Biphenyl	1,700	16,000	210,000	<6.5	<5.2	<2	<1.5	<8.5	<7.8	<8.7	<9.2	<1.4	<1.6
Bis(2-chloroethoxy) Methane	380	7,600	48,000	<3.1	<2.5	<0.97	<0.72	<4	<3.7	<4.1	<4.4	<0.68	<0.75
Bis(2-chloroethyl) Ether	5.3	30	290	<2.6	<2.1	<0.81	<0.6	<3.4	<3.1	<3.4	<3.6	<0.57	<0.63
Bis(2-cloroisopropyl) Ether	NS	NS	NS	<3.4	<2.8	<1.1	<0.8	<4.5	<4.1	<4.6	<4.8	<0.76	<0.83
Bis(2-ethylhexyl) Phthalate	780	5,100	79,000	<2.9	26	9.6	2.3	<3.7	6	6.7	9.3	1.3	0.81
Caprolactam	NS	NS	NS	<2.9	<2.3	<0.9	<0.67	<3.7	<3.4	<3.8	<4	<0.63	<0.7
Carbazole	540	3,500	56,000	<2.9	<2.3	3.4	<0.67	<3.7	<3.4	4.9	<4	<0.63	<0.7
Chrysene	2,300	62,000	1,000,000	<1.7	5.1	7.7	0.67	6.4	16	21	7.7	<0.38	2.1
Dibenz(a,h)anthracene	2.3	62	1,000	<1.7	<1.4	0.83	<0.4	<2.2	2	2.9	<2.4	<0.38	<0.42
Dibenzofuran	160	4,700	9,700	<2.9	<2.3	2.5	<0.67	<3.7	<3.4	<3.8	<4	<0.63	<0.7
Diethyl Phthalate	100,000	1,000,000	1,000,000	<2.9	<2.3	<0.9	<0.67	<3.7	<3.4	<3.8	<4	<0.63	<0.7
Dimethyl Phthalate	100,000	1,000,000	1,000,000	<2.9	<2.3	<0.9	<0.67	<3.7	<3.4	<3.8	<4	<0.63	<0.7
Di-n-butyl Phthalate	NS	NS	NS	<2.9	<2.3	<0.9	<0.67	<3.7	<3.4	<3.8	<4	<0.63	<0.7
Di-n-octyl Phthalate	1,300	25,000	160,000	<2.9	<2.3	<0.9	<0.67	<3.7	<3.4	<3.8	<4	<0.63	<0.7
Di-n-propylnitrosamine	1.6	10	160	<2.9	<2.3	<0.9	<0.67	<3. <i>7</i>	<3.4	<3.8	<4	<0.63	<0.7
Fluoranthene	4,800	89,000	170,000	<1.7	13	18	1.3	14	40	47	20	<0.38	6.5
Fluorene	4,800	89,000	580,000	<2.9	<2.3	3.9	<0.67	<3.7	<3.4	3.8	<4	<0.63	<0.7
Hexachloro-1,3-butadiene	17	17	17	<2.9	<2.3	<0.9	<0.67	<3.7	<3.4	<3.8	<4	<0.63	<0.7
Hexachlorobenzene	4.1	22	16	<1.7	<1.4	<0.54	<0.4	<2.2	<2	<2.3	<2.4	<0.38	<0.42
Hexachloroethane	45	210	2,000	<2.3	<1.8	<0.72	<0.53	<3	<2.7	<3	<3.2	<0.5	<0.56
Hexachloropentadiene	4.4	16	16	<8.2	<6.6	<2.6	<1.9	<11	<9.8	<11	<12	<1.8	<2
Indeno(1,2,3-cd)pyrene	23	620	10,000	<2.3	3.3	3.9	<0.53	3.6	9.3	14	5.2	<0.5	1.6
Isophorone	11,000	75,000	1,000,000	<2.6	<2.1	<0.81	<0.6	<3.4	<3.1	<3.4	<3.6	<0.57	<0.63
m-Nitroaniline	NS	NS	NS	<2.9	<2.3	<0.9	<0.67	<3.7	<3.4	<3.8	<4	<0.63	<0.7
Naphthalene	96	420	560	<2.9	<2.3	1.6	<0.67	<3.7	<3.4	<3.8	<4	<0.63	<0.7
Nitrobenzene	130	560	3,000	<2.6	<2.1	<0.81	<0.6	<3.4	<3.1	<3.4	<3.6	<0.57	<0.63

Sample Location Area: <sup>a</sup>		o VAP Generic or Direct Conta		Former Bu Basement A	ilding E / B Area - West		ilding E / B Area - East	Large Rubble Mound Piles East of Parking Garage - North	Large Rubble <i>N</i> of Parking Go	ound Piles East	Former Radiology Film Storage Basement - Northeast of Parking Garage	Rubble Outside Partially Demolished Former X-ray Rooms	Former Mechanical Room Basement Northeast portion of Property
Sample Name: <sup>b</sup>				CTP-1	CTP-4	CTP-2	CTP-3	TP-12-1	TP-12-2	TP-12-3	TP-13	TP-14	CTP-5
Sample Date:				8/30/2022	8/31/2022	8/30/2022	8/30/2022	8/29/2022	8/29/2022	8/29/2022	8/29/2022	8/29/2022	8/30/2022
Field Sample ID:	Residential	Commercial/ Industrial	Construction / Excavation	LRN005: CTP-1: D083022	LRN005: CTP-4: D083122	LRN005: CTP-2: D083022	LRN005: CTP-3: D083022	LRN005: TP-12-1: D082922	LRN005: TP-12-2: D082922	LRN005: TP-12-3: D082922	LRN005: TP-13: D082922	LRN005: TP-14: D082922	LRN005: CTP-5: D083022
n-Nitroso-di-phenylamine	2,200	14,000	230,000	<2.3	<1.8	<0.72	<0.53	<3	<2.7	<3	<3.2	<0.5	<0.56
o-Nitroaniline	NS	NS	NS	<2.9	<2.3	<0.9	<0.67	<3.7	<3.4	<3.8	<4	<0.63	<0.7
o-Nitrophenol	NS	NS	NS	<6.2	<5	<1.9	<1.4	<8	<7.4	<8.2	<8.7	<1.4	<1.5
Pentachlorophenol	20	100	1,000	<2.3	<1.8	<0.72	<0.53	<3	<2.7	<3	<3.2	<0.5	<0.56
Phenanthrene	36,000	670,000	1,000,000	2	11	21	1.7	9.1	24	32	12	<0.38	3.1
Phenol	38,000	760,000	940,000	<2.9	<2.3	<0.9	<0.67	<3.7	<3.4	<3.8	<4	<0.63	<0.7
Pyrene	3,600	67,000	430,000	<1.7	9.9	14	1.1	10	30	35	15	<0.38	5
Polychlorinated Biphenyls (PCBs)													
Aroclor 1262	NS	NS	NS	<0.0383	<0.0451	<0.0602	<0.0456	<0.0514	<0.0471	<0.0509	<0.0544	<0.0423	<0.0477
Aroclor 1016	8.2	150	290	<0.0383	<0.0451	<0.0602	<0.0456	<0.0514	<0.0471	<0.0509	<0.0544	<0.0423	<0.0477
Aroclor 1221	3.9	22	300	<0.0383	<0.0451	<0.0602	<0.0456	<0.0514	<0.0471	<0.0509	<0.0544	<0.0423	<0.0477
Aroclor 1232	3.4	18	230	<0.0383	<0.0451	<0.0602	<0.0456	<0.0514	<0.0471	<0.0509	<0.0544	<0.0423	<0.0477
Aroclor 1242	4.6	27	400	<0.0383	<0.0451	<0.0602	<0.0456	<0.0514	<0.0471	<0.0509	<0.0544	<0.0423	<0.0477
Aroclor 1248	4.5	26	390	<0.0383	<0.0451	0.272	<0.0456	<0.0514	<0.0471	0.473	<0.0544	<0.0423	<0.0477
Aroclor 1254	2.3	28	84	0.059	<0.0451	0.139	0.386	0.0701	0.0945	<0.0509	0.0762	<0.0423	<0.0477
Aroclor 1260	4.8	28	450	<0.0383	<0.0451	<0.0602	<0.0456	<0.0514	0.1	<0.0509	<0.0544	<0.0423	<0.0477
Aroclor 1268	NS	NS	NS	<0.0383	<0.0451	<0.0602	<0.0456	<0.0514	<0.0471	<0.0509	<0.0544	<0.0423	<0.0477
Polychlorinated Biphenyls	5	30	490	0.059	<0.0451	0.411	0.386	0.0701	0.194	0.473	0.0762	<0.0423	<0.0477
Total Petroleum Hydrocarbons (TPH) <sup>e</sup>													
TPH (C06-C12)		1,000		<5.45	<6.75	<9.22	<6.82	<7.58	<7.17	<7.7	<8.33	<6.6	<6.48
TPH (C10-C20)		2,000		<241	320	1,050	<286	27.8	141	229	218	68.7	<295
TPH (C20-C34)		5,000		883	1,420	2,250	1,050	151	686	1,400	1,480	84.6	822

### Notes:

All results are presented in milligrams per kilogram (mg/kg)

**BOLD** indicates detected parameter

< indicates chemical was not detected above laboratory reporting limit shown.

Indicates exceedance of applicable standard

Indicates laboratory reporting limit of non-detect compound exceeds applicable standard

- a. Refer to figures for relative sample location area.
- b. Some sample locations represent a composite of select test pits, as noted on Table 1B:

CTP-1 = composite sample of test pits TP-1 and TP-2

CTP-2 = composite sample of test pits TP-3, TP-4 and TP-7

CTP-3 = composite sample of test pits TP-5, TP-8 and TP-9

CTP-4 = composite sample of test pits TP-6, TP-10 and TP-11

CTP-5 = composite sample of test pits TP-15-1 and TP-15-2

- c. Ohio Voluntary Action Program (VAP) generic numerical standards for direct contact with soil per OAC 3745-300-08, effective October 17, 2019.
- d. The standard for hexavalent chromium is used for comparison of total chromium results.
- e. Standards shown for total petroleum hydrocarbons (TPH) represent residual soil saturation concentrations for sand/gravel soil per OAC 3745-300-09, effective October 17, 2019.
- f. NS no standard is available for this compound

### TABLE 3B

### BUILDING DEBRIS / TEST PIT TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP) ANALYTICAL RESULTS PHASE II PROPERTY ASSESSMENT FORMER ST. JOSEPH HOSPITAL REDEVELOPMENT

205 & 208 WEST 20TH STREET, LORAIN, OHIO

Station Name:		CTP-1	CTP-2	CTP-3	CTP-4	CTP-5	TP-12-1	TP-12-2	TP-12-3	TP-13	TP-14
Sample Date:		8/30/2022	8/30/2022	8/30/2022	8/31/2022	8/30/2022	8/29/2022	8/29/2022	8/29/2022	8/29/2022	8/29/2022
Field ID:	TCLP Regulatory Limit (mg/L) a	LRN005: CTP-1: D083022	LRN005: CTP-2: D083022	LRN005: CTP-3: D083022	LRN005: CTP-4: D083122	LRN005: CTP-5: D083022	LRN005: TP-12-1: D082922	LRN005: TP-12-2: D082922	LRN005: TP-12-3: D082922	LRN005: TP-13: D082922	LRN005: TP-14: D082922
Metals											
Arsenic	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Barium	100	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Cadmium	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chromium	5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Lead	5	<0.5	<0.5	<0.5	0.791	0.927	0.653	0.526	1.2	<0.5	<0.5
Mercury	0.2	<0.001	<0.001	< 0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Selenium	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Silver	5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

### Notes:

All results are presented in milligrams per liter (mg/L)

**BOLD** indicates detected parameter

a. Toxicity Characteristic Leaching Procedure (TCLP) Maximum Concentration of contaminants for the "toxicity" characteristic, as determined by the TCLP "D" List per 40 CFR Part 261.24.

<sup>&</sup>lt; indicates chemical was not detected above laboratory reporting limit shown.

#### TABLE 4

### LEAD CHARACTERIZATION RESULLS OF BUILDING DEBRIS SURROUNDING LEAD SHEETING MATERIAL

#### PHASE II PROPERTY ASSESSMENT

### FORMER ST. JOSEPH HOSPITAL REDEVELOPMENT 205 & 208 WEST 20TH STREET, LORAIN, OHIO

Sample Location Area: a			io VAP Generic for Direct Cont			Test Pit TP12-2	Test Pit TP-4	Test Pit TP-10	Adjacent to Parking Garage
Sample Location:			(mg/kg) b		TCLP	VL-1	VL-2	VL-3	VL-4
Sample Date:	Units				Regulatory	8/30/2022	8/30/2022	8/31/2022	8/31/2022
Field Sample ID:		Residential	Commercial/ Industrial	Construction/ Excavation	Limit (mg/L) <sup>c</sup>	LRN005: VL-1: D083022	LRN005: VL-2: D083022	LRN005: VL-3: D083122	LRN005: VL-4: D083122
Lead Results, Total and TO	LP								
Lead	mg/kg	400	800	400	<u></u>	271	564	702	48.8
Lead, TCLP	mg/l			4	5	1.2	3.42	2.13	<0.5

#### Notes:

**BOLD** indicates detected parameter

< indicates chemical was not detected above laboratory reporting limit shown.

Indicates exceedance of applicable standard

- a. Refer to figures for relative sample location area.
- b. Ohio Voluntary Action Program (VAP) generic numerical standards for direct contact with soil per OAC 3745-300-08, effective October 17, 2019.
- c. Toxicity Characteristic Leaching Procedure (TCLP) Maximum Concentration of contaminants for the "toxicity" characteristic, as determined by the TCLP "D" List per 40 CFR Part 261.24.

### TABLE 5 RESIDUAL LIQUID ANALYTICAL RESULTS (WATER ACCUMULATED IN FORMER BASEMENT VOID AREAS) PHASE II PROPERTY ASSESSMENT

### FORMER ST. JOSEPH HOSPITAL REDEVELOPMENT 205 & 208 WEST 20TH STREET, LORAIN, OHIO

Sample Name:	Ohio VAP	W-1	W-2	W-3	W-4
Sample Date:	Unrestricted	8/29/2022	8/30/2022	8/30/2022	8/31/2022
Field Sample ID:	Potable Use	LRN005: W-1:	LRN005: W-2:	LRN005: W-3:	LRN005: W-4:
•	Standards (ug/L) <sup>a</sup>	W082922	W083022	W083022	W083122
Metals Aluminum	NS b	13.7	25.1	277	256
Aluminum Antimony	NS - 6	7.36	<b>25.1</b> <4	8.39	4.23
Arsenic	10	2.75	6.04	3.3	6.62
Barium	2,000	70.26	66.35	58.26	63.66
Beryllium Cadmium	5	<0.5 <0.2	<0.5 <0.2	<0.5 <b>0.57</b>	<0.5 <b>0.29</b>
Chromium	100	<1	<1	1.62	<1
Cobalt	6 15	<0.5	<0.5	0.69	<0.5
Lead Mercury	2	<b>1.8</b> <0.2	<b>5.33</b> <0.2	<b>13.74</b> <0.2	<b>6.99</b> <0.2
Nickel	390	4.23	11.15	7.78	14.65
Selenium Silver	50 94	<5 <0.4	<5 <0.4	<5 <0.4	<5 <0.4
siiver Thallium	2	<1	<1	<1	<1
Vanadium	86	<5	<5	<5	<5
Zinc	6,000	61.57	106.2	344.2	101.4
Volatile Organic Compounds (VOCs) 1,1,1-Trichloroethane	200	<0.5	<0.5	1.3	<0.5
1,1,2,2-Tetrachloroethane	0.76	<0.05	<0.05	<0.05	<0.05
1,1,2-Trichlorethane 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	5 NS	<0.75 <2.5	<0.75 <2.5	<0.75 <2.5	<0.75 <2.5
1,1,2-Irichloro-1,2,2-tritiuoroethane (Freon-113) 1,1-Dichloroethane	28	<2.5 <0.75	<2.5 <0.75	<2.5 1.8	<2.5 <0.75
1,1-Dichloroethene	7	<0.5	<0.5	<0.5	<0.5
1,2,3-Trichlorobenzene	NS 70	<2.5	<2.5	<2.5	<2.5
1,2,4-Trichlorobenzene 1,2,4-Trimethyl-benzene	70 56	<2.5 <2.5	<2.5 <2.5	<2.5 <2.5	<2.5 <2.5
1,2-Dibromo-3-chloropropane	0.2	<2.5	<2.5	<2.5	<2.5
1,2-Dibromoethane	0.05	<2	<2	<2	<2
1,2-Dichlorobenzene 1,2-Dichloroethane	600 5	<2.5 <0.5	<2.5 <0.5	<2.5 <0.5	<2.5 <0.5
1,2-Dichloroethene	NS	<0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	5	<1	<1	<1	<1
1,3,5-Trimethylbenzene 1,3-Dichlorobenzene	60 NS	<2.5 <2.5	<2.5 <2.5	<2.5 <2.5	<2.5 <2.5
1,3-Dichloropropene	4.7	<0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	75	<2.5	<2.5	<2.5	<2.5
1,4-Dioxane 2-Butanone	4.6 5,600	<b>4</b> <5	6.7 6.4	<b>6.6</b> <5	14 5
2-Hexanone	NS	<5	<5	<5	<5
4-Methyl-2-pentanone	6,300	<5	<5	<5	<5
Acetone Benzene	14,000	<b>46</b> <0.5	<b>70</b> <0.5	17 0.63	<b>56</b> <0.5
Bromochloromethane	NS	<2.5	<2.5	<2.5	<2.5
Bromodichloromethane	80	<0.5	<0.5	<0.5	<0.5
Bromoform Carbon Disulfide	80 810	<2 <5	<2 <5	<2 <5	<2 10
Carbon Tetrachloride	5	<0.5	<0.5	<0.5	<0.5
Chlorobenzene	100	<0.5	<0.5	<0.5	<0.5
Chloroethane Chloroform	21,000 80	<1 <0.75	<1 <0.75	<1 <0.75	<1 <0.75
cis-1,2-Dichloroethene	70	<0.5	<0.5	<0.5	<0.5
cis-1,3-Dichloropropene	4.7	<0.5	<0.5	<0.5	<0.5
Cyclohexane Dibromochloromethane (chlorodibromometh	13,000	<10 <0.5	<10 <0.5	<10 <0.5	<10 <0.5
Dichlorodifluoromethane (Freon-12)	3,600	<5	<5	9.9	90
Ethylbenzene	700	<0.5	<0.5	<0.5	<0.5
sopropylbenzene m,p-Xylenes	450 NS	<0.5 <1	<0.5 <1	<0.5 <1	<0.5 <1
Methyl Acetate	NS NS	<2	<2	<2	<2
Methyl Bromide	7.5	<1	<1	<1	<1
Methyl Chloride Methyl Cyclohexane	190 NS	<2.5 <10	<2.5 <10	<2.5 <10	<2.5 <10
Methylene Chloride	5	<2.5	<2.5	3.2	<2.5
Methyl-tert-butyl-ether	140	<1	<1	<1	<1
Naphthalene o-Xylene	1.7 NS	<b>1.4</b> <1	<1 <1	<1 1.1	<1 <1
Styrene	100	<1	<1	<1	3.3
Tetrachloroethene	5	<0.5	<0.5	<0.5	<0.5
Toluene trans-1,2-Dichloroethene	1,000	<0.75 <0.75	<0.75 <0.75	<b>3.2</b> <0.75	<0.75 <0.75
trans-1,3-Dichloropropene	NS NS	<0.5	<0.5	<0.5	<0.5
[richloroethene	5	<0.5	<0.5	<0.5	<0.5
[richlorofluoromethane (Freon-11) Vinyl Chloride	5,200	12 <1	<b>30</b> <1	<2.5 <1	<2.5 <1
Xylene	10,000	<1	<1	1.1	<1
Semi-Volatile Organic Compounds (SVOCs)	1 7 7	-1.7	21.7	21.77	-1 T
1,2,4,5-Tetrachlorobenzene 2,3,4,6-Tetrachlorophenol	1.7 240	<1.7 <5	<1.7 <5	<1.7 <5	<1.7 <5
2,3,4,6-1etrachiorophenoi 2,4,5-Trichlorophenol	1,200	<5	<5	<5	<5
2,4,6-Trichlorophenol	12	<5	<5	<5	<5
2,4-Dichlorophenol 2,4-Dimethylphenol	46 360	<5 <5	<5 <5	<5 <5	<5 <5
2,4-Dimemyiphenoi 2,4-Dinitrophenol	39	<20	<20	<20	<20
2,4-Dinitrotoluene	2.4	<0.4	<0.4	<0.4	<0.4
2,6-Dinitrotoluene	0.49 750	<0.4 <2	<0.4 <2	<0.4 <2	<0.4 <2
2-Chloronaphthalene 2-Chlorophenol	91	<2 <2	<2	<2	<2 <2
2-Methyl-4,6-dinitrophenol	1.5	<0.7	<0.7	<0.7	<0.7

### TABLE 5 RESIDUAL LIQUID ANALYTICAL RESULTS (WATER ACCUMULATED IN FORMER BASEMENT VOID AREAS) PHASE II PROPERTY ASSESSMENT

### FORMER ST. JOSEPH HOSPITAL REDEVELOPMENT 205 & 208 WEST 20TH STREET, LORAIN, OHIO

Sample Name:	Ohio VAP	W-1	W-2	W-3	W-4
Sample Date:	Unrestricted	8/29/2022	8/30/2022	8/30/2022	8/31/2022
•	Potable Use	LRN005:	LRN005:	LRN005:	LRN005:
ield Sample ID:	Standards (ug/L) a	W-1:	W-2:	W-3:	W-4:
2-Methylnaphthalene	36	<b>W082922</b> <2	<b>W083022</b> <2	<b>W083022</b> <2	<b>W083122</b> <2
P-Methylphenol	930	<5	<5	<5	<5
& 4 Methylphenol	930	<5	<5	8.6	11
,3-Dichlorobenzidine	1.3	<0.4	<0.4	<0.4	<0.4
l-Bromophenyl Phenyl Ether	NS	<2	<2	<2	<2
I-Chloro-3-methyl Phenol	1,400	<2	<2	<2	<2
-Chloroaniline	3.7	<3.7	<3.7	<3.7	<3.7
-Chlorophenyl-phenyl Ether -Nitroaniline	NS 38	<2 <5	<2 <5	<2 <5	<2 <5
I-Nitrophenol	NS NS	<u> </u>	<10	<10	<10
Acenaphthene	530	<2	<2	<2	<2
Acenaphthylene	520	<2	<2	<2	<2
Acetophenone	1,900	<5	<5	<5	<5
Anthracene	1,800	<2	<2	<2	<2
Atrazine	3	<3	<3	<3	<3
Benzaldehyde	NS NS	<5	<5	<5	<5
senzo(a)anthracene	0.3	<0.05	0.08	0.23	<0.05
Senzo(a)pyrene	0.2	<0.1	<0.1	0.22	<0.1
senzo(b)fluoranthene senzo(g,h,i)perylene	2.51	<0.05 <0.1	<0.05 <0.1	0.31 0.22	<0.05 <0.1
senzo(g,n,1)peryiene senzo(k)fluoranthene	25	<0.1	<0.1	0.22	<0.1
Benzyl Butyl Phthalate	160	<5	<5	<b>&lt;</b> 5	<5
Siphenyl	39	<2	<2	<2	<2
Sis(2-chloroethoxy) Methane	59	 <5	<u>-</u> <5	 <5	<u>-</u> <5
Bis(2-chloroethyl) Ether	0.14	<0.1	<0.1	<0.1	<0.1
sis(2-cloroisopropyl) Ether	NS	<2	<2	<2	<2
iis(2-ethylhexyl) Phthalate	6	<1	1.7	<1	<1
Caprolactam	NS	<10	<10	<10	<10
Carbazole	20	<2	<2	<2	<2
Chrysene	250	<1.4	<1.4	<1.4	<1.4
Dibenz(a,h)anthracene	0.251 7.9	<0.05 <2	<0.05 <2	<b>0.05</b> <2	<0.05 <2
Dibenzofuran Diethyl Phthalate	15,000	<u> </u>	< <u>&lt;</u> 2	< <u>2</u> <5	< <u>2</u> <5
Dimethyl Phthalate	16,000	<del></del>	<5 <5	<5 <5	<5 <5
Di-n-butyl Phthalate	NS NS	<5	<5	<5	<5
Di-n-octyl Phthalate	200	<5	<5	<5	<5
Di-n-propylnitrosamine	0.11	<0.1	<0.1	<0.1	<0.1
luoranthene	800	<2	<2	<2	<2
luorene	290	<2	<2	<2	<2
lexachloro-1,3-butadiene	1.39	<0.4	<0.4	<0.4	<0.4
lexachlorobenzene	1	<0.02	<0.02	<0.02	<0.02
lexachloroethane	3.3	<0.2	<0.2	<0.2	<0.2
lexachloropentadiene	50	<20	<20	<20	<20 <0.1
ndeno(1,2,3-cd)pyrene sophorone	2.51 780	<0.1 <5	<0.1 <5	<b>0.21</b> <5	<5
n-Nitroaniline	NS NS	<del></del>	<5	<5	<5 <5
laphthalene	1.7	0.75	0.4	0.26	0.23
Nitrobenzene	1.4	<1.4	<1.4	<1.4	<1.4
n-Nitroso-di-phenylamine	120	<2	<2	<2	<2
o-Nitroaniline	NS	<5	<5	<5	<5
-Nitrophenol	NS	<5	<5	<5	<5
entachlorophenol	1	0.8	1.4	1.7	0.48
henanthrene	4,800	<2	<2	<2	<2
henol	5,800 120	10 <2	<5 <2	16 <2	<b>28</b> <2
yrene olychlorinated Biphenyls (PCBs)	1 120	~_	<u> </u>	<u>\</u>	<u> </u>
voclor 1262	NS I	<0.036	<0.036	<0.036	<0.036
roclor 1016	1,4	<0.036	<0.036	<0.036	<0.036
roclor 1221	0.047	<0.036	<0.036	<0.036	<0.036
roclor 1232	0.047	<0.036	<0.036	<0.036	<0.036
voclor 1242	0.08	<0.036	<0.036	<0.036	<0.036
roclor 1248	0.08	<0.036	<0.036	<0.036	<0.036
voclor 1254	0.08	<0.036	<0.036	0.1	<0.036
roclor 1260	0.08	<0.036	<0.036	<0.036	<0.036
voclor 1268	NS NS	<0.036	<0.036	<0.036	<0.036
olychlorinated Biphenyls	0.5	<0.036	<0.036	0.1	<0.036
General Chemistry					

### Notes:

All results are presented in micrograms per liter (ug/L) unless otherwise noted.

**BOLD** indicates detected parameter

< indicates chemical was not detected above laboratory reporting limit shown.

Indicates exceedance of applicable standard

Indicates laboratory reporting limit of non-detect compound exceeds applicable standard

a. Ohio Voluntary Action Program (VAP) Unrestricted Potable Use Standard (UPUS) per OAC 3745-300-08, effective October 17, 2019.

b.  $\ensuremath{\mathsf{NS}}$  - no standard is available for this compound

Sample Location:	Ohio VAP G	Seneric Numeri	cal Standards	VM	IW-1	VM	W-2	VM	IW-3	VM	W-4	VM	W-5	VSB-6	
Sample Depth:	for Direct	Contact with So	oil (mg/kg) <sup>a</sup>	0 - 2 ft	7 - 9 ft	0 - 2 ft	2 - 2.5 ft	0 - 2 ft	4 - 5 ft	0 - 2 ft	5 - 7 ft	0 - 2 ft	5 - 7 ft	0 - 2 ft	2 - 4 ft
Sample Date:			( 0. 0)	10/24/2022	10/24/2022	10/25/2022	10/25/2022	10/24/2022	10/24/2022	10/24/2022	10/24/2022	10/24/2022	10/24/2022	10/24/2022	10/24/2022
Field Sample ID:	Residential	Commercial/ Industrial	Construction/ Excavation	LRN005: VMW-1: S000020	LRN005: VMW-1: S070090	LRN005: VMW-2: \$000020	LRN005: VMW-2: S020025	LRN005: VMW-3: S000020	LRN005: VMW-3: S040050	LRN005: VMW-4: S000020	LRN005: VMW-4: S050070	LRN005: VMW-5: S000020	LRN005: VMW-5: S050070	LRN005: VSB-6: S000020	LRN005: VSB-6: S020040
Metals															
Antimony	63	1,900	970	<1.2	<1.1	<1.1	<1.1	<1.1	<1.2	<0.94	<0.97	1.1	<1.1	<1.1	<0.99
Arsenic	14	100	760	6.9	5.9	15.3	10.1	4.5	10.7	6.5	5.3	17.2	18	5	5.2
Barium	30,000	760,000	350,000	77.3	50.2	65	67.3	55.9	38.4	15.1	13.2	70.2	21.7	43	33.4
Beryllium	310	8,800	3,500	0.8	<0.57	0.8	0.89	0.92	0.89	<0.47	< 0.49	0.92	<0.54	0.8	0.67
Cadmium	140	3,300	710	<0.61	<0.57	1.2	0.56	0.88	2.2	<0.47	< 0.49	2.3	0.7	<0.56	<0.49
Chromium b	27	240	1,300	18	17.5	14.5	13.7	13.2	17.2	10.2	6.6	17.6	16.6	5.2	14.9
Cobalt	47	1,400	2,900	6.1	10.3	9.5	7.8	7.4	11.6	4.3	3.8	24.3	9.8	3.8	3.8
Lead	400	800	400	10.7	10	20.2	19.1	8	9.8	5.7	7.6	26	10.4	11.1	11
Mercury	3.1	3.1	3.1	<0.25	<0.24	<0.25	<0.26	<0.25	<0.24	<0.22	<0.22	<0.26	<0.25	<0.22	<0.22
Nickel	3,100	83,000	24,000	33.4	27.3	47.6	26.4	44	80.1	14.7	9.6	46.8	31.3	8.4	8.8
Selenium	780	23,000	12,000	<1.2	<1.1	1.4	<1.1	<1.1	<1.2	<0.94	<0.97	<1.1	1.5	<1.1	<0.99
Silver	780	23,000	12,000	<0.61	<0.57	<0.54	<0.55	<0.56	<0.60	<0.47	< 0.49	<0.56	<0.54	<0.56	<0.49
Thallium	1.6	47	97	<1.2	<1.1	<1.1	<1.1	<1.1	1.3	<0.94	<0.97	2.5	1.8	<1.1	<0.99
Vanadium	780	23,000	8,100	36	23.6	26.3	21.2	32	54.2	16.2	11.7	56.7	27.5	10	9
Zinc	47,000	1,000,000	730,000	131	53.8	121	75.8	232	346	41.1	29.6	284	90.7	23.3	15.7
Volatile Organic Compounds (VOCs)															
1,1,1,2-Tetrachloroethane	49	230	680	<0.0068	<0.0050	< 0.0053	< 0.0067	< 0.0059	<0.0056	<0.0082	<0.0065	<0.0057	<0.0089	NS	NS
1,1,1-Trichloroethane	640	640	640	<0.0068	<0.0050	< 0.0053	<0.0067	< 0.0059	< 0.0056	<0.0082	<0.0065	< 0.0057	<0.0089	NS	NS
1,1,2,2-Tetrachloroethane	15	71	670	<0.0068	<0.0050	< 0.0053	< 0.0067	< 0.0059	< 0.0056	<0.0082	< 0.0065	<0.0057	<0.0089	NS	NS
1,1,2-Trichlorethane	28	130	1,200	<0.0068	<0.0050	< 0.0053	<0.0067	< 0.0059	<0.0056	<0.0082	<0.0065	<0.0057	<0.0089	NS	NS
1,1-Dichloroethane	89	390	1,700	<0.0068	<0.0050	< 0.0053	< 0.0067	< 0.0059	<0.0056	<0.0082	<0.0065	<0.0057	<0.0089	NS	NS
1,1-Dichloroethene	360	1,200	360	<0.0068	<0.0050	< 0.0053	< 0.0067	< 0.0059	<0.0056	<0.0082	<0.0065	<0.0057	<0.0089	NS	NS
1,2,4-Trichlorobenzene	140	400	400	<0.0068	<0.0050	< 0.0053	< 0.0067	< 0.0059	<0.0056	<0.0082	<0.0065	<0.0057	<0.0089	NS	NS
1,2,4-Trimethyl-benzene	220	220	220	<0.0068	<0.0050	< 0.0053	< 0.0067	< 0.0059	<0.0056	<0.0082	<0.0065	<0.0057	<0.0089	NS	NS
1,2-Dibromoethane	0.89	4.2	39	<0.0010	<0.00076	<0.00079	<0.0010	<0.00089	<0.00084	<0.0012	<0.00097	<0.00086	< 0.0013	NS	NS
1,2-Dichlorobenzene	380	380	380	<0.0068	<0.0050	<0.0053	<0.0067	<0.0059	<0.0056	<0.0082	<0.0065	<0.0057	<0.0089	NS	NS
1,2-Dichloroethane	11	52	480	<0.0068	<0.0050	<0.0053	<0.0067	<0.0059	<0.0056	<0.0082	<0.0065	<0.0057	<0.0089	NS	NS
1,2-Dichloropropane	39	170	180	<0.0068	<0.0050	< 0.0053	<0.0067	<0.0059	<0.0056	<0.0082	<0.0065	<0.0057	<0.0089	NS	NS
1,3,5-Trimethylbenzene	180	180	180	<0.0068	<0.0050	< 0.0053	<0.0067	<0.0059	<0.0056	<0.0082	<0.0065	<0.0057	<0.0089	NS	NS
1,3-Dichloropropane	1,500	1,500	1,500	<0.0068	<0.0050	<0.0053	<0.0067	<0.0059	<0.0056	<0.0082	<0.0065	<0.0057	<0.0089	NS	NS
1,4-Dichlorobenzene	65	290	2,600	<0.0068	<0.0050	<0.0053	<0.0067	< 0.0059	<0.0056	<0.0082	<0.0065	<0.0057	<0.0089	NS	NS
2-Butanone	28,000	28,000	28,000	< 0.034	<0.025	<0.026	<0.034	<0.030	<0.028	<0.041	< 0.032	<0.029	<0.045	NS	NS
4-Methyl-2-pentanone	3,400	3,400	3,400	< 0.034	<0.025	<0.026	< 0.034	<0.030	<0.028	<0.041	< 0.032	<0.029	<0.045	NS	NS
Acetone	110,000	110,000	110,000	<0.12	<0.10	<0.11	<0.11	<0.13	<0.10	<0.12	< 0.13	<0.13	<0.25	NS	NS
Benzene	28	130	1,200	<0.0068	<0.0050	< 0.0053	<0.0067	<0.0059	<0.0056	<0.0082	<0.0065	<0.0057	<0.0089	NS	NS
Bromodichloromethane	7.3	33	300	<0.0068	<0.0050	<0.0053	<0.0067	< 0.0059	<0.0056	<0.0082	< 0.0065	<0.0057	<0.0089	NS	NS
Bromoform	460	910	910	<0.0068	<0.0050	< 0.0053	<0.0067	<0.0059	<0.0056	<0.0082	<0.0065	<0.0057	<0.0089	NS	NS
Carbon Disulfide	740	740	740	< 0.014	<0.010	<0.011	< 0.013	<0.012	<0.011	<0.016	< 0.013	<0.011	<0.018	NS	NS
Carbon Tetrachloride	16	74	460	<0.0068	<0.0050	<0.0053	<0.0067	<0.0059	<0.0056	<0.0082	<0.0065	<0.0057	<0.0089	NS	NS
Chlorobenzene	660	760	760	<0.0068	<0.0050	< 0.0053	<0.0067	< 0.0059	<0.0056	<0.0082	<0.0065	<0.0057	<0.0089	NS	NS
Chloroethane	2,100	2,100	2,100	<0.0068	<0.0050	< 0.0053	<0.0067	< 0.0059	< 0.0056	<0.0082	<0.0065	<0.0057	<0.0089	NS	NS
Chloroform	7.9	35	320	<0.0068	<0.0050	<0.0053	<0.0067	<0.0059	<0.0056	<0.0082	<0.0065	<0.0057	<0.0089	NS	NS
cis-1,2-Dichloroethene	310	2,400	2,400	<0.0068	<0.0050	<0.0053	<0.0067	<0.0059	<0.0056	<0.0082	<0.0065	<0.0057	<0.0089	NS	NS
cis-1,3-Dichloropropene	43	230	520	<0.0068	<0.0050	<0.0053	<0.0067	<0.0059	<0.0056	<0.0082	<0.0065	<0.0057	<0.0089	NS	NS

Sample Location:	Ohio VAP G	Seneric Numeri	cal Standards	VM	W-1	VM	W-2	VM	W-3	VM	W-4	VMW-5		VSB-6	
Sample Depth:	for Direct	Contact with So	oil (ma/ka) <sup>a</sup>	0 - 2 ft	7 - 9 ft	0 - 2 ft	2 - 2.5 ft	0 - 2 ft	4 - 5 ft	0 - 2 ft	5 - 7 ft	0 - 2 ft	5 - 7 ft	0 - 2 ft	2 - 4 ft
Sample Date:				10/24/2022	10/24/2022	10/25/2022	10/25/2022	10/24/2022	10/24/2022	10/24/2022	10/24/2022	10/24/2022	10/24/2022	10/24/2022	10/24/2022
Field Sample ID:	Residential	Commercial/	Construction/ Excavation	LRN005: VMW-1:	LRN005: VMW-1:	LRN005: VMW-2:	LRN005: VMW-2:	LRN005: VMW-3:	LRN005: VMW-3:	LRN005: VMW-4:	LRN005: VMW-4:	LRN005: VMW-5:	LRN005: VMW-5:	LRN005: VSB-6:	LRN005: VSB-6:
	100			\$000020	\$070090	\$000020	S020025	\$000020	S040050	S000020	S050070	S000020	\$050070	S000020	S020040
Dibromochloromethane (chlorodibromomethane)	130	800	800	<0.0068	<0.0050	<0.0053	<0.0067	<0.0059	<0.0056	<0.0082	<0.0065	<0.0057	<0.0089	NS	NS
Dichlorodifluoromethane (Freon-12)	850	850	850	<0.0068	<0.0050	<0.0053	<0.0067	<0.0059	<0.0056	<0.0082	<0.0065	<0.0057	<0.0089	NS	NS
Ethyl Methacrylate	1,100	1,100	1,100	<0.14	<0.10	<0.11	<0.13	<0.12	<0.11	<0.16	<0.13	<0.11	<0.18	NS	NS
Ethylbenzene	140	480	480	<0.0068	<0.0050	<0.0053	<0.0067	<0.0059	<0.0056	<0.0082	<0.0065	<0.0057	<0.0089	NS NS	NS
Hexane	140	140	140	<0.0068	<0.0050	<0.0053	<0.0067	<0.0059	<0.0056	<0.0082	<0.0065	<0.0057	<0.0089	NS	NS
Isopropylbenzene	270	270	270	<0.0068	<0.0050	<0.0053	<0.0067	<0.0059	<0.0056	<0.0082	<0.0065	<0.0057	<0.0089	NS	NS
Methyl Bromide	17	76	550	<0.0068	<0.0050	<0.0053	<0.0067	<0.0059	<0.0056	<0.0082	<0.0065	<0.0057	<0.0089	NS	NS
Methyl Chloride	280	1,200	1,300	<0.0068	<0.0050	<0.0053	<0.0067	<0.0059	<0.0056	<0.0082	<0.0065	<0.0057	<0.0089	NS	NS
Methylene Bromide	59	250	870	<0.0068	<0.0050	<0.0053	<0.0067	<0.0059	<0.0056	<0.0082	<0.0065	<0.0057	<0.0089	NS	NS
Methylene Chloride	740	3,300	3,300	<0.024	<0.020	<0.022	<0.023	<0.027	<0.020	<0.023	<0.027	<0.026	<0.051	NS	NS
Methyl-tert-butyl-ether	1,100	5,400	8,900	<0.0068	<0.0050	<0.0053	<0.0067	<0.0059	<0.0056	<0.0082	<0.0065	<0.0057	<0.0089	NS	NS
Naphthalene	96	420	560	<0.0068	<0.0050	<0.0053	<0.0067	<0.0059	<0.0056	<0.0082	<0.0065	<0.0057	<0.0089	NS	NS
Styrene	870	870	870	<0.0068	<0.0050	<0.0053	<0.0067	<0.0059	<0.0056	<0.0082	<0.0065	<0.0057	<0.0089	NS	NS
Tetrachloroethene	170	170	170	<0.0068	<0.0050	<0.0053	<0.0067	<0.0059	<0.0056	<0.0082	<0.0065	<0.0057	<0.0089	NS	NS
Toluene	820	820	820	<0.0068	<0.0050	< 0.0053	<0.0067	< 0.0059	<0.0056	<0.0082	<0.0065	<0.0057	<0.0089	NS	NS
trans-1,2-Dichloroethene	1,900	1,900	1,900	<0.0068	<0.0050	< 0.0053	<0.0067	< 0.0059	<0.0056	<0.0082	<0.0065	<0.0057	<0.0089	NS	NS
trans-1,3-Dichloropropene	NS d	NS	NS	<0.0068	<0.0050	< 0.0053	<0.0067	< 0.0059	<0.0056	<0.0082	<0.0065	<0.0057	<0.0089	NS	NS
Trichloroethene	10	48	17	<0.0068	<0.0050	< 0.0053	< 0.0067	< 0.0059	<0.0056	<0.0082	<0.0065	<0.0057	<0.0089	NS	NS
Trichlorofluoromethane (Freon-11)	1,200	1,200	1,200	<0.0068	<0.0050	< 0.0053	< 0.0067	< 0.0059	< 0.0056	<0.0082	<0.0065	<0.0057	<0.0089	NS	NS
Vinyl Acetate	620	2,700	620	<0.14	<0.10	<0.11	< 0.13	<0.12	< 0.11	<0.16	<0.13	<0.11	<0.18	NS	NS
Vinyl Chloride	1.3	49	280	<0.0068	<0.0050	< 0.0053	<0.0067	< 0.0059	< 0.0056	<0.0082	<0.0065	<0.0057	<0.0089	NS	NS
Xylene	260	260	260	< 0.014	<0.010	< 0.011	< 0.013	<0.012	<0.011	<0.016	<0.013	<0.011	<0.018	NS	NS
Semi-Volatile Organic Compounds (SVOCs)															
2,4,5-Trichlorophenol	13,000	250,000	1,000,000	<0.41	<0.37	<0.40	<0.42	<0.40	<0.40	< 0.35	< 0.34	<0.40	<0.40	< 0.36	< 0.35
2,4,6-Trichlorophenol	130	2,500	1,600	< 0.41	< 0.37	<0.40	< 0.42	<0.40	<0.40	< 0.35	<0.34	<0.40	<0.40	< 0.36	< 0.35
2,4-Dichlorophenol	380	7,600	32,000	<0.41	< 0.37	<0.40	< 0.42	<0.40	<0.40	< 0.35	<0.34	<0.40	<0.40	< 0.36	< 0.35
2,4-Dimethylphenol	2,500	51,000	95,000	<0.41	< 0.37	<0.40	< 0.42	<0.40	<0.40	< 0.35	<0.34	<0.40	<0.40	< 0.36	< 0.35
2,4-Dinitrophenol	250	5,100	32,000	<2.0	<1.8	<1.9	<2.0	<1.9	<1.9	<1.7	<1.7	<1.9	<2.0	<1.8	<1.7
2,4-Dinitrotoluene	35	230	3,600	<0.41	<0.37	<0.40	<0.42	<0.40	<0.40	<0.35	<0.34	<0.40	<0.40	<0.36	< 0.35
2,6-Dinitrotoluene	7.3	47	750	<0.41	<0.37	<0.40	<0.42	<0.40	<0.40	<0.35	<0.34	<0.40	<0.40	<0.36	<0.35
2-Chloronaphthalene	13,000	370,000	1,000,000	<0.41	<0.37	<0.40	<0.42	<0.40	<0.40	<0.35	<0.34	<0.40	<0.40	<0.36	<0.35
2-Chlorophenol	780	23,000	27,000	<0.41	<0.37	<0.40	<0.42	<0.40	<0.40	<0.35	<0.34	<0.40	<0.40	<0.36	<0.35
2-Methylnaphthalene	480	8,900	5,800	<0.41	<0.37	<0.40	<0.42	<0.40	<0.40	<0.35	<0.34	<0.40	<0.40	<0.36	0.44
2-Methylphenol	6,300	130,000	790,000	<0.41	<0.37	<0.40	<0.42	<0.40	<0.40	<0.35	<0.34	<0.40	<0.40	<0.36	<0.35
3 & 4 Methylphenol	6,300	130,000	790,000	<0.82	<0.75	<0.80	<0.83	<0.80	<0.80	<0.69	<0.69	<0.79	<0.80	<0.72	<0.71
4-Chloro-3-methyl Phenol	13,000	250,000	160,000	<0.82	<0.75	<0.80	<0.83	<0.80	<0.80	<0.69	<0.69	<0.79	<0.80	<0.72	<0.71
4-Chloroaniline	54	350	800	<0.82	<0.75	<0.80	<0.83	<0.80	<0.80	<0.69	<0.69	<0.79	<0.80	<0.72	<0.71
Acenaphthene	7,200	1,000,000	290,000	<0.62	<0.73	<0.40	<0.42	<0.40	<0.40	<0.35	<0.34	<0.40	<0.40	<0.72	<0.35
Acenaphthylene	7,200	130,000	290,000	<0.41	<0.37	<0.40	<0.42	<0.40	<0.40	<0.35	<0.34	<0.40	<0.40	<0.36	<0.35
Anthracene	36,000	670,000	1,000,000	<0.41	<0.37	<0.40	<0.42	<0.40	<0.40	<0.35	<0.34	<0.40	<0.40	<0.36	<0.35
Benzo(a)anthracene	23	610	9,600	<0.41	<0.37	<0.40	<0.42	<0.40	<0.40	<0.35	<0.34	<0.40	<0.40	<0.36	0.54
Benzo(a)pyrene	2.3	62	230	<0.41	<0.37	<0.40	<0.42	<0.40	<0.40	<0.35	<0.34	<0.40	<0.40	<0.36	0.43
Benzo(b)fluoranthene	2.3	620	10,000	<0.41	<0.37	<0.40	<0.42	<0.40	<0.40	<0.35	<0.34	<0.40	<0.40	<0.36	0.43
	3,600	67,000	430,000	<0.41	<0.37	<0.40	<0.42	<0.40	<0.40	<0.35	<0.34	<0.40	<0.40	<0.36	<0.35
Benzo(g,h,i)perylene															
Benzo(k)fluoranthene	230	6,200	100,000	< 0.41	<0.37	<0.40	< 0.42	<0.40	<0.40	< 0.35	< 0.34	<0.40	< 0.40	< 0.36	< 0.35

Sample Location:	Ohio VAP G	eneric Numeri	cal Standards	VM	W-1	VM	W-2	VM	W-3	VM	W-4	VMW-5		VSB-6	
Sample Depth:		Contact with So		0 - 2 ft	7 - 9 ft	0 - 2 ft	2 - 2,5 ft	0 - 2 ft	4 - 5 ft	0 - 2 ft	5 - 7 ft	0 - 2 ft	5 - 7 ft	0 - 2 ft	2 - 4 ft
Sample Date:	loi bileci (	Comaci wiiii 30	ii (iiig/kg)	10/24/2022		10/25/2022	10/25/2022		10/24/2022	10/24/2022	A STATE OF THE PARTY OF THE PAR	10/24/2022	10/24/2022	10/24/2022	
Sample Bale.				LRN005:	LRN005:	LRN005:	LRN005:	LRN005:	LRN005:	LRN005:	LRN005:	LRN005:	LRN005:	LRN005:	LRN005:
Field Sample ID:	Residential		Construction/	VMW-1:	VMW-1:	VMW-2:	VMW-2:	VMW-3:	VMW-3:	VMW-4:	VMW-4:	VMW-5:	VMW-5:	VSB-6:	VSB-6:
riela sample ib.	Kesideiiidi	Industrial	Excavation	\$000020	5070090	\$000020	S020025	\$000020	S040050	\$000020	S050070	S000020	\$050070	S000020	S020040
Benzyl Butyl Phthalate	5,700	37,000	590,000	<0.41	<0.37	<0.40	<0.42	<0.40	<0.40	<0.35	<0.34	<0.40	<0.40	<0.36	<0.35
Bis(2-chloro-1-methylethyl)ether	1,000	1,000	1,000	<0.41	<0.37	<0.40	<0.42	<0.40	<0.40	<0.35	<0.34	<0.40	<0.40	<0.36	<0.35
Bis(2-chloroethoxy) Methane	380	7,600	48,000	<0.41	<0.37	<0.40	<0.42	<0.40	<0.40	<0.35	<0.34	<0.40	<0.40	<0.36	<0.35
Bis(2-chloroethyl) Ether	5.3	30	290	<0.41	<0.37	<0.40	<0.42	<0.40	<0.40	<0.35	<0.34	<0.40	<0.40	<0.36	<0.35
Bis(2-ethylhexyl) Phthalate	780	5,100	79,000	<0.41	<0.37	<0.40	<0.42	<0.40	<0.40	<0.35	<0.34	<0.40	<0.40	<0.36	0.6
Chrysene	2,300	62,000	1,000,000	<0.41	<0.37	<0.40	<0.42	<0.40	<0.40	<0.35	<0.34	<0.40	<0.40	<0.36	0.54
Dibenz(a,h)anthracene	2.3	62	1,000	<0.41	<0.37	<0.40	<0.42	<0.40	<0.40	< 0.35	<0.34	<0.40	<0.40	<0.36	< 0.35
Diethyl Phthalate	100,000	1,000,000	1,000,000	<0.41	< 0.37	<0.40	<0.42	<0.40	<0.40	< 0.35	<0.34	<0.40	<0.40	<0.36	< 0.35
Di-n-butyl Phthalate	NS	NS	NS	<0.41	< 0.37	<0.40	<0.42	<0.40	<0.40	< 0.35	<0.34	<0.40	<0.40	<0.36	< 0.35
Di-n-octyl Phthalate	1,300	25,000	160,000	<0.41	< 0.37	<0.40	<0.42	<0.40	<0.40	< 0.35	<0.34	<0.40	<0.40	< 0.36	< 0.35
Di-n-propylnitrosamine	1.6	10	160	<0.41	< 0.37	<0.40	< 0.42	<0.40	<0.40	< 0.35	<0.34	<0.40	<0.40	<0.36	< 0.35
Fluoranthene	4,800	89,000	170,000	<0.41	< 0.37	<0.40	<0.42	<0.40	<0.40	< 0.35	<0.34	<0.40	<0.40	<0.36	1.3
Fluorene	4,800	89,000	580,000	<0.41	< 0.37	<0.40	< 0.42	<0.40	<0.40	< 0.35	<0.34	<0.40	<0.40	< 0.36	< 0.35
Hexachloroethane	45	210	2,000	<0.41	<0.37	<0.40	< 0.42	<0.40	<0.40	< 0.35	< 0.34	<0.40	<0.40	<0.36	< 0.35
Hexachloropentadiene	4.4	16	16	<0.41	<0.37	<0.40	<0.42	<0.40	<0.40	< 0.35	<0.34	<0.40	<0.40	<0.36	< 0.35
Indeno(1,2,3-cd)pyrene	23	620	10,000	<0.41	<0.37	<0.40	< 0.42	<0.40	< 0.40	< 0.35	<0.34	<0.40	<0.40	< 0.36	< 0.35
Isophorone	11,000	75,000	1,000,000	<0.41	<0.37	<0.40	< 0.42	<0.40	< 0.40	< 0.35	<0.34	<0.40	<0.40	< 0.36	< 0.35
Naphthalene	96	420	560	<0.41	<0.37	<0.40	< 0.42	<0.40	<0.40	< 0.35	<0.34	<0.40	<0.40	< 0.36	0.36
Nitrobenzene	130	560	3,000	<0.41	<0.37	<0.40	< 0.42	<0.40	< 0.40	< 0.35	<0.34	<0.40	<0.40	< 0.36	< 0.35
n-Nitroso-di-phenylamine	2,200	14,000	230,000	<0.41	<0.37	<0.40	< 0.42	<0.40	<0.40	< 0.35	<0.34	<0.40	<0.40	< 0.36	< 0.35
Phenanthrene	36,000	670,000	1,000,000	<0.41	<0.37	<0.40	< 0.42	<0.40	< 0.40	< 0.35	<0.34	<0.40	<0.40	< 0.36	1.1
Phenol	38,000	760,000	940,000	<0.41	<0.37	<0.40	< 0.42	<0.40	<0.40	< 0.35	<0.34	<0.40	<0.40	< 0.36	<0.35
Pyrene	3,600	67,000	430,000	<0.41	<0.37	<0.40	< 0.42	<0.40	<0.40	< 0.35	<0.34	<0.40	<0.40	<0.36	1
Polychlorinated Biphenyls (PCBs)															
Aroclor 1016	8.2	150	290	<0.12	<0.11	<0.12	<0.12	<0.12	<0.12	<0.10	<0.11	<0.12	<0.12	<0.11	<0.11
Aroclor 1221	3.9	22	300	<0.12	<0.11	<0.12	<0.12	<0.12	<0.12	<0.10	<0.11	<0.12	<0.12	<0.11	<0.11
Aroclor 1232	3.4	18	230	<0.12	<0.11	<0.12	<0.12	<0.12	<0.12	<0.10	<0.11	<0.12	<0.12	<0.11	<0.11
Aroclor 1242	4.6	27	400	<0.12	<0.11	<0.12	<0.12	<0.12	<0.12	<0.10	<0.11	<0.12	<0.12	<0.11	<0.11
Aroclor 1248	4.5	26	390	<0.12	<0.11	<0.12	<0.12	<0.12	<0.12	<0.10	<0.11	<0.12	<0.12	<0.11	<0.11
Aroclor 1254	2.3	28	84	<0.12	<0.11	<0.12	<0.12	<0.12	<0.12	<0.10	<0.11	<0.12	<0.12	<0.11	<0.11
Aroclor 1260	4.8	28	450	<0.12	<0.11	<0.12	<0.12	<0.12	<0.12	<0.10	<0.11	<0.12	<0.12	<0.11	<0.11
Total Petroleum Hydrocarbons (TPH) <sup>c</sup>															
TPH (C06-C12)	1,1	1,000		<1.2	<1.1	<1.2	<1.2	<1.2	<1.2	<1.0	<1.0	<1.2	<1.2	NS	NS
TPH (C10-C20)	1/	2,000		<12.5	32.2	<12.0	<12.3	<12.2	<12.4	<10.5	<10.5	<12.2	16	<11.1	24.2
TPH (C20-C34)	2	5,000		<12.5	34.4	27.1	<12.3	<12.2	<12.4	<10.5	<10.5	<12.2	<12.3	14.1	66.9

### Notes:

All results are presented in milligrams per kilogram (mg/kg)

**BOLD** indicates detected parameter

< indicates chemical was not detected above laboratory reporting limit shown.

Indicates exceedance of applicable standard

- a. Ohio Voluntary Action Program (VAP) generic numerical standards (GNS) for direct contact with soil for various land use / activity categories per OAC 3745-300-08, effective October 17, 2019.
- b. The standard for hexavalent chromium was used for comparison of total chromium results.
- c. Standards shown for total petroleum hydrocarbons (TPH) represent residual soil saturation concentrations for sand/gravel soil per OAC 3745-300-09, effective October 17, 2019.
- d. NS no standard is available for this compound

TABLE 7
GROUNDWATER ANALYTICAL RESULTS
PHASE II PROPERTY ASSESSMENT
FORMER ST. JOSEPH HOSPITAL REDEVELOPMENT
205 & 208 WEST 20TH STREET, LORAIN, OHIO

Sample Location:		VMW-1	VMW-2	VMW-3	VMW-4	VMW-5
Sample Date:	Ohio VAP Unrestricted	10/28/2022	10/28/2022	10/28/2022	10/28/2022	10/28/2022
Field Sample ID:	Potable Use Standard (ug/L) a	LRN005: VMW-1: G102822	LRN005: VMW-2: G102822	LRN005: VMW-3: G102822	LRN005: VMW-4: G102822	LRN005: VMW-5: G102822
Metals	·					
Antimony	6	<6.0	<6.0	<6.0	<6.0	<6.0
Arsenic	10	<10.0	<10.0	<10.0	<10.0	<10.0
Barium	2,000	108	76.8	39.9	37.1	33.2
Beryllium	4	<4.0	<4.0	<4.0	<4.0	<4.0
Cadmium	5	1.2	<1.0	1.1	<1.0	7.1
Chromium	100	115	<4.0	<4.0	<4.0	<4.0
Cobalt	6	11.6	<3.0	<3.0	6.3	49
Lead	15	6.5	<5.0	<5.0	<5.0	<5.0
Mercury	2	<0.20	<0.20	<0.20	<0.20	<0.20
Nickel	390	98.2	<3.0	8.8	55.8	234
Selenium	50	11.4	<10.0	<10.0	35	<10.0
Silver	94	<10.0	<10.0	<10.0	<10.0	<10.0
<u> </u>	2	1.9	<0.10	0.13	<0.10	0.81
Vanadium	86	38.6	<10.0	<10.0	<10.0	<10.0
Zinc	6,000	62.4	11.9	12	10.2	96
Volatile Organic Compounds (VOCs)						
1,1,1,2-Tetrachloroethane	5.7	<5.0	<5.0	<5.0	<5.0	<5.0
1,1,1-Trichloroethane	200	<5.0	<5.0	<5.0	<5.0	<5.0
1,1,2,2-Tetrachloroethane	0.76	<5.0	<5.0	<5.0	<5.0	<5.0
1,1,2-Trichlorethane	5	<5.0	<5.0	<5.0	<5.0	<5.0
1,1-Dichloroethane	28	<5.0	<5.0	<5.0	<5.0	<5.0
1,1-Dichloroethene	7	<5.0	<5.0	<5.0	<5.0	<5.0
1,2,4-Trichlorobenzene	70	<5.0	<5.0	<5.0	<5.0	<5.0
1,2,4-Trimethyl-benzene	56	<5.0	<5.0	<5.0	<5.0	<5.0
1,2-Dibromoethane	0.05	<5.0	<5.0	<5.0	<5.0	<5.0
1,2-Dichlorobenzene	600	<5.0	<5.0	<5.0	<5.0	<5.0
1,2-Dichloroethane	5	<5.0	<5.0	<5.0	<5.0	<5.0
1,2-Dichloropropane	5	<5.0	<5.0	<5.0	<5.0	<5.0
1,3,5-Trimethylbenzene	60	<5.0	<5.0	<5.0	<5.0	<5.0
1,3-Dichloropropane	370	<5.0	<5.0	<5.0	<5.0	<5.0
1,4-Dichlorobenzene	75	<5.0	<5.0	<5.0	<5.0	<5.0
2-Butanone	5,600	<25.0	<25.0	<25.0	<25.0	<25.0
4-Methyl-2-pentanone	6,300	<25.0	<25.0	<25.0	<25.0	<25.0
Acetone	14,000	<100	<100	<100	<100	<100
Benzene	5	<5.0	<5.0	<5.0	<5.0	<5.0
Bromodichloromethane	80	<5.0	<5.0	<5.0	<5.0	<5.0

TABLE 7
GROUNDWATER ANALYTICAL RESULTS
PHASE II PROPERTY ASSESSMENT
FORMER ST. JOSEPH HOSPITAL REDEVELOPMENT
205 & 208 WEST 20TH STREET, LORAIN, OHIO

Sample Location:		VMW-1	VMW-2	VMW-3	VMW-4	VMW-5
Sample Date:	Ohio VAP Unrestricted	10/28/2022	10/28/2022	10/28/2022	10/28/2022	10/28/2022
Field Sample ID:	Potable Use Standard (ug/L) <sup>a</sup>	LRN005: VMW-1: G102822	LRN005: VMW-2: G102822	LRN005: VMW-3: G102822	LRN005: VMW-4: G102822	LRN005: VMW-5: G102822
Bromoform	80	<5.0	<5.0	<5.0	<5.0	<5.0
Carbon Disulfide	810	<10.0	<10.0	<10.0	<10.0	<10.0
Carbon Tetrachloride	5	<5.0	<5.0	<5.0	<5.0	<5.0
Chlorobenzene	100	<5.0	<5.0	<5.0	<5.0	<5.0
Chloroethane	21,000	<5.0	<5.0	<5.0	<5.0	<5.0
Chloroform	80	<5.0	<5.0	<5.0	<5.0	<5.0
cis-1,2-Dichloroethene	70	<5.0	<5.0	<5.0	<5.0	<5.0
cis-1,3-Dichloropropene	4.7	<4.1	<4.1	<4.1	<4.1	<4.1
Dibromochloromethane (chlorodibromomethane)	80	<5.0	<5.0	<5.0	<5.0	<5.0
Dichlorodifluoromethane (Freon-12)	3,600	<5.0	<5.0	<5.0	<5.0	<5.0
Ethyl Methacrylate	630	<100	<100	<100	<100	<100
Ethylbenzene	700	<5.0	<5.0	<5.0	<5.0	<5.0
Hexane	1,500	<5.0	<5.0	<5.0	<5.0	<5.0
Isopropylbenzene	450	<5.0	<5.0	<5.0	<5.0	<5.0
Methyl Bromide	7.5	<5.0	<5.0	<5.0	<5.0	<5.0
Methyl Chloride	190	<5.0	<5.0	<5.0	<5.0	<5.0
Methylene Bromide	8.3	<5.0	<5.0	<5.0	<5.0	<5.0
Methylene Chloride	5	<5.0	<5.0	<5.0	<5.0	<5.0
Methyl-tert-butyl-ether	140	<4.0	<4.0	<4.0	<4.0	<4.0
Naphthalene	1.7	<1.4	<1.4	<1.4	<1.4	<1.4
Styrene	100	<5.0	<5.0	<5.0	<5.0	<5.0
Tetrachloroethene	5	<5.0	<5.0	<5.0	<5.0	<5.0
Toluene	1,000	<5.0	<5.0	<5.0	<5.0	<5.0
trans-1,2-Dichloroethene	100	<5.0	<5.0	<5.0	<5.0	<5.0
trans-1,3-Dichloropropene	NS <sup>b</sup>	<4.1	<4.1	<4.1	<4.1	<4.1
Trichloroethene	5	<5.0	<5.0	<5.0	<5.0	<5.0
Trichlorofluoromethane (Freon-11)	5,200	<5.0	<5.0	<5.0	<5.0	<5.0
Vinyl Acetate	410	<50.0	<50.0	<50.0	<50.0	<50.0
Vinyl Chloride	2	<2.0	<2.0	<2.0	<2.0	<2.0
Xylene	10,000	<10.0	<10.0	<10.0	<10.0	<10.0
Naphthalene	1.7	<1.4	<1.4	<1.4	<1.4	<1.4
Semi-Volatile Organic Compounds (SVOCs)						
2,4,5-Trichlorophenol	1,200	<8.7	<8.3	<11.8	<8.3	<11.1
2,4,6-Trichlorophenol	12	<7.8	<7.5	<10.6	<7.5	<10
2,4-Dichlorophenol	46	<8.7	<8.3	<11.8	<8.3	<11.1
2,4-Dimethylphenol	360	<8.7	<8.3	<11.8	<8.3	<11.1
2,4-Dinitrophenol	39	<43.5	<41.7	<58.8	<41.7	<55.6

TABLE 7
GROUNDWATER ANALYTICAL RESULTS
PHASE II PROPERTY ASSESSMENT
FORMER ST. JOSEPH HOSPITAL REDEVELOPMENT
205 & 208 WEST 20TH STREET, LORAIN, OHIO

Sample Location:		VMW-1	VMW-2	VMW-3	VMW-4	VMW-5
Sample Date:	Ohio VAP Unrestricted	10/28/2022	10/28/2022	10/28/2022	10/28/2022	10/28/2022
Field Sample ID:	Potable Use Standard (ug/L) <sup>a</sup>	LRN005: VMW-1: G102822	LRN005: VMW-2: G102822	LRN005: VMW-3: G102822	LRN005: VMW-4: G102822	LRN005: VMW-5: G102822
2,4-Dinitrotoluene	2.4	<8.7	<8.3	<11.8	<8.3	<11.1
2,6-Dinitrotoluene	0.49	<8.7	<8.3	<11.8	<8.3	<11.1
2-Chloronaphthalene	750	<8.7	<8.3	<11.8	<8.3	<11.1
2-Chlorophenol	91	<8.7	<8.3	<11.8	<8.3	<11.1
2-Methylnaphthalene	36	<1.0	<0.83	<1.2	<0.83	<1.1
2-Methylphenol	930	<8.7	<8.3	<11.8	<8.3	<11.1
3 & 4 Methylphenol	930	<8.7	<8.3	<11.8	<8.3	<11.1
4-Chloro-3-methyl Phenol	1,400	<8.7	<8.3	<11.8	<8.3	<11.1
4-Chloroaniline	3.7	<8.7	<8.3	<11.8	<8.3	<11.1
Acenaphthene	530	<1.0	<0.83	<1.2	<0.83	<1.1
Acenaphthylene	520	<1.0	<0.83	<1.2	<0.83	<1.1
Anthracene	1,800	<0.10	<0.083	<0.12	<0.083	<0.11
Benzo(a)anthracene	0.3	<0.10	<0.083	<0.12	<0.083	<0.11
Benzo(a)pyrene	0.2	<0.10	<0.083	<0.12	<0.083	<0.11
Benzo(b)fluoranthene	2.51	<0.10	<0.083	<0.12	<0.083	<0.11
Benzo(g,h,i)perylene	600	<0.10	<0.083	<0.12	<0.083	<0.11
Benzo(k)fluoranthene	25	<0.10	<0.083	<0.12	<0.083	<0.11
Benzyl Butyl Phthalate	160	<8.7	<8.3	<11.8	<8.3	<11.1
Bis(2-chloro-1-methylethyl)ether	710	<8.7	<8.3	<11.8	<8.3	<11.1
Bis(2-chloroethoxy) Methane	59	<8.7	<8.3	<11.8	<8.3	<11.1
Bis(2-chloroethyl) Ether	0.14	<8.7	<8.3	<11.8	<8.3	<11.1
Bis(2-ethylhexyl) Phthalate	6	<4.3	<4.2	<5.9	<4.2	<5.6
Chrysene	250	<0.50	<0.42	<0.59	<0.42	<0.56
Dibenz(a,h)anthracene	0.251	<0.092	<0.077	<0.11	<0.077	<0.10
Diethyl Phthalate	15,000	<8.7	<8.3	<11.8	<8.3	<11,1
Di-n-butyl Phthalate	NS NS	<8.7	<8.3	<11.8	<8.3	<11.1
Di-n-octyl Phthalate	200	<8.7	<8.3	<11.8	<8.3	<11.1
Di-n-propylnitrosamine	0.11	<43.5	<41.7	<58.8	<41.7	<55.6
Fluoranthene	800	<1.0	<0.83	<1.2	<0.83	<1.1
Fluorene	290	<1.0	<0.83	<1.2	<0.83	<1.1
Hexachloroethane	3.3	<8.7	<8.3	<11.8	<8.3	<11.1
Hexachloropentadiene	50	<8.7	<8.3	<11.8	<8.3	<11.1
Indeno(1,2,3-cd)pyrene	2.51	<0.10	<0.083	<0.12	<0.083	<0.11
Isophorone	780	<8.7	<8.3	<11.8	<8.3	<11.1
Naphthalene	1.7	<1.0	<0.83	<1.2	<0.83	<1.1
Nitrobenzene	1.4	<4.3	<4.2	<5.9	<4.2	<5.6
n-Nitroso-di-phenylamine	120	<del>&lt;4.3</del> <8.7	<8.3	<11.8	<8.3	<11.1

### TABLE 7

### GROUNDWATER ANALYTICAL RESULTS PHASE II PROPERTY ASSESSMENT FORMER ST. JOSEPH HOSPITAL REDEVELOPMENT 205 & 208 WEST 20TH STREET, LORAIN, OHIO

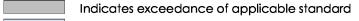
Sample Location:	Ohio VAP Unrestricted	VMW-1	VMW-2	VMW-3	VMW-4	VMW-5
Sample Date:	Potable Use Standard	10/28/2022	10/28/2022	10/28/2022	10/28/2022	10/28/2022
Field Sample ID:	(ug/L) <sup>a</sup>	LRN005: VMW-1: G102822	LRN005: VMW-2: G102822	LRN005: VMW-3: G102822	LRN005: VMW-4: G102822	LRN005: VMW-5: G102822
Phenanthrene	4,800	<1.0	<0.83	<1.2	<0.83	<1.1
Phenol	5,800	<8.7	<8.3	<11.8	<8.3	<11.1
Pyrene	120	<1.0	<0.83	<1.2	<0.83	<1.1

### Notes:

All results are presented in micrograms per liter (ug/L)

**BOLD** indicates detected parameter

< indicates chemical was not detected above laboratory reporting limit shown.



Indicates laboratory reporting limit of non-detect compound exceeds applicable standard

a. Ohio Voluntary Action Program (VAP) Unrestricted Potable Use Standard (UPUS) per OAC 3745-300-08, effective October 17, 2019.

b. NS - no standard is available for this compound

#### TABLE 8A

### CUMULATIVE HAZARD AND RISK ESTIMATE: DIRECT CONTACT WITH SOIL EXPOSURES FOR A POTENTIAL FUTURE RESTRICTED RESIDENTIAL USE SCENARIO

### PHASE II PROPERTY ASSESSMENT

### FORMER ST. JOSEPH HOSPITAL REDEVELOPMENT 205 & 208 WEST 20TH STREET, LORAIN, OHIO

Chemical of Concern		Representative Concentration	Sample Location	Sample Depth (feet)	Residential Direct C	ontact Soil Standard	s (mg/kg) <sup>b</sup>	Single-Chemical Residential Standard	Hazard Ratio <sup>d</sup>	Risk Ratio <sup>d</sup>
		(mg/kg) <sup>a</sup>			Non-Cancer Endpoint	Cancer Endpoint	Soil Saturation	(mg/kg) <sup>c</sup>		
Metals										
Antimony		1.1	VMW-5	0-2	63	NA <sup>e</sup>	NA	63	1.75E-02	NA
vsenic	f	17.2	VMW-5	0-2	70	14	NA	14		-
arium		77.3	VMW-1	0-2	30,000	NA	NA	30,000	2.58E-03	NA
eryllium		0.92	VMW-3 VMW-5	0-2 0-2	310	22,000	NA	310	2.97E-03	4.18E-05
Cadmium		2.3	VMW-5	0-2	140	30,000	NA	140	1.64E-02	7.67E-05
Chromium	g	18	VMW-1	0-2	470	27	NA	27	3.83E-02	6.67E-01
Cobalt		24.3	VMW-5	0-2	47	5,900	NA	47	5.17E-01	4.12E-03
ead	h	26	VMW-5	0-2				400		
lickel		47.6	VMW-2	0-2	3,100	210,000	NA	3,100	1.54E-02	2.27E-04
elenium		1.4	VMW-2	0-2	780	NA	NA	780	1.79E-03	NA
hallium	i	2.5	VMW-5	0-2	1.6	NA	NA	1.6	1.56E+00	NA
anadium/		56.7	VMW-5	0-2	780	NA	NA	780	7.27E-02	NA
inc		284	VMW-5	0-2	47,000	NA	NA	47,000	6.04E-03	NA
emi-Volatile Organic Compo	unds (S	SVOCs)								
enzo(a)anthracene		0.54	VSB-6	2-4	NA	23	NA	23	NA	2.35E-02
enzo(a)pyrene		0.43	VSB-6	2-4	36	2.3	NA	2.3	1.19E-02	1.87E-01
enzo(b)fluoranthene		0.58	VSB-6	2-4	NA	23	NA	23	NA	2.52E-02
is(2-ethylhexyl) Phthalate		0.6	VSB-6	2-4	2,500	780	NA	780	2.40E-04	7.69E-04
Chrysene		0.54	VSB-6	2-4	NA	2,300	NA	2,300	NA	2.35E-04
luoranthene		1.3	VSB-6	2-4	4,800	NA	NA	4,800	2.71E-04	NA
-Methylnaphthalene		0.44	VSB-6	2-4	480	NA	NA	480	9.17E-04	NA
laphthalene	-9 -1	0.36	VSB-6	2-4	320	96	NA	96	1.13E-03	3.75E-03
henanthrene	i	1.1	VSB-6	2-4	36,000	NA	NA	36,000	3.06E-05	NA
yrene			VSB-6	2-4	3,600	NA	NA	3,600	2.78E-04	NA
								otal Ratio	2.27	0.912
							Corre	esponding HI J	2	
								ponding ELCR k	4.	9E-06

#### Notes:

- a. Representative concentration is the maximum detected concentration of each chemical reported in soil samples collected within the upper 4 feet.
- b. Ohio Voluntary Action Program generic numerical standard for direct contact with soil for a residential land use scenario per OAC 3745-300-08, effective October 17, 2019.
- c. Single-Chemical Standard: the lowest of the non-cancer endpoint value, cancer endpoint value, and soil saturation, as applicable.
- d. Multiple chemical evaluation was performed in accordance with OAC 3745-300-08(A)(2)(b). A noncancer hazard ratio of 1 is equivalent to a hazard index of 1. A cancer risk ratio of 1 is equivalent to an excess lifetime cancer risk of 1x10<sup>-5</sup>.
- e. NA: Not Applicable.
- f. Maximum concentration of arsenic is below Ohio EPA-established naturally occuring background levels for Lorain County. Hazard and risk of naturally occuring levels were not included in quantification.
- g. The Ohio VAP direct contact soil standard for hexavalent chromium was conservatively utilized for evaluation of total chromium results.
- h. Lead is not included in the multiple chemical evaluation. Lead is compared to a standard that takes into account other factors and assumptions in addition to the non-cancer hazard and cancer risk.
- i. Ohio VAP Supplemental generic numerical standards for direct contact with soil for residential land use per Ohio EPA VAP Chemical Information Database and Applicable Regulatory Standards (CIDARS) spreadsheet, November 25, 2020.
- j. Corresponding hazard index (HI) equals sum of hazard quotients for all chemicals evaluated with respect to the non-cancer endpoint.
- k. Corresponding excess lifetime cancer risk (ELCR) equals the sum of excess lifetime cancer risks for all chemicals evaluated with respect to the cancer endpoint.

### **TABLE 8B**

### CUMULATIVE HAZARD AND RISK ESTIMATE: DIRECT CONTACT WITH SOIL EXPOSURES FOR A POTENTIAL FUTURE COMMERCIAL/INDUSTRIAL USE SCENARIO PHASE II PROPERTY ASSESSMENT FORMER ST. JOSEPH HOSPITAL REDEVELOPMENT

205 & 208 WEST 20TH STREET, LORAIN, OHIO

	Represen		Sample	Sample Depth	Commerecial/Industria	l Direct Contact Soil S	tandards (mg/kg) b	Single-Chemical		
Chemical of Concern	Concent (mg/k		Location	(feet)	Non-Cancer Endpoint Cancer Endpoint		Soil Saturation	Commercial / Industrial Standard (mg/kg) <sup>c</sup>	Hazard Ratio <sup>a</sup>	Risk Ratio <sup>a</sup>
Antimony	1.1		VMW-5	0-2	1,900	NA <sup>e</sup>	NA	1,900	5.79E-04	NA
Arsenic f	17.2	2	VMW-5	0-2	1,600	100	NA	100	1.08E-02	1.72E-01
Barium	77.3	3	VMW-1	0-2	760,000	NA	NA	760,000	1.02E-04	NA
Beryllium	0.92	2	VMW-3 VMW-5	0-2 0-2	8,800	97,000	NA	8,800	1.05E-04	9.48E-06
Cadmium	2.3		VMW-5	0-2	3,300	130,000	NA	3,300	6.97E-04	1.77E-05
Chromium	18		VMW-1	0-2	14,000	240	NA	240	1.29E-03	7.50E-02
Cobalt	24.3	3	VMW-5	0-2	1,400	26,000	NA	1,400	1.74E-02	9.35E-04
Lead h	26		VMW-5	0-2				800		
Nickel	47.6	5	VMW-2	0-2	83,000	900,000	NA	83,000	5.73E-04	5.29E-05
Selenium	1.4	,	VMW-2	0-2	23,000	NA	NA	23,000	6.09E-05	NA
Thallium i	2.5		VMW-5	0-2	47	NA	NA	47	5.32E-02	NA
Vanadium	56.7	7	VMW-5	0-2	23,000	NA	NA	23,000	2.47E-03	NA
Zinc	284		VMW-5	0-2	1,000,000	NA	NA	1,000,000	2.84E-04	NA
·							To	otal Ratio	0.0875	0.248
							Corre	sponding HI <sup>J</sup>	0.09	
								oonding ELCR k		2E-06

#### Notes:

- a. Representative concentration is the maximum detected concentration of each chemical reported in soil samples collected within the upper 2 feet.
- b. Ohio Voluntary Action Program generic numerical standard for direct contact with soil for a commercial/industrial land use scenario per OAC 3745-300-08, effective October 17, 2019.
- c. Single-Chemical Standard: the lowest of the non-cancer endpoint value, cancer endpoint value, and soil saturation, as applicable.
- d. Multiple chemical evaluation was performed in accordance with OAC 3745-300-08(A)(2)(b). A noncancer hazard ratio of 1 is equivalent to a hazard index of 1. A cancer risk ratio of 1 is equivalent to an excess lifetime cancer risk of 1x10<sup>-5</sup>.
- e. NA: Not Applicable.
- f. Maximum concentration of arsenic is below Ohio EPA-established naturally occurring background levels for Lorain County. Hazard and risk of naturally occurring levels were not included in quantification.
- g. The Ohio VAP direct contact soil standard for hexavalent chromium was conservatively utilized for evaluation of total chromium results.
- h. Lead is not included in the multiple chemical evaluation. Lead is compared to a standard that takes into account other factors and assumptions in addition to the non-cancer hazard and cancer risk.
- i. Ohio VAP Supplemental generic numerical standards for direct contact with soil for commercial/industrial land use per Ohio EPA VAP Chemical Information Database and Applicable Regulatory Standards (CIDARS) spreadsheet, November 25, 2020.
- j. Corresponding hazard index (HI) equals sum of hazard quotients for all chemicals evaluated with respect to the non-cancer endpoint.
- k. Corresponding excess lifetime cancer risk (ELCR) equals the sum of excess lifetime cancer risks for all chemicals evaluated with respect to the cancer endpoint.

#### TABLE 8C

#### CUMULATIVE HAZARD AND RISK ESTIMATE: DIRECT CONTACT WITH SOIL EXPOSURES FOR CONSTRUCTION/EXCAVATION ACTIVITIES

#### PHASE II PROPERTY ASSESSMENT

### FORMER ST. JOSEPH HOSPITAL REDEVELOPMENT 205 & 208 WEST 20TH STREET, LORAIN, OHIO

Chemical of Concern		Representative Concentration	Sample	Sample Depth (feet)		Excavation Dire andards (mg/kg		Single-Chemical Construction / Excavation Standard	Hazard Ratio <sup>d</sup>	Risk Ratio <sup>d</sup>	
		(mg/kg) °	Location	bepin (ice)	Non-Cancer Endpoint	Cancer Endpoint	Soil Saturation	(mg/kg) <sup>c</sup>			
Metals											
Antimony		1.1	VMW-5	0-2	970	NA e	NA	970	1.13E-03	NA	
Arsenic	f	18	VMW-5	5-7	760	1,400	NA	760		1	
Barium		77.3	VMW-1	0-2	350,000	NA	NA	350,000	2.21E-04	NA	
Beryllium		0.92	VMW-3 VMW-5	0-2 0-2	3,500	71,000	NA	3,500	2.63E-04	1.30E-05	
Cadmium		2.3	VMW-5	0-2	710	95,000	NA	710	3.24E-03	2.42E-05	
Chromium	g	18	VMW-1	0-2	22,000	1,300	NA	1,300	8.18E-04	1.38E-02	
Cobalt	Ĭ	24.3	VMW-5	0-2	2,900	19,000	NA	2,900	8.38E-03	1.28E-03	
_ead	h	26	VMW-5	0-2	<u> </u>		,	400	<u> </u>		
Nickel		80.1	VMW-3	4-5	24,000	660,000	NA	24,000	3.34E-03	1.21E-04	
Selenium		1.5	VMW-5	5-7	12,000	NA	NA	12,000	1.25E-04	NA	
[hallium	i	2.5	VMW-5	0-2	97	NA	NA	97	2.58E-02	NA	
Vanadium	1111111	56.7	VMW-5	0-2	8,100	NA	NA	8,100	7.00E-03	NA	
Zinc Zinc		346	VMW-3	4-5	730,000	NA	NA	730,000	4.74E-04	NA	
Semi-Volatile Organic Compound	s (SVOCs	5)									
Benzo(a)anthracene		0.54	VSB-6	2-4	NA	9,600	NA	9,600	NA	5.63E-05	
Benzo(a)pyrene		0.43	VSB-6	2-4	230	1,000	NA	230	1.87E-03	4.30E-04	
Benzo(b)fluoranthene		0.58	VSB-6	2-4	NA	10,000	NA	10,000	NA	5.80E-05	
Bis(2-ethylhexyl) Phthalate	-1,	0.6	VSB-6	2-4	320,000	79,000	NA	79,000	1.88E-06	7.59E-06	
Chrysene		0.54	VSB-6	2-4	NA	1,000,000	NA	1,000,000	NA	5.40E-07	
- Fluoranthene		1.3	VSB-6	2-4	170,000	NA	NA	170,000	7.65E-06	NA	
2-Methylnaphthalene		0.44	VSB-6	2-4	5,800	NA	NA	5,800	7.59E-05	NA	
Naphthalene		0.36	VSB-6	2-4	560	3,800	NA	560	6.43E-04	9.47E-05	
Phenanthrene		1.1	VSB-6	2-4	1,000,000	NA	NA	1,000,000	1.10E-06	NA	
Pyrene			VSB-6	2-4	430,000	NA	NA	430,000	2.33E-06	NA	
2-1			1000		7			Total Ratio	0.0534	0.0159	
							С	Corresponding HI <sup>j</sup>	0.05		
								rresponding ELCR k		2E-07	

#### Notes:

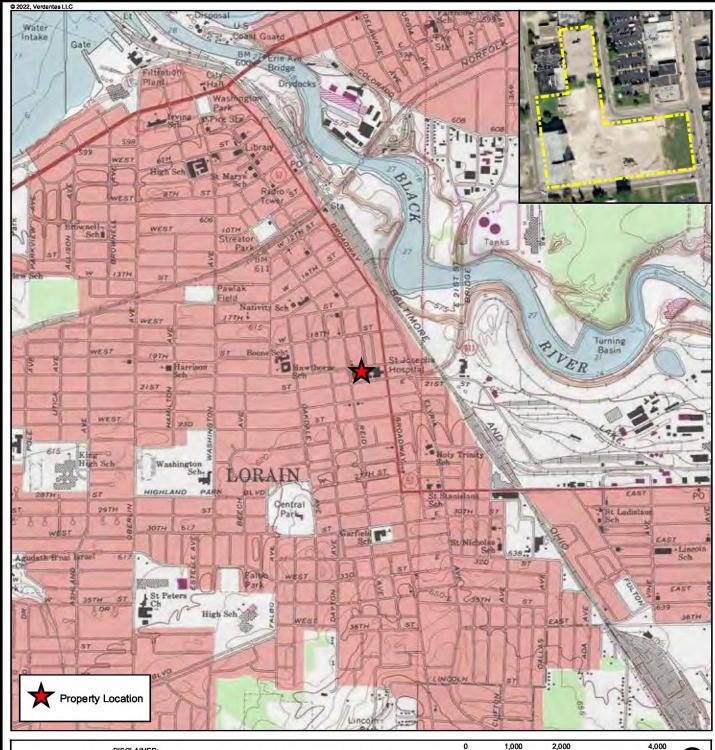
- a. Representative concentration is the maximum detected concentration of each chemical reported in soil samples collected within the upper 10 feet.
- b. Ohio Voluntary Action Program generic numerical standard for direct contact with soil for construction/excavation activities per OAC 3745-300-08, effective October 17, 2019.
- c. Single-Chemical Standard: the lowest of the non-cancer endpoint value, cancer endpoint value, and soil saturation, as applicable.
- d. Multiple chemical evaluation was performed in accordance with OAC 3745-300-08(A)(2)(b). A noncancer hazard ratio of 1 is equivalent to a hazard index of 1. A cancer risk ratio of 1 is equivalent to an excess lifetime cancer risk of 1x10<sup>-5</sup>.
- e. NA: Not Applicable.
- f. Maximum concentration of arsenic is below Ohio EPA-established naturally occuring background levels for Lorain County. Hazard and risk of naturally occuring levels were not included in quantification.
- g. The Ohio VAP direct contact soil standard for hexavalent chromium was conservatively utilized for evaluation of total chromium results.
- h. Lead is not included in the multiple chemical evaluation. Lead is compared to a standard that takes into account other factors and assumptions in addition to the non-cancer hazard and cancer risk.
- i. Ohio VAP Supplemental generic numerical standards for direct contact with soil for construction/excavation activities per Ohio EPA VAP Chemical Information Database and Applicable Regulatory Standards (CIDARS) spreadsheet, November 25, 2020.
- j. Corresponding hazard index (HI) equals sum of hazard quotients for all chemicals evaluated with respect to the non-cancer endpoint.
- k. Corresponding excess lifetime cancer risk (ELCR) equals the sum of excess lifetime cancer risks for all chemicals evaluated with respect to the cancer endpoint.

# TABLE 9 SUMMARY STATISTICS FOR CHEMICALS OF CONCERN DETCTED IN GROUNDWATER PHASE II PROPERTY ASSESSMENT FORMER ST. JOSEPH HOSPITAL REDEVELOPMENT 205 & 208 WEST 20TH STREET, LORAIN, OHIO

Chemical of Concern	Number of Detects	Number of Results	Detection Frequency (%)	Minimum Detected Concentration (ug/L)	Maximum Detected Concentration (ug/L)	Sample Location	VAP UPUS (ug/L)
Barium	5	5	100	33.2	108	VMW-1	2,000
Cadmium	3	5	60	1.1	7.1	VMW-5	5
Chromium	1	5	20	115	115	VMW-1	100
Cobalt	3	5	60	6.3	49	VMW-5	6
Lead	1	5	20	6.5	6.5	VMW-1	15
Nickel	4	5	80	8.8	234	VMW-5	390
Selenium	2	5	40	11.4	35	VMW-4	50
Thallium	3	5	60	0.13	1.9	VMW-1	2
Vanadium	1	5	20	38.6	38.6	VMW-1	86
Zinc	5	5	100	10.2	96	VMW-5	6,000

### **FIGURES**

FIGURE 1	PROPERTY LOCATION MAP
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FIGURE 2.1	PROPERTY LAYOUT WITH PARCEL BOUNDARIES
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FIGURE 7	CHEMICALS OF CONCERN IN SOIL ABOVE VAP DIRECT CONTACT SOIL
	STANDARDS
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	POTABLE USE STANDARDS





DISCLAIMER:

DISCLAIMER: Verdantas LLC has furnished this map to the company identified in the title block (Client) for its sole and exclusive use as a preliminary planning and screening tool and field verification is necessary to confirm these data. This map is reproduced from geospatial information compiled from third-party sources which may change over time. Areas depicted by the map are approximate and may not be accurate to mapping, surveying or engineering standards. Verdantas LLC makes no representation or guarantee as to the content, accuracy, timeliness or completeness of any information or spatial location depicted on this map. This map is provided without warranty of any kind, including but not limited to, the implied warranties of merchantability or fitness for a particular purpose. In no event will Verdantas LLC, its owners, officers, employees or agents, be liable for damages of any kind arising out of the use of this map by Client or any other party.

1,000 2.000

1 Inch = 2,000 Feet

#### Quadrangle: Lorain, Ohio

Source: The topographic map was acquired through the USGS Topographic Map web service.

The aerial photo was acquired through the Esri Imagery Web Service. Aerial photography dated 2021.



Phase II Property Assessment City of Lorain Former St. Joseph Hospital Assessment Project

### **Property Location Map**

205 & 208 West 20th Street Lorain, Lorain County, Ohio

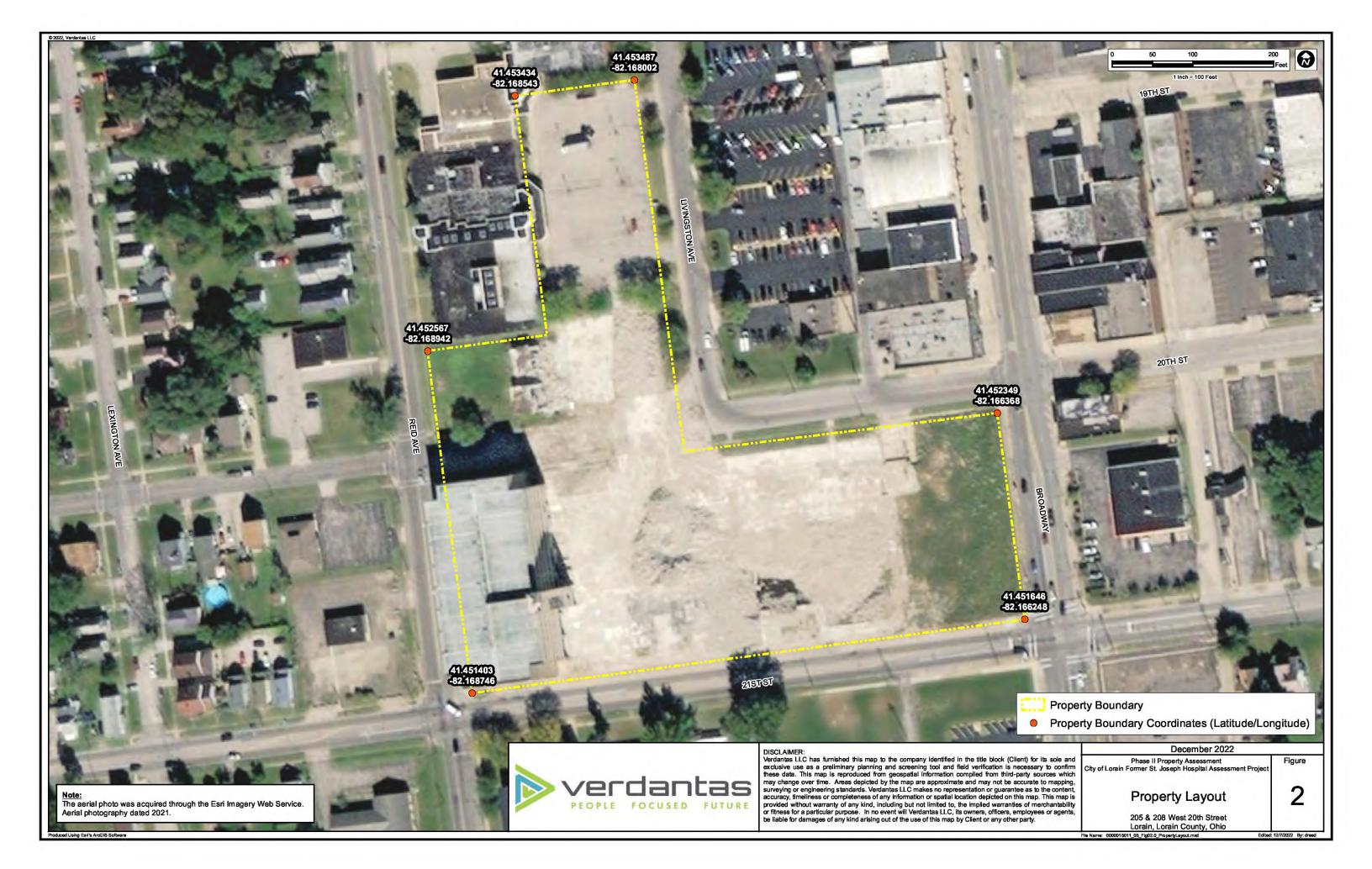
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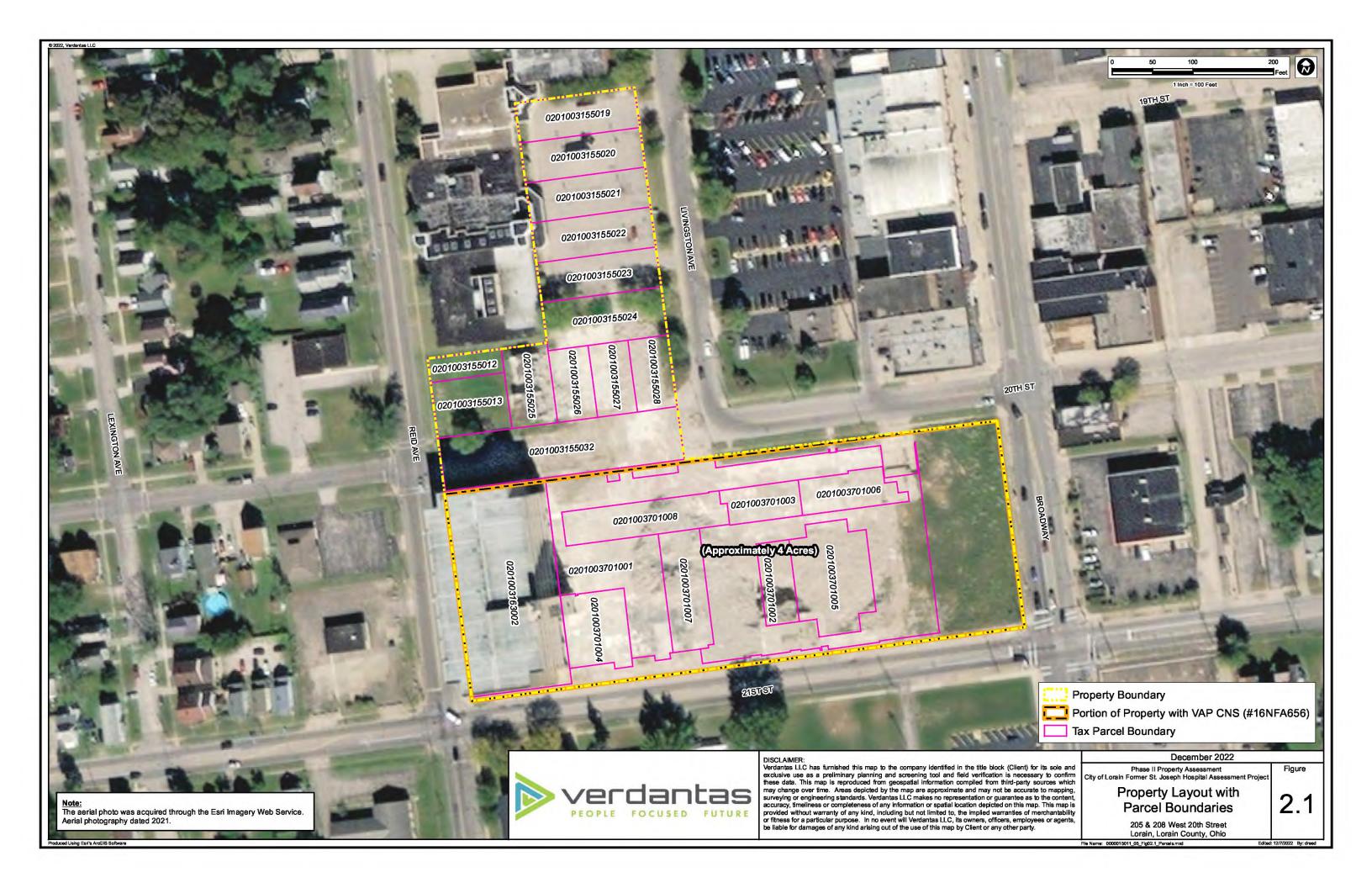
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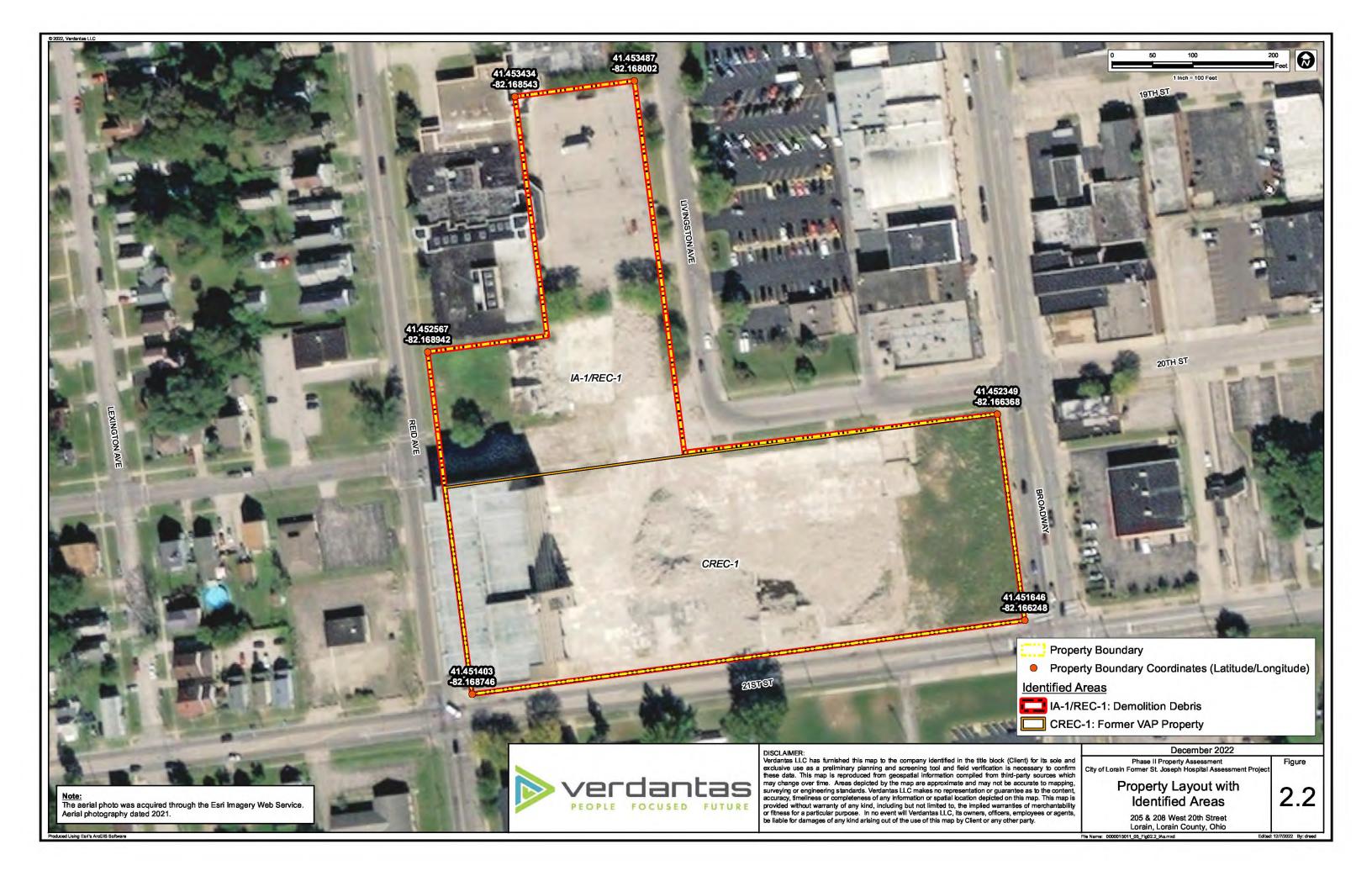
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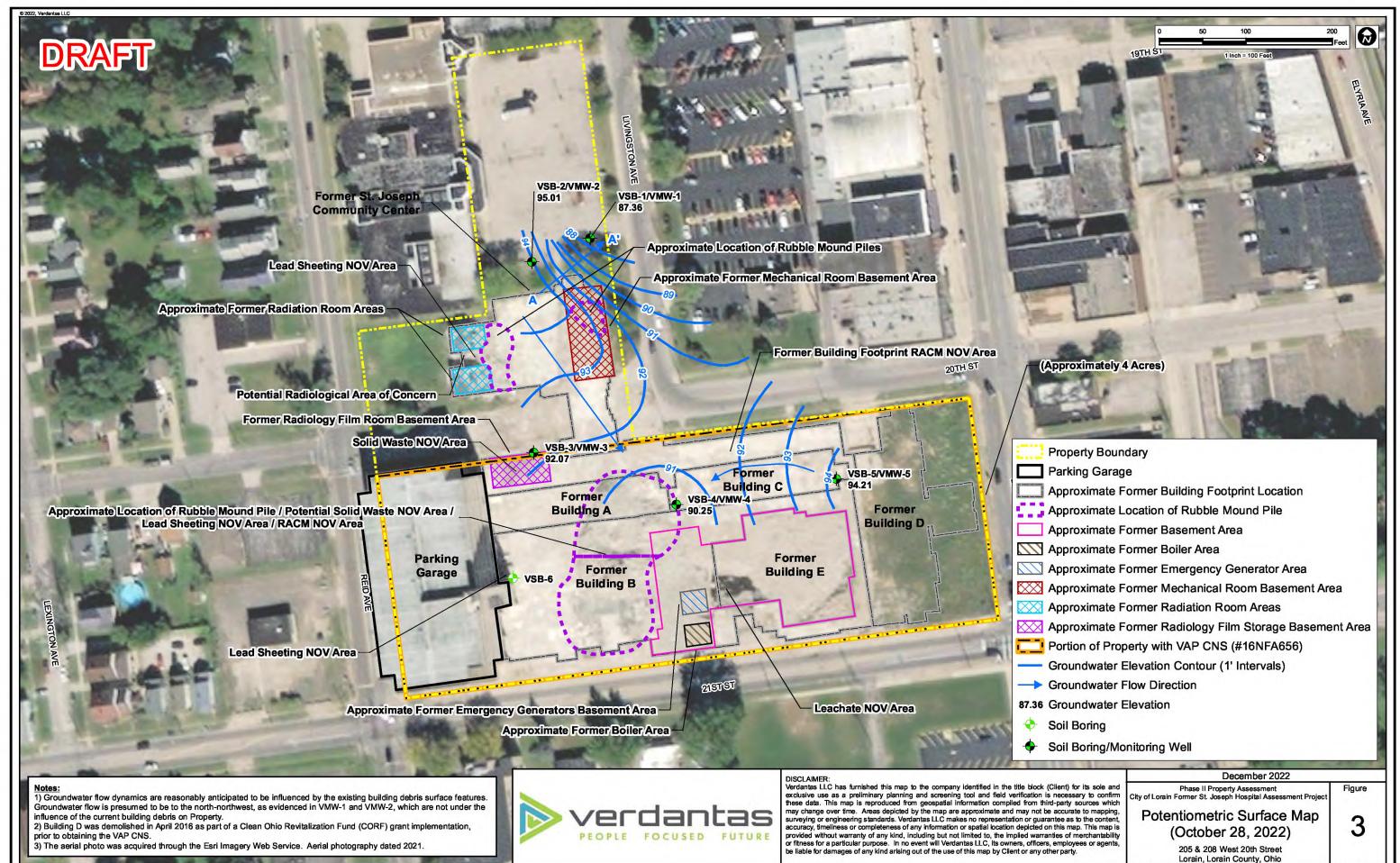
Figure 1

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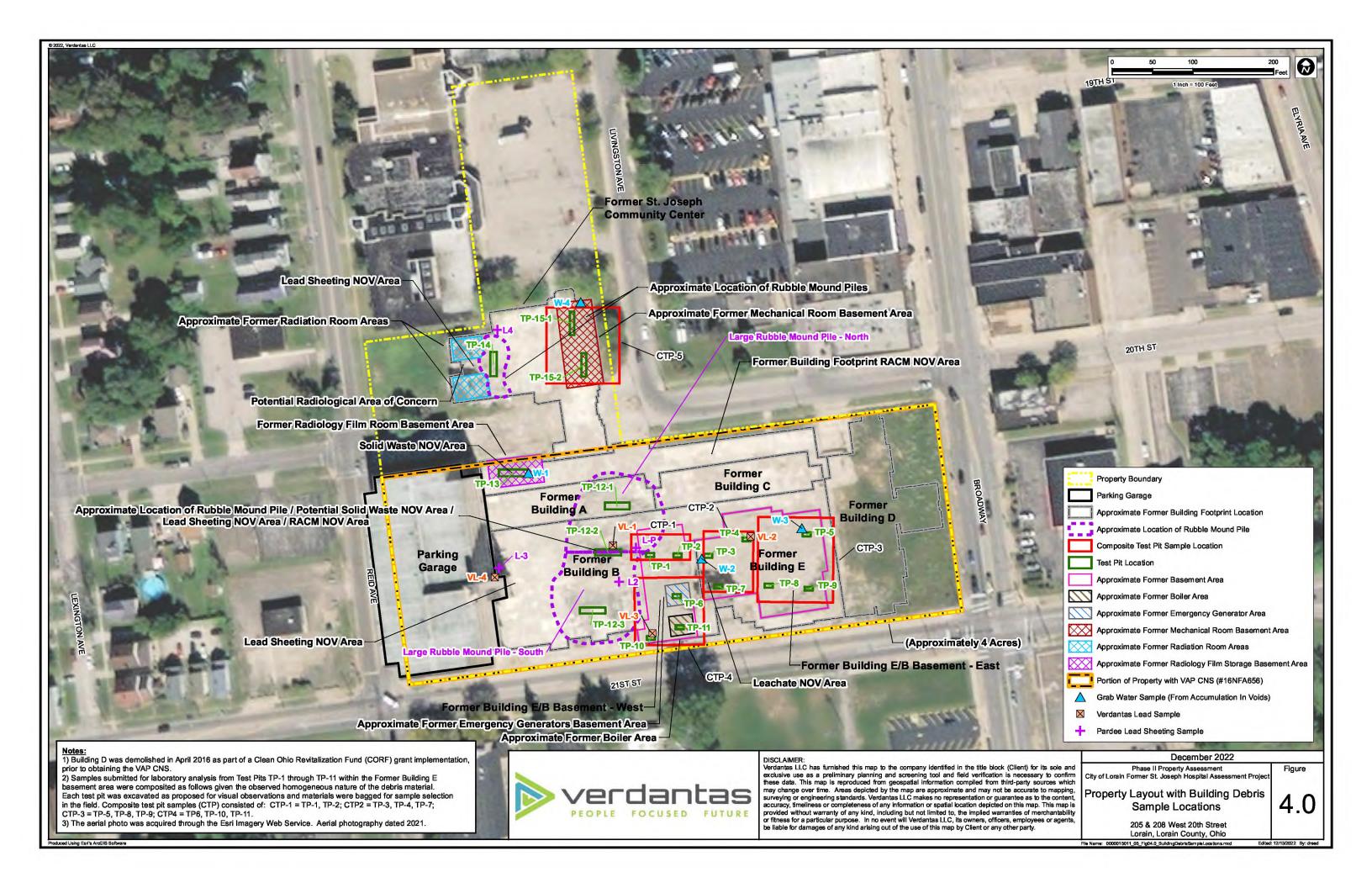


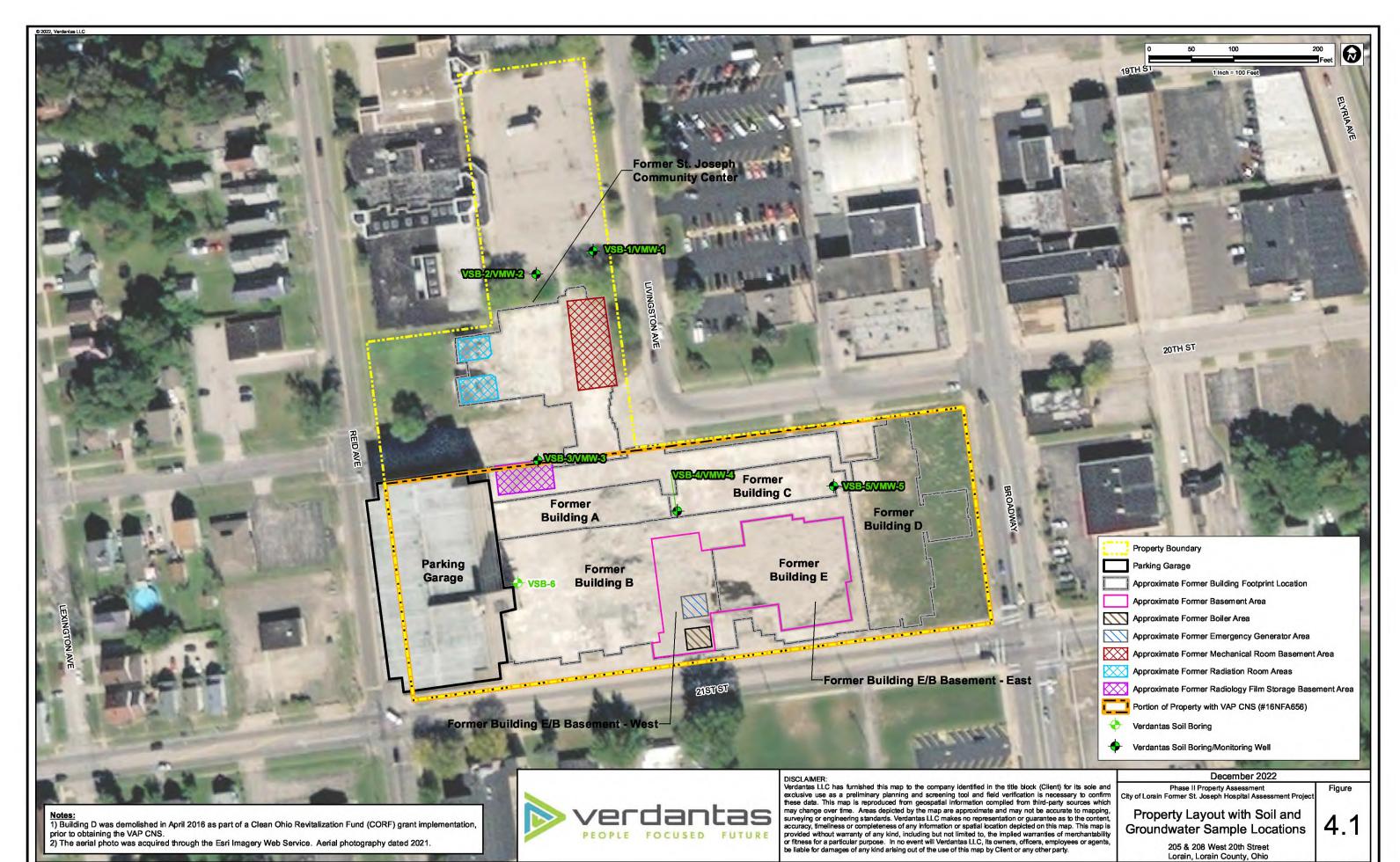






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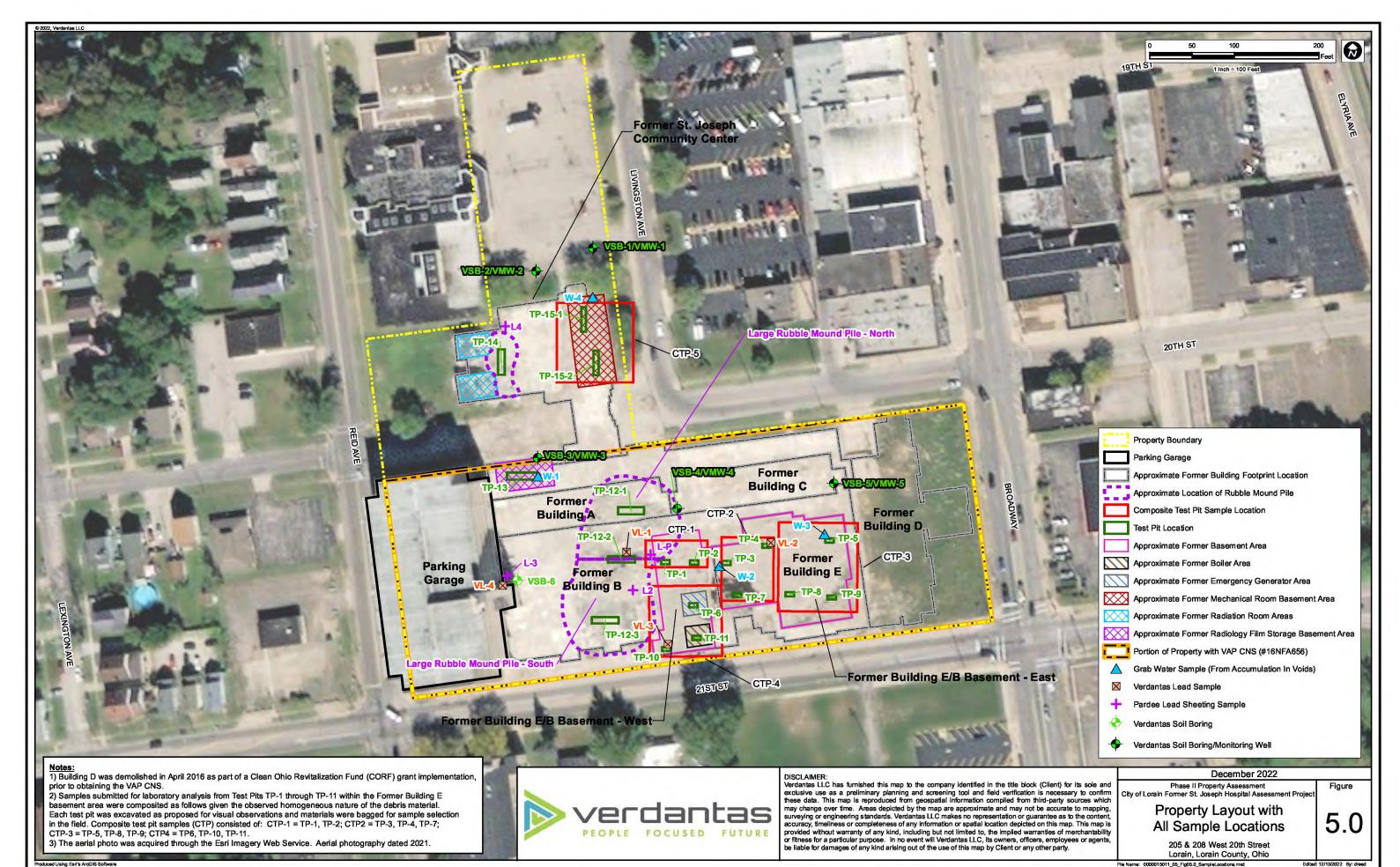


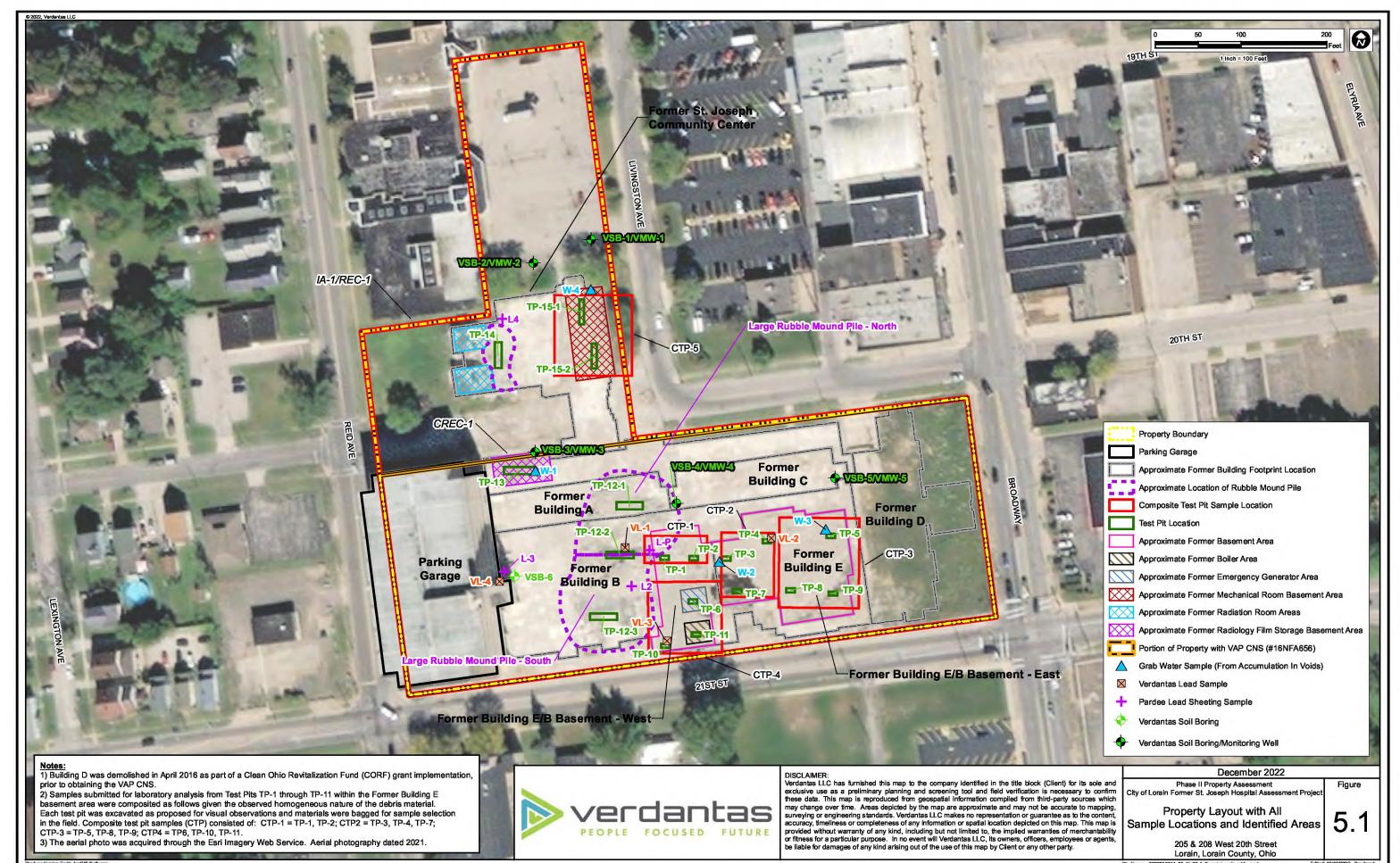


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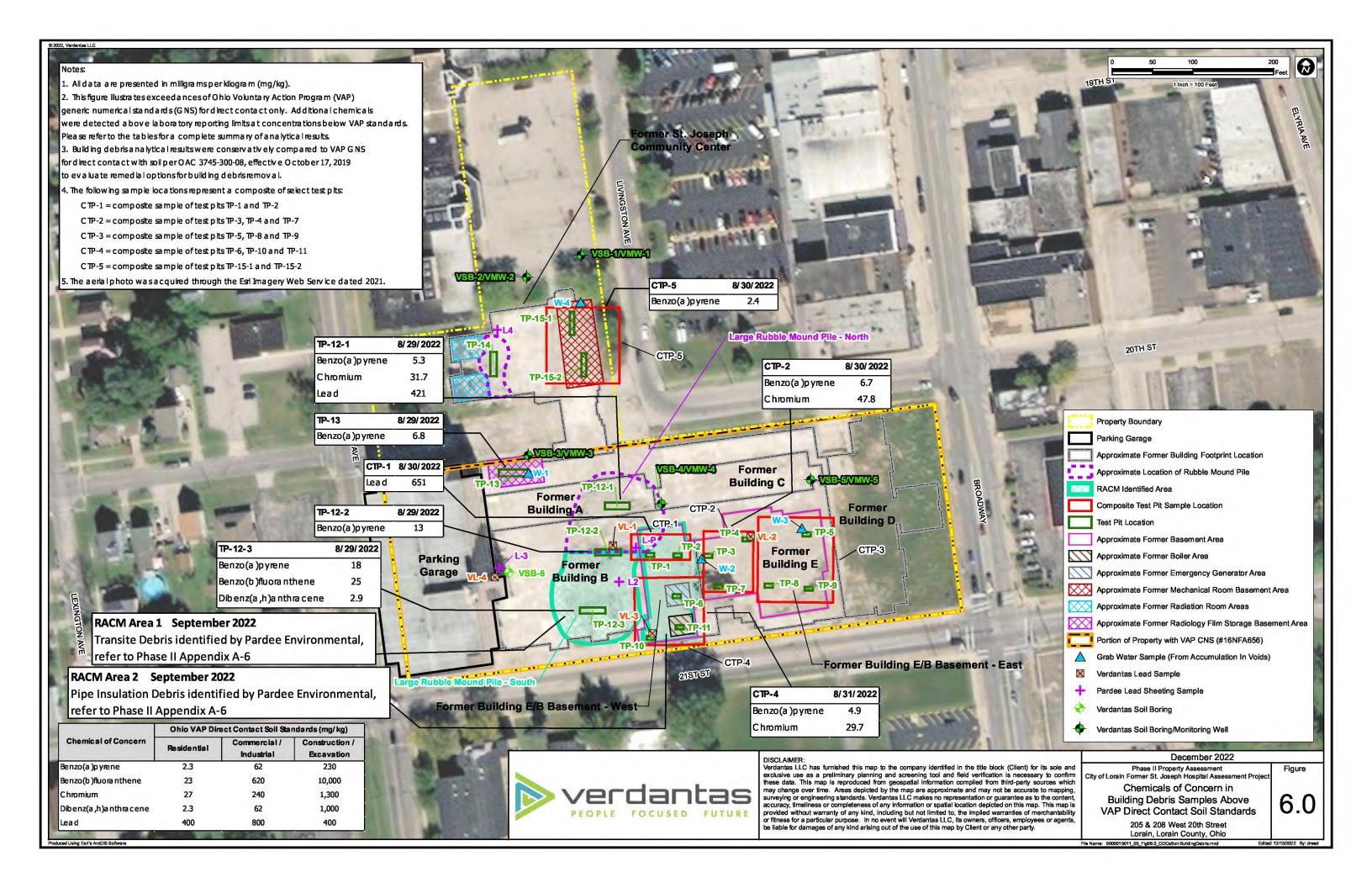
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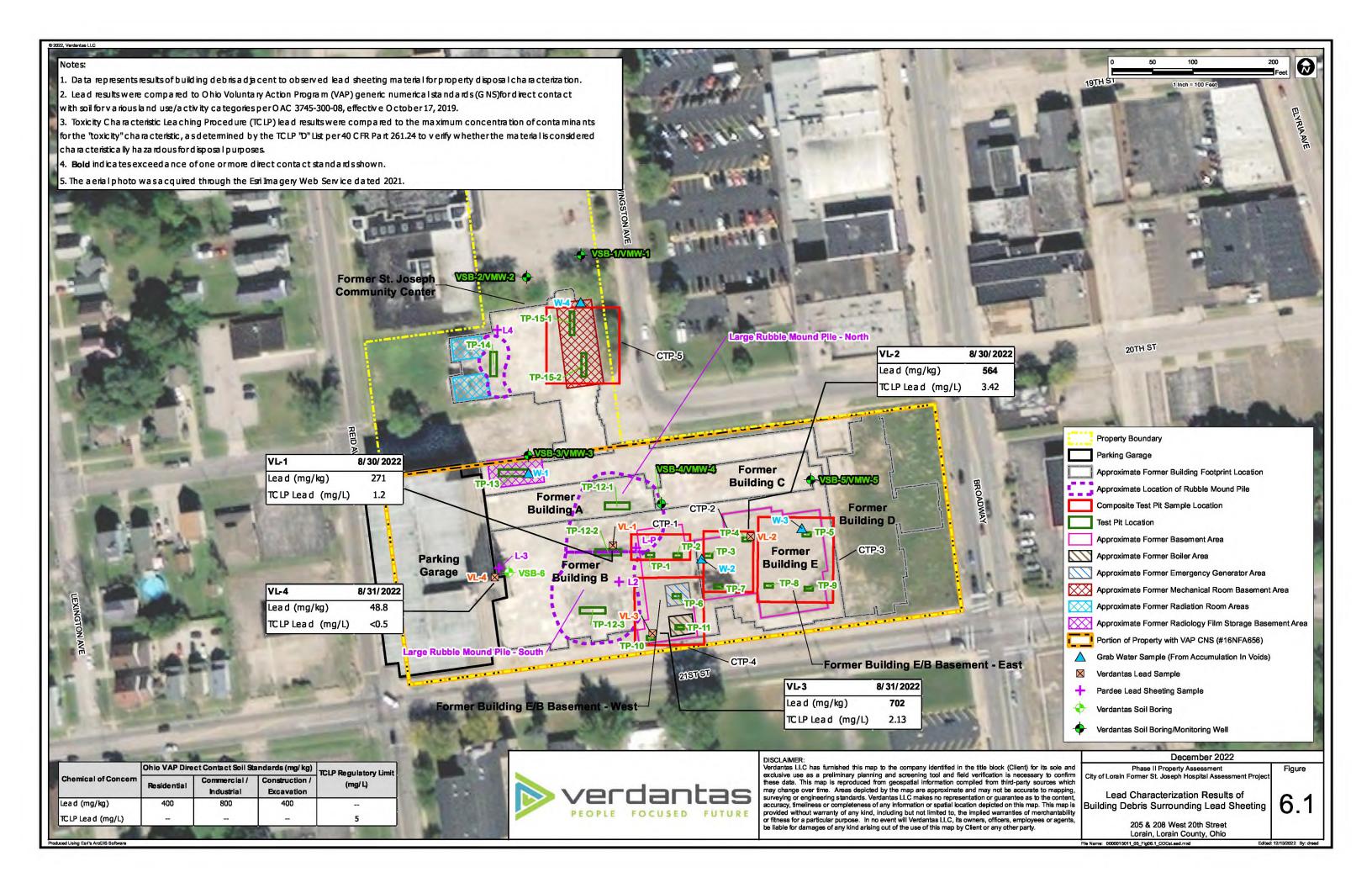


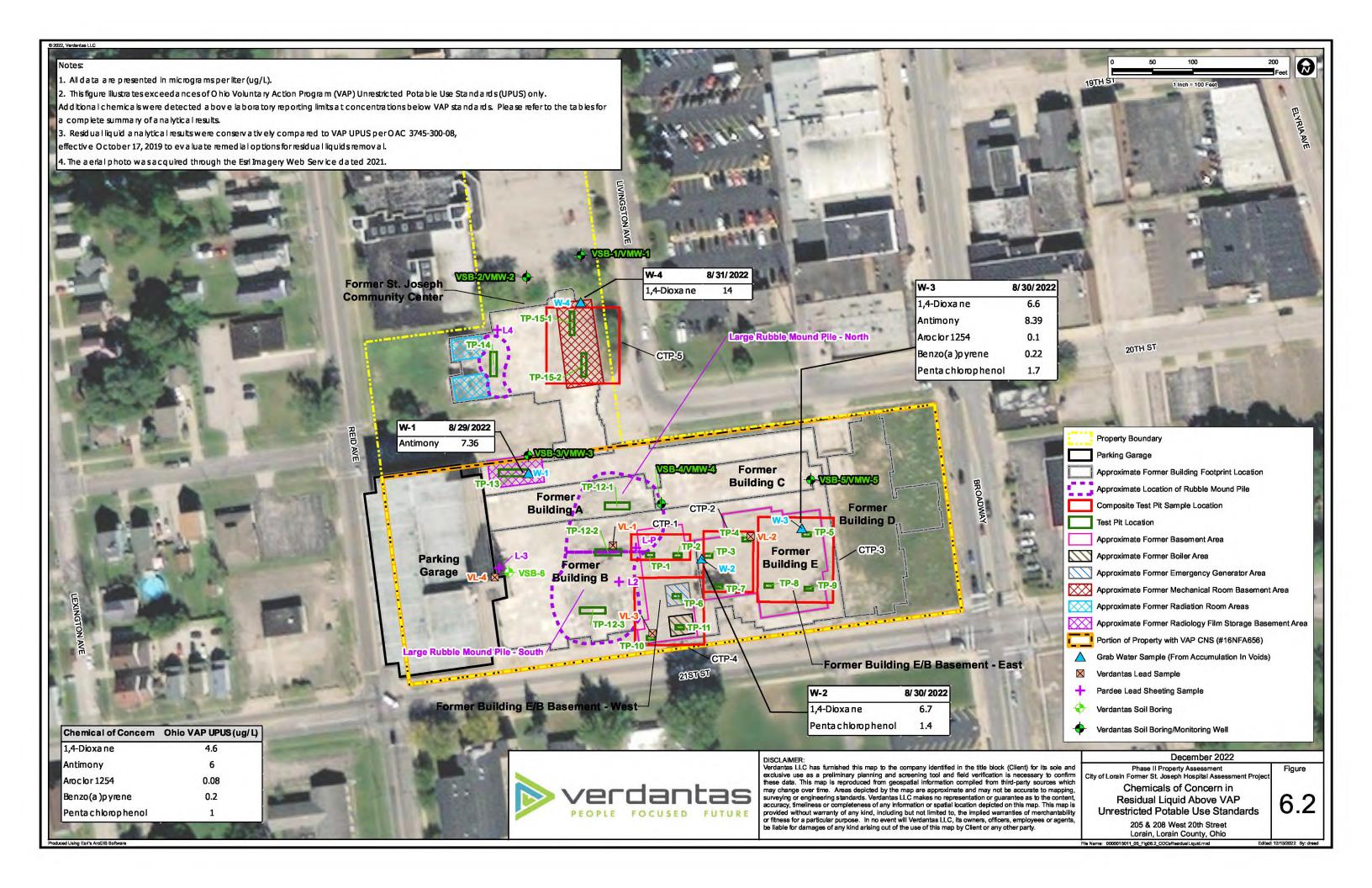


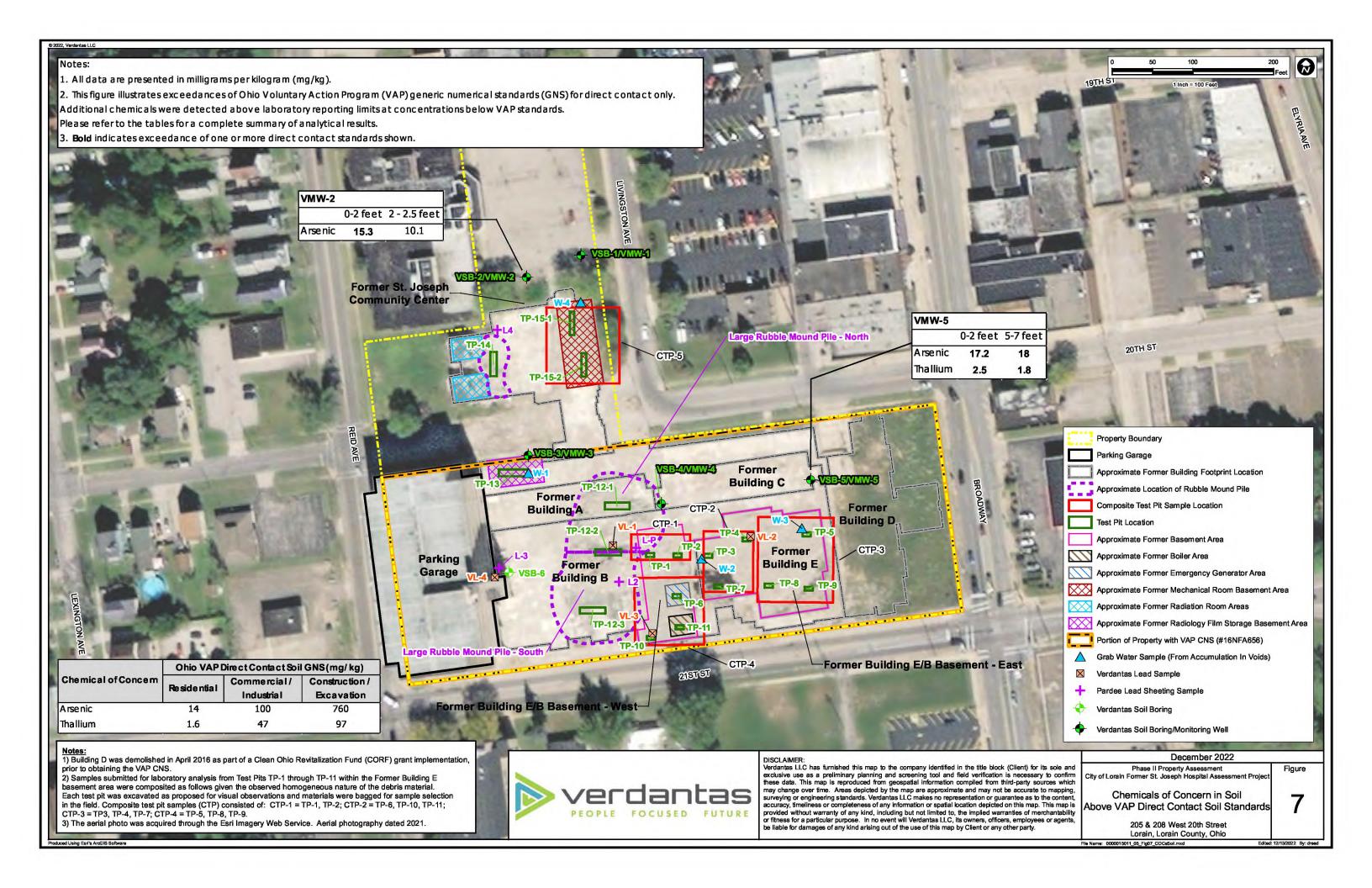
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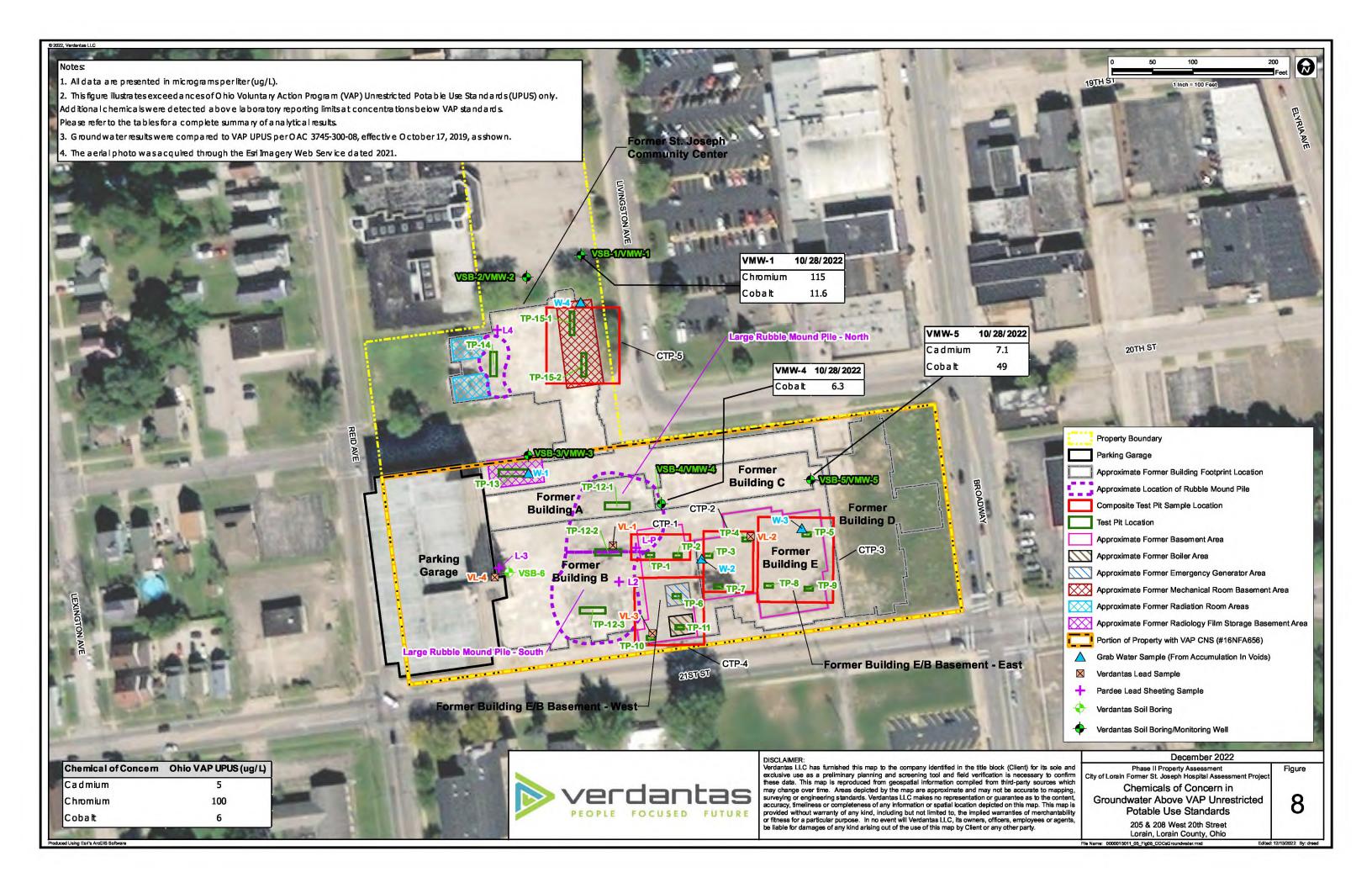
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**APPENDIX A** PREVIOUS INVESTIGATIONS AND RELEVANT DOCUMENTS **APPENDIX A-1** OCTOBER 2021 ENVIRONMENTAL ASSESSMENT REPORT, PARDEE

### **Environmental Assessment Report**

Former St. Joseph's Community Center Property 205 West 20<sup>th</sup> St. Parking Garage Structure (NE Corner of W. 20<sup>th</sup> & Reid) 1919 & 1859 Reid Ave. Lorain, OH 44052



For

City of Lorain
Sanford Washington, Safety Service Director
200 West Erie Ave., 7<sup>th</sup> Fl.
Lorain, OH 44052
440-204-2011

October 25, 2021



Pardee Environmental 47391 Garfield Road Oberlin, OH 44074 440.315.2735

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Atta	chm	ent	1.	Site	plan
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Attachment 2: Sample chains of custody

Attachment 3: Laboratory analysis reports

Attachment 4: Ohio Asbestos Certifications for Asbestos Inspector

Attachment 5: EPA email detailing proper handling and reporting of Cat. I non-friable ACM's

Attachment 6: EPA Demolition Notification prepared by Owner/Operator

Attachment 7: Site photographs and aerial photos

#### SUMMARY OF BUILDINGS AND ASBESTOS ASSESSMENT INFORMATION

Name of Facility: Former St. Joseph's Hospital

(A.K.A. St. Joe's Community Center & South Shore Community Development)

Location: 205 West 20<sup>th</sup> St. and 1919 & 1859 Reid Ave., Lorain, OH

Building Owner: A7 Development Group, LLC

Date of Construction: Starting approximately 1900 to 1905 and continuing for several decades

Major Additions: Several

Approximate Area: 420,000 sq. ft.

Building Use: Hospital

Date of Inspection: October 6, 2021

Asbestos Inspector John P. Pardee

and report writer: Ohio Asbestos Hazard Evaluation Specialist No. 3201

John P. Pardee

#### INTRODUCTION

On October 6, 2021 Pardee Environmental conducted an inspection of the structures and debris piles located at 205 W. 20<sup>th</sup> St. and 1919 and 1859 Reid Ave., Lorain, OH for asbestos-containing materials. The purpose of the assessment was to identify the types and condition of asbestos-containing materials in the buildings and the demolition debris piles to provide information to the City of Lorain regarding public health and to determine future courses of action.

The inspection was conducted in general accordance with the USEPA guidelines recommended for predemolition of buildings under National Emissions Standards for Hazardous Air Pollutants (NESHAPs) 40 CFR Parts 61 and 63.

#### **METHODOLOGY**

All accessible locations were examined for suspect asbestos containing materials. All suspect asbestos containing materials (ACM) found were adequately sampled per Federal rules codified in 40 CFR Part 763.86 and samples were submitted to an accredited lab for analysis by Polarized Light Microscopy (PLM) and Point Counting where required. Sample locations were determined, where applicable, according to the random sampling grid included in the EPA document "Asbestos in Buildings Simplified Sampling Scheme for Friable Surfacing Materials", dated October, 1985.

Samples were collected in 6 mil zip-lock bags, assigned a sample number and logged into the sample chain-of-custody form. After the collection of all of the samples was completed, the samples were sealed into a plastic bag and shipped via overnight shipping to EMSL Analytical of Indianapolis, IN, a NVLAP accredited laboratory for analysis. The number of samples collected are as follows:

1919 and 1859 Reid: 21 samples Parking Garage: 19 samples Rubble piles site: 14 samples

The results of the analysis of these samples are contained in Attachment 3.

#### **SUMMARY OF FINDINGS**

Below is a summary of the laboratory analysis of the samples collected followed by an interpretation and guidance for action going forward.

TABLE 1
Asbestos Building Materials Findings Summary

Location	Description	% Asbestos	Condition	Quantity	Friable
1919 and 1859 Reid Ave.	No asbestos found	NA	NA	NA	NA
Parking garage	Asbestos rope	70% Chrysotile	Poor	Approx. 160 In.ft.	Yes
	Floor tiles	2% Chrysotile	Fair	Undetermined	No
	Floor tile mastic	3% Chrysotile	Fair	Undetermined	No
	Sheet flooring	12% Chrysotile	Poor	>200 sq. ft.	Yes*
Slab & demolition debris pile	Floor tile	2-4% Chrysotile	Broken	Unknown	Undetermined
	Sheet flooring	12% Chrysotile	Poor	Unknown	Yes*

<sup>\*</sup>See discussion below regarding friability

#### INTERPREATION OF RESULTS AND GUIDANCE FOR ACTION

#### 1919 and 1859 Reid Ave.

This structure is still standing and the least concerning relative to public health and regulatory enforcement. Our asbestos screening and sampling did not find any asbestos containing building materials. However, it is incumbent on the building owner to have an Ohio licensed Asbestos Hazard Evaluation Specialist (AHES) conduct a full building survey prior to demolition. It would be important to determine if this has been done and to review this report to fully determine the state of compliance with respect to the NESHAP regulations. Aside from the NESHAP compliance requirements, we did identify other items that would have to be addressed prior to demolition including; 1. The collection and proper disposal of florescent lamps and ballasts, 2. The recovery of Chlorofluorocarbons (CFC's) from Freon containing units such as refrigerators, chillers, air conditioners, drinking fountains and vending machines, 3. The recovery and recycling or lead sheeting from the 20 rooftop vent pipes and from x-ray labs (if any were present in this building) and 4. The proper collection and disposal of dielectric oil from the padmounted transformer if that was to be decommissioned as part of this project.

#### **Parking Garage**

Our inspection and sampling of the parking garage revealed the presence of a friable asbestos containing rope packing material that would have to be removed prior to demolition. We also found asbestos containing floor tiles and related mastic on every level, and ACM sheet flooring on the first level. The floor tiles and mastic and vinyl sheet flooring are generally classified as Cat. I non-friable materials and technically are permitted to remain in a building being demolished provided they are not "Subjected to sanding, grinding, cutting or abrading" as per NESHAP 40 CFR Part 61.141 Definition of Regulated asbestos-containing material (RACM). The ACM sheet flooring found on the main floor was extensively abraded and located in an area where we found evidence to suggest these ACM's were subjected to grinding and abrading by the forces of the steel-treaded track hoe equipment that the demolition contractor used to raze the building and move the demolition debris into piles (Attachment 7). Aside from the NESHAP compliance requirements, we did identify other items that would have to be addressed prior to demolition including; 1. The collection and proper disposal of florescent lamps and ballasts and High Intensity Discharge (HID) lamps, 2. The recovery of Chlorofluorocarbons (CFC's) from Freon containing units such as refrigerators, chillers, and air conditioners and machine oil from the elevator motors.

#### **Debris Piles**

Our inspection and sampling of the debris piles revealed the presence of asbestos containing floor tiles and ACM sheet flooring throughout the site. The floor tile and vinyl sheet flooring, in their original state, are generally classified as Cat. I non-friable materials and technically are permitted to remain in a building being demolished provided they are not "Subjected to sanding, grinding, cutting or abrading" as per NESHAP 40 CFR Part 61.141 Definition of Regulated Asbestos-Containing Material (RACM). However, the ACM floor tile and sheet flooring found was in a significantly damaged and eroded condition on the main floor slab and we have evidence (Attachment 7) to suggest that these ACM's were subjected to grinding and abrading by the forces of the steel-treaded track hoe equipment that the demolition contractor used to raze the building and move the demolition debris into piles.

Furthermore, it is incumbent upon the owner/operator to have these materials assessed prior to demolition to determine if: 1. They are still in an intact state prior to demolition and 2. If the planned demolition activity has the potential to render them into a friable state. A review of their EPA notice of demolition submitted by the owner/operator (Attachment 6) does not indicate that such an individual was retained (Sec. 1, Item 3) to perform this assessment. We also noted that the owner/operator failed to list or quantify the Cat. I non-friable materials to remain in the building during demolition (Sec. 2, Item D.). The Ohio EPA also requires that a copy of the pre-demolition asbestos survey be kept on site during

demolition as per OAC 3701-34-04 (C) (2). We should attempt to ascertain if such a report exists and if it was maintained on site during demolition.

#### **Regulatory interpretation**

I had an email exchange (Attachment 5) with Misty Whitmyer, Environmental Supervisor for the Ohio EPA, Dept. of Air Pollution Control for the Northeast District Office. My question was posed, via email, on Oct. 6<sup>th</sup> at 11:11 a.m. while on site after having observed these suspected ACM's and I asked:

"Question, in a demolition situation on a commercial structure, do they have to remove asbestos containing floor tile prior to demolition? Also, if asbestos containing floor tile debris is found in the rubble pile is that considered RACM?"

Her reply later that afternoon read as follows:

"It depends on the condition. Asbestos containing (AC) Cat I floor tile can remain in place for demolition if it's in non-friable condition. If it's in friable condition it should be treated as RACM/abated prior to demolition."

"If AC floor tile is found in a debris pile from a building where it's condition was determined to be non-friable prior to demolition, it's considered Cat I not RACM. Conversely, if floor tile is found in a debris pile is from a building <u>not surveyed where prior condition is not known</u>, it would be considered co-mingled RACM just like **all other material in the debris pile**." (Emphasis mine)

What Ms. Whitmyer is stating here is that it is incumbent upon the current owner/operator to have retained an AHES to assess the floor tile (and sheet flooring and asphalt roofing products) to determine their current condition and if they failed to do this and debris of these previous Cat. I non-friable materials are found comingled in the debris piles, then the entire debris field would now have to be classified as RACM and managed, handled and disposed of according to those rules outlined in the Asbestos NESHAP for RACM's. These rules include (but are not limited to) the deployment of a licensed asbestos abatement contractor who would have to create an OSHA Class I regulated area, dress their crew if full personal protective equipment (PPE) including HEPA filtered respirators, utilize wet handling methods to load and dispose of all of the rubble and debris into plastic lined dumpsters and transport and dispose of this debris, under manifest, to an EPA-approved asbestos waste landfill. My inspection of the floor tile and sheet flooring located on the main floor slab (Attachment 7) found that these materials were subjected to grinding and abrading via the metal-treaded track hoe equipment. Absent a report by an AHES retained by the owner/operator, or recently retained by the previous owner with knowledge of the planned demolition means and methods, stating something to the contrary, the City of Lorain should assume that this site is likely to become an asbestos regulated area. If this turns out to be the case, the owner/operator would need to update their notice to the Ohio EPA, DAPC-NEDO to reflect this and immediately take steps to secure and mitigate this site. This situation needs to be brought to the attention of the current owner to afford them the opportunity to respond and provide the names, licenses and reports of the professionals they relied upon to commence demolition operations. Absent a timely and satisfactory response, it would fall to the City of Lorain to notify the Ohio EPA, DAPC-NEDO of the findings of this study as this EPA office would have regulatory jurisdiction over this site.

#### Other potential environmental concerns

Below is a brief summary of potential areas of concern with respect to this demolition site beyond the asbestos assessment detailed above. Demolishing a hospital of the size, age and complexity of St. Joseph's would require the development and execution of a checklist of potential hazards and steps required to assess and manage these hazards prior to demolition. They include the following:

#### X-ray labs, equipment and wastes

Our inspection found at least three partially demolished x-ray labs (Attachments 1 and 7). We found lead sheeting in the walls at each of these sites. Lead sheeting is used to prevent x-ray radiation from leaving the labs during tests. We also found a significant amount of lead sheeting debris comingled in the debris piles (Attachment 7). Lead is one of the eight toxic metals regulated under the Resource Conservation and Recovery Act (RCRA) under 40 CFR 260 to 273. In essence, elemental lead is prohibited from being disposed of in a sanitary or construction and demolition (C&D) landfills. The owner/operator had a duty under RCRA to collect the lead sheeting prior to or during demolition and transport this material to a metals recycler or dispose of as per the RCRA rules. The evidence on site indicates that these steps were not sufficiently undertaken by the owner/operator. It is unknown at this time if there were more than the three x-ray labs on this site prior to demolition. There could have been more and I think reaching out to the previous building administrators would be helpful in further assessing this situation. Furthermore, there needs to be an accounting of the x-ray source equipment used on site to ensure that this equipment was not left on site during demolition. The previous owner should have maintained records for all of their x-ray equipment and should have maintained control of this equipment and been responsible for decommissioning this equipment prior to the property being transferred to the current owner. Lastly, radioactive wastes are oftentimes found on sites where radio isotopes were used and I believe it would be prudent to scan the site with a Geiger counter to determine if any radioactive materials (Source equipment or wastes) are currently present on this site.

#### Mercury containing equipment

Elemental mercury is also a RCRA metal and would be found extensively throughout an old hospital building. Mercury would likely be present in the blood pressure measuring devices, thermostats, manometers and gages. The building owner/operator would have to have swept the building for this equipment and carefully collected them for proper packaging and disposal prior to demolition. If a significant amount of elemental mercury was left in the building during demolition, the potential for environmental contamination is significant. I recommend that the City of Lorain determine if this import step was undertaken and if the owner/operator fully documented this process. If no records can be produced, we may wish to conduct sampling of various media on site (air, water, dirt and debris) to determine if mercury contamination may be present.

#### Polychlorinated Biphenyls (PCBs)

PCB's are a group of man-made organic chemicals that are regulated under the Toxic Substances Control Act (TSCA). They were used widely between 1929 and 1979 and can be found in electrical transformers, hydraulic and machine oils, florescent light ballasts, caulking and oil-based paints. A detailed pre-demolition review of the building should have been performed to identify and test potential PCB-containing equipment and building materials and any equipment or materials found to contain PCB's above the regulatory threshold should have been removed and disposed of following the regulatory requirements. Similar to mercury, if there does not exist significant documentation for the identification, testing, collection and disposal of PCB containing equipment and materials, I would recommend collecting and testing environmental media (water, soil and debris) for the presence of PCB's.

#### Chlorofluorocarbons (CFC's)

CFC's (a.k.a. Freon) is found in most refrigerant equipment including air conditioners, refrigerators, freezers, dehumidifiers, drinking fountains and vending machines. All of the Freon containing equipment would have to have had this regulated gaseous compound recovered by an EPA <u>Clean Air Act Section 608</u> certified Freon Technician. These technicians would have documented each unit from which Freon was recovered and the owner/operator should have these records on file. Failure to abide by these rules could result in a \$25,000 fine per unit where the Freon was not properly recovered and allowed to be released into the atmosphere.

#### Universal and electronic waste materials

Aside from those detailed above, the EPA regulates what they classify as <u>universal</u>, and <u>electronic</u> <u>wastes</u>. The owner/operator should have documented the collection and disposal of these wastes as well any unused paints, chemical cleaners, herbicides, pesticides and/or pharmaceuticals found on site.

#### Underground Storage Tanks (UST's)

My assessment to date has yet to identify any records relating to the presence of any UST's on the property but it was not uncommon for hospitals to maintain either UST's or Aboveground Storage Tanks (AST's) to run their emergency generators and other diesel-powered equipment. I did find what appears to be product lines cut off at the surface at the southeast corner of the parking garage (Attachment 7). It is unknown at this time where those product lines go or if they were used for diesel fuel or other petroleum products. I recommend reaching out to the former facility administrators to get more information about this issue.

#### **Lead-Based Paint and Fugitive Emissions**

Lead-Based Paint (LBP) was used extensively up until 1978 when it was banned. LBP is permitted to stay on building components during demolition provided that the owner/operator employ effective fugitive dust control measures to prevent LBP dust from leaving the site and contaminating surrounding properties and effecting the health of neighboring residents and passersby. Based on my review of publicly available video footage, it appears that the owner/operator did not sufficiently control these emissions. I feel it would be prudent, from a public health standpoint, to try and determine if dusts found on site or that may still be collectable from adjoining public roadways or neighboring properties contain measurable amounts of lead. Included below is the Ohio Administrative Code that details the owner/operator's responsibilities under this rule. I studied the linked video footage of the demolition process and while it was clear that the contractor was aware of the rule and had deployed a fire hose during the demolition process, it appears their management of the wetting process failed to adequately control the fugitive emissions. In the drone footage linked below, there is clear evidence that the fire hose was affixed to a stationary object as a perfunctory application of this rule and the footage from the bystander on January 21st, 2021 documents the complete lack of emission suppression that resulted in a significant plume of fugitive dust.

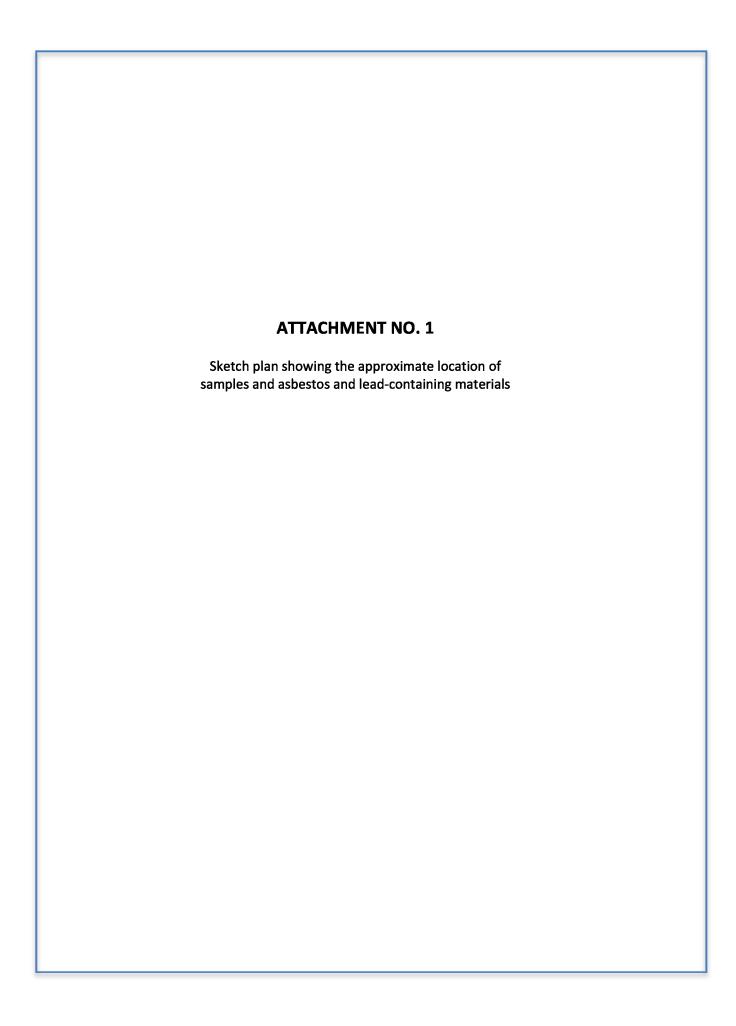
#### **Fugitive dust emissions**

#### OAC 3745-17-08 | Restriction of emission of fugitive dust

- (B) No person shall cause or permit any fugitive dust source to be operated; or any materials to be handled, transported, or stored; or a building or its appurtenances or a road to be used, constructed, altered, repaired, or demolished without taking or installing reasonably available control measures to prevent fugitive dust from becoming airborne. Such reasonably available control measures shall include, but not be limited to, one or more of the following which are appropriate to minimize or eliminate visible particulate emissions of fugitive dust:
- (1) The use of water or other suitable dust suppression chemicals for the control of fugitive dust from the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land.

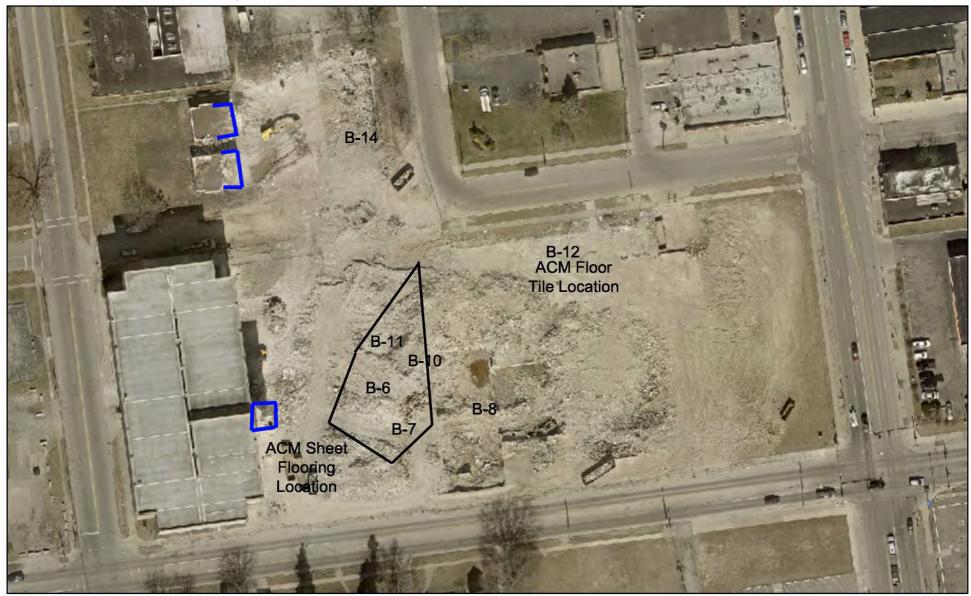
<u>Video from bystander on January 21<sup>st</sup>, 2021</u>. Note the uncontrolled dust during the entire video with particular attention to the large dust plume that results at the 7:00 minute mark. Videographer at 7:38 states "Here comes the dust. Gonna get stinky here in a minute. Already coming over us."

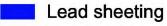
<u>Video from Worlds Above Aerial</u> videography. Note the fixed water hose at the 3:55 and 5:05 mark and not ever at the point of demolition. Again in <u>this video</u> as well.



# J. Craig Snodgrass, CPA, CGFM Lorain County Auditor

### 2021 Aerial

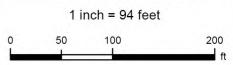




Debris pile outline

B-"x" Positive Asbestos Debris samples





ATTACUBATAIT NO. 2	
ATTACHMENT NO. 2	
Bulk Sample Logs	

OrderID: 162123962



### **QUALITY CONTROL** SAMPLE TRANSMITTAL

162123962

CHAIN - OF - CUSTODY FORM

X Regular	Rush Results needed by:	5-day TAT		
Samples take	n at: 1919 and 1859 Reid Ave. Lorain, Ohio			
Type of samp	oles: Bulk Analysis requested:	PLM/Point Count as per agreement		
SAMPLE #	SAMPLE DESCRIPTION	SAMPLE LOCATION		
A-1	Efis siding	Roof		
A-2	Efis siding	Roof		
A-3	1x1 green floor tile	NE section		
A-4	Wall plaster	Stairs to penthouse		
A-5	Cement board	Exterior soffit		
A-6	2x4 ceiling tile	Lobby		
<b>A-</b> 7	Drywall jointcompound	NE office		
A-8	Light green sheet flooring	North central office		
A-9	Drywall joint compound	North central hallway		
A-10	Light green sheet flooring	Noth office		
A-11	1x1 tan floor tile	North utility closet		
A-12	Drywall joint compound	West hallway		
A-13	Light blue fleck sheet flooring	Office north of lobby		
A-14	1x1 purple floor tile	Soutwest office		
A-15	Drywall joint compound	Southwest hallway		
A-16	2x4 ceiling tile	Southwest hallway		
· A-17	Drywall joint compound	South office		
A-18	2x4 ceiling tile	South office		
A-19	1x1 rainbow fleck floor tile	South office by south exit		
A-20	Drywall joint compound	Southeast hallway		
A-21	Blue floor tile	Southeast office		
Relinquished be Relinquished be Sent by courie	r: FedEx	Date: 10-07-21		

OrderID: 162123963



#### QUALITY CONTROL SAMPLE TRANSMITTAL CHAIN - OF - CUSTODY FORM

162123963

X Regular	Rush Results needed by:	5-day TAT
Samples takes	n at: Parking garage, 21st & Reid, Lorain, Ohio	
Type of samp	oles: Bulk Analysis requested:	PLM/Point Count as per agreement
SAMPLE #	SAMPLE DESCRIPTION	SAMPLE LOCATION
C-1	Fire door core	1F NE side
C-2	Sprayed on fireproofing	1F NW corner
C-3	Red floor tile	1F NW corner
C-4	White floor tile	1F NW corner
C-5	Drywall with joint compound	1F restroom
C-6	Ceiling plaster	1F restroom
C-7	Drywall joint compound	1F restroom
C-8	Pipe joint insulation	1F restroom
C-9	Pipe joint insulation	1F restroom
C-10	Ceiling plaster	1F restroom
C-11	Sprayed on fireproofing	1F outside restrooms
C-12	Mosaic sheet flooring	1F SE corner
C-13	Pipe joint insulation	1F mechanical space
C-14	Rope packing	Top of core wall
C-15	1x1 white floor tile	2F elevator lobby
C-16	Wall plaster	2F elevator lobby
C-17	1x1 red floor tile	7F elevator lobby
C-18	2x4 ceiling tile	2F elevator lobby
C-19	Pipe joint insulation	2F stairwell
	TRANSFERAL REG	CORD
Relinquished b	by: John Pardee Relinquished to:	Date: 10-07-21
Relinquished b		
Sent by courie	r: FedEx	(indicate type)
	maly Worley 10,	/11/21 9:43 am FEX

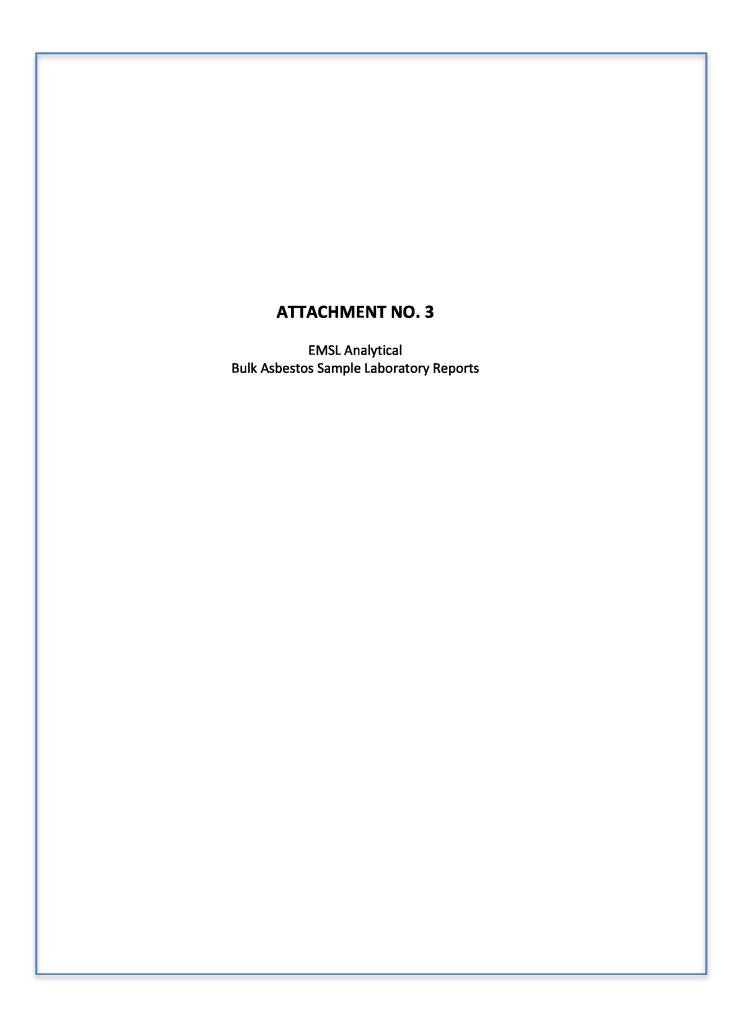
OrderID: 162123967



#### QUALITY CONTROL SAMPLE TRANSMITTAL CHAIN - OF - CUSTODY FORM

162123967

X Regular		
Samples take	n at: Rubble piles, 205 W. 20th St.	, Larain, OH
Type of samp	eles: Bulk Analysis requested:	PLM/Point Count as per agreement
SAMPLE #	SAMPLE DESCRIPTION	SAMPLE LOCATION
B-1	Joint compound	N radiology building
B-2	Wall plaster	S raidiology building
B-3	Drywall with joint compound	Rubble between radiology buildings
B-4	Sprayed on fireproofing	NE face of parking garage
B-5	Sprayed on fireproofing	S wall outside elevator
B-6	Mosaic sheet flooring	Top of main rubble pile
B-7	White floor tile	S end of main rubble pile
B-8	Mosaic sheet flooring	Flooded basement rubble
B-9	Wall plaster	Main rubble pile
B-10	Green mosaic sheet flooring	Main rubble pile
B-11	Pink sheet flooring	NW main rubble
B-12	9x9 rose floor tile	North slab
B-13	Plaster	NE basement site
B-14	Tan floor tile	NE basement site
-		
	TRANSFERAL REC	CORD
Relinquished be Relinquished be Sent by couries	r: FedEx Relinquished to:	Date: (indicate type)
	Melli	7 Worley 10/11/21 9





EMSL Order: 162123962 Customer ID: JPCI50

Customer PO: Project ID:

**Collected Date:** 

Attention:John PardeePhone:(440) 315-2735

JP ENVIRONMENTAL CONSULT, INC. Fax: (440) 984-3145

47391 Garfield Road Received Date: 10/11/2021 9:43 AM

Oberlin, OH 44074 Analysis Date: 10/18/2021

Project: 1919 and 1859 Reid Ave. Lorain, OH

## Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

		Non-Asbestos			<u>Asbestos</u>	
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Type	
<b>A-</b> 1	Roof - EFIS Siding	Gray/Tan Non-Fibrous	5% Glass	95% Non-fibrous (Other)	None Detected	
162123962-0001		Homogeneous				
A-2	Roof - EFIS Siding	Gray/Tan Non-Fibrous	5% Glass	95% Non-fibrous (Other)	None Detected	
162123962-0002		Homogeneous				
A-3	NE Section - 1x1 Green Floor Tile	Green Non-Fibrous		100% Non-fibrous (Other)	None Detected	
162123962-0003		Homogeneous				
A-4-Skim Coat	Stairs to Penthouse - Wall Plaster	White Non-Fibrous		100% Non-fibrous (Other)	None Detected	
162123962-0004		Homogeneous				
A-4-Base Coat	Stairs to Penthouse - Wall Plaster	Gray Non-Fibrous		100% Non-fibrous (Other)	None Detected	
162123962-0004A	F-4' 0	Homogeneous	050/ 0-11-1	OFFICAL CHARACTER (OIL)	Non-Balad 1	
A-5 162123962-0005	Exterior Soffit - Cement Board	Gray Fibrous	65% Cellulose	35% Non-fibrous (Other)	None Detected	
		Homogeneous	400/ 0 " '	000/ N - 61 - 70:1	N 5	
A-6	Lobby - 2x4 Ceiling Tile	White Fibrous	40% Cellulose 30% Glass	30% Non-fibrous (Other)	None Detected	
162123962-0006		Homogeneous				
A-7	NE Office - Drywall Joint Compound	White Non-Fibrous		100% Non-fibrous (Other)	None Detected	
162123962-0007		Homogeneous				
Drywall not present within						
A-8	North Central Office - Light Green Sheet	Green Fibrous	10% Glass	90% Non-fibrous (Other)	None Detected	
162123962-0008	Flooring	Homogeneous				
A-9	North Central Hallway - Drywall Joint	White Non-Fibrous		100% Non-fibrous (Other)	None Detected	
162123962-0009	Compound	Homogeneous				
Drywall not present within						
A-10	North Office - Light Green Sheet Flooring	Tan/Green Fibrous	8% Glass	92% Non-fibrous (Other)	None Detected	
162123962-0010		Homogeneous				
A-11-Floor Tile	North Utility Closet - 1x1 Tan Floor Tile	Tan Non-Fibrous		100% Non-fibrous (Other)	None Detected	
162123962-0011		Homogeneous				
A-11-Mastic	North Utility Closet - 1x1 Tan Floor Tile	Tan Non-Fibrous		100% Non-fibrous (Other)	None Detected	
162123962-0011A		Homogeneous				
A-12	West Hallway - Drywall Joint	White Non-Fibrous		100% Non-fibrous (Other)	None Detected	
162123962-0012	Compound	Homogeneous				
Drywall not present within	sample.					
A-13	Office North of Lobby - Light Blue Fleck	Tan/Blue/Yellow Fibrous	10% Synthetic	90% Non-fibrous (Other)	None Detected	
162123962-0013	Sheet Flooring	Homogeneous				

Initial report from: 10/18/2021 16:22:09



EMSL Order: 162123962 Customer ID: JPCI50

Customer PO: Project ID:

#### Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			stos	<u>Asbestos</u>	
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Type
A-14-Floor Tile	Southwest Office - 1x1 Purple Floor Tile	Purple Non-Fibrous		100% Non-fibrous (Other)	None Detected
162123962-0014	F #40.00 To A20.00 To A30	Homogeneous			
A-14-Mastic	Southwest Office - 1x1 Purple Floor Tile	Tan Non-Fibrous		100% Non-fibrous (Other)	None Detected
162123962-0014A		Homogeneous			
A-15	Southwest Hallway - Drywall Joint	White Non-Fibrous		100% Non-fibrous (Other)	None Detected
162123962-0015	Compound	Homogeneous			
Drywall not present within	n sample.				
A-16	Southwest Hallway - 2x4 Ceiling Tile	White Fibrous	40% Cellulose 30% Glass	30% Non-fibrous (Other)	None Detected
162123962-0016		Homogeneous			
A-17	South Office - Drywall Joint Compound	White Non-Fibrous		100% Non-fibrous (Other)	None Detected
162123962-0017		Homogeneous			
Drywall not present within	n sample.				
A-18	South Office - 2x4 Ceiling Tile	Gray/White Fibrous	40% Cellulose 20% Glass	40% Non-fibrous (Other)	None Detected
162123962-0018	****	Homogeneous			
A-19-Floor Tile	South Office by South Exit - 1x1 Rainbow	White Non-Fibrous		100% Non-fibrous (Other)	None Detected
162123962-0019	Fleck Floor Tile	Homogeneous		17. W. C.	
A-19-Mastic	South Office by South Exit - 1x1 Rainbow	Tan Non-Fibrous		100% Non-fibrous (Other)	None Detected
162123962-0019A	Fleck Floor Tile	Homogeneous			
A-20	Southeast Hallway - Drywall Joint	White Non-Fibrous		100% Non-fibrous (Other)	None Detected
162123962-0020	Compound	Homogeneous			
Drywall not present within	n sample.	A MANAGEMENT			
A-21-Floor Tile	Southeast Office - Blue Floor Tile	Blue Non-Fibrous		100% Non-fibrous (Other)	None Detected
162123962-0021	10772 1077	Homogeneous			
A-21-Mastic	Southeast Office - Blue Floor Tile	Brown/Tan Non-Fibrous		100% Non-fibrous (Other)	None Detected
162123962-0021A		Homogeneous			

Analyst(s)	41/6lissa Neu
Lori Grenier (26)	Asbestos Laboratory Manage or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method") but augmented with procedures outlined in the 1993 ("final") version of the method. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc. Las Vegas, NV NVLAP Lab Code 600140-0, AZ 0953, CA 3002, NV 050132018-1

Initial report from: 10/18/2021 16:22:09



47391 Garfield Road

Oberlin, OH 44074

Attention: John Pardee

EMSL Order: 162123963 Customer ID: JPCI50

Customer PO: Project ID:

Phone: (440) 315-2735

Fax: (440) 984-3145
Received Date: 10/11/2021 9:43 AM

Analysis Date: 10/18/2021

Collected Date:

Project: Parking Garage, 21st & Reid, Lorain, OH

JP ENVIRONMENTAL CONSULT, INC.

## Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			<u>Asbestos</u>		
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Type
C-1	1F NE Side - Fire Door Core	White Fibrous	15% Cellulose	85% Non-fibrous (Other)	None Detected
162123963-0001		Homogeneous			
C-2	1F NW Corner - Sprayed-on	White Fibrous	40% Cellulose	60% Non-fibrous (Other)	None Detected
162123963-0002	Fireproofing	Homogeneous			
C-3-Floor Tile	1F NW Corner - Red Floor Tile	Red Non-Fibrous		100% Non-fibrous (Other)	None Detected
162123963-0003		Homogeneous			
C-3-Mastic	1F NW Corner - Red Floor Tile	Black Non-Fibrous		100% Non-fibrous (Other)	None Detected
162123963-0003A		Homogeneous			
C-4-Floor Tile	1F NW Corner - White Floor Tile	White Non-Fibrous		100% Non-fibrous (Other)	None Detected
162123963-0004		Homogeneous			
C-4-Mastic	1F NW Corner - White Floor Tile	Black Non-Fibrous		97% Non-fibrous (Other)	3% Chrysotile
162123963-0004A		Homogeneous			
C-5-Drywall	1F Restroom - Drywall with Joint	Gray Fibrous	10% Cellulose <1% Glass	90% Non-fibrous (Other)	None Detected
162123963-0005	Compound	Homogeneous			
C-5-Joint Compound	1F Restroom - Drywall with Joint	White Non-Fibrous		100% Non-fibrous (Other)	None Detected
162123963-0005A	Compound	Homogeneous			
C-5-Tape	1F Restroom - Drywall with Joint	Tan/White Fibrous	95% Cellulose	5% Non-fibrous (Other)	None Detected
162123963-0005B	Compound	Homogeneous			
C-5-Texture	1F Restroom - Drywall with Joint	White Non-Fibrous		100% Non-fibrous (Other)	None Detected
162123963-0005C	Compound	Homogeneous			
C-6	1F Restroom - Ceiling Plaster	Gray Non-Fibrous		100% Non-fibrous (Other)	None Detected
162123963-0006		Homogeneous			
C-7	1F Restroom -	White		100% Non-fibrous (Other)	None Detected
162123963-0007	Drywall Joint	Non-Fibrous			
Drywall not present.	Compound	Homogeneous			
	4F.D1 D'	54R-14	45% 6:	OFO( No Cl (Oll - )	N
C-8	1F Restroom - Pipe Joint Insulation	White Fibrous	15% Glass	85% Non-fibrous (Other)	None Detected
162123963-0008		Homogeneous			
C-9	1F Restroom - Pipe Joint Insulation	White Fibrous	15% Glass	85% Non-fibrous (Other)	None Detected
162123963-0009		Homogeneous			
C-10	1F Restroom - Ceiling Plaster	Gray Non-Fibrous		100% Non-fibrous (Other)	None Detected
162123963-0010		Homogeneous			

(Initial report from: 10/18/2021 17:12:14



EMSL Order: 162123963 Customer ID: JPCI50

Customer PO: Project ID:

#### Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			<u>Asbestos</u>		
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Type
C-11 162123963-0011	1F Outside Restrooms - Sprayed-on Fireproofing	White Fibrous Homogeneous	40% Cellulose	60% Non-fibrous (Other)	None Detected
C-12-Vinyl Sheet Flooring 162123963-0012	1F SE Corner - Mosaic Sheet Flooring	Tan Fibrous Homogeneous		88% Non-fibrous (Other)	12% Chrysotile
C-12-Mastic	1F SE Corner - Mosaic Sheet Flooring	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
C-13	1F Mechanical Space - Pipe Joint Insulation	White Fibrous Homogeneous	15% Glass	85% Non-fibrous (Other)	None Detected
C-14 162123963-0014	Top of Core Wall - Rope Packing	Gray Fibrous Homogeneous		30% Non-fibrous (Other)	70% Chrysotile
C-15-Floor Tile	2F Elevator Lobby - 1x1 White Floor Tile	White Non-Fibrous Homogeneous		98% Non-fibrous (Other)	2% Chrysotile
C-15-Mastic	2F Elevator Lobby - 1x1 White Floor Tile	Black Non-Fibrous Homogeneous		98% Non-fibrous (Other)	2% Chrysotile
C-16-Base Coat	2F Elevator Lobby - Wall Plaster	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
C-16-Skim Coat	2F Elevator Lobby - Wall Plaster	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
C-17 162123963-0017	7F Elevator Lobby - 1x1 Red Floor Tile	Red Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
C-18 162123963-0018	2F Elevator Lobby - 2x4 Ceiling Tile	Gray Fibrous Homogeneous	60% Cellulose 15% Min. Wool	25% Non-fibrous (Other)	None Detected
C-19 162123963-0019	2F Stairwell - Pipe Joint Insulation	White Fibrous Homogeneous	15% Glass	85% Non-fibrous (Other)	None Detected

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Samples analyzed by EMSL Analytical, Inc. Las Vegas, NV NVLAP Lab Code 600140-0, AZ 0953, CA 3002, NV 050132018-1

Initial report from: 10/18/2021 17:12:14



EMSL Order: 162123967 Customer ID: JPCI50

Customer PO: Project ID:

**Collected Date:** 

Attention:John PardeePhone:(440) 315-2735

JP ENVIRONMENTAL CONSULT, INC. Fax: (440) 984-3145

47391 Garfield Road Received Date: 10/11/2021 9:43 AM

Oberlin, OH 44074 Analysis Date: 10/18/2021

Project: Rubble Piles, 205 W. 20th St., Lorain, OH

## Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

		Non-Asbestos			<u>Asbestos</u>
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Type
B-1	N Radiology Building - Joint Compound	White Non-Fibrous		100% Non-fibrous (Other)	None Detected
162123967-0001 B-2-Base Coat	S Radiology Building -	Homogeneous Grav		100% Non-fibrous (Other)	None Detected
162123967-0002	Wall Plaset	Non-Fibrous Homogeneous		100 % Non Horoco (Outer)	None Beleated
B-2-Finish Coat	S Radiology Building - Wall Plaset	White Non-Fibrous		100% Non-fibrous (Other)	None Detected
162123967-0002A		Homogeneous			
B-3-Drywall	Rubble between Radiology Buildings -	White Fibrous	8% Cellulose 2% Glass	90% Non-fibrous (Other)	None Detected
162123967-0003	Drywall with Joint Compound	Homogeneous			
B-3-Joint Compound	Rubble between Radiology Buildings -	White Non-Fibrous		100% Non-fibrous (Other)	None Detected
162123967-0003A	Drywall with Joint Compound	Homogeneous			
B-4	NE Face of Parking Garage - Sprayed-on	Tan Fibrous	35% Cellulose 10% Glass	55% Non-fibrous (Other)	None Detected
162123967-0004	Fireproofing	Homogeneous			
B-5	S Wall outside Elevator - Sprayed-on	Brown Non-Fibrous	35% Cellulose 10% Glass	55% Non-fibrous (Other)	None Detected
162123967-0005	Fireproofing	Homogeneous			
B-6-Sheet Flooring	Top of Main Rubble Pile - Mosaic Sheet	White Fibrous	25% Cellulose 5% Glass	58% Non-fibrous (Other)	12% Chrysotile
162123967-0006	Flooring	Homogeneous			
B-6-Mastic	Top of Main Rubble Pile - Mosaic Sheet	Brown Non-Fibrous		100% Non-fibrous (Other)	None Detected
162123967-0006A	Flooring	Homogeneous			
B-7-Floor Tile	S End of Main Rubble Pile - White Floor Tile	White Non-Fibrous		97% Non-fibrous (Other)	3% Chrysotile
162123967-0007	O End of Main Politic	Homogeneous		4000/ Non-Sit (Ott)	None Dataste
B-7-Mastic	S End of Main Rubble Pile - White Floor Tile	Tan Non-Fibrous		100% Non-fibrous (Other)	None Detected
162123967-0007A		Homogeneous	050/ 0 " :	E00/ N	400/ 51 - "
B-8-Sheet Flooring	Flooded Basement Rubble - Mosaic Sheet Flooring	White Fibrous Homogeneous	25% Cellulose 5% Glass	58% Non-fibrous (Other)	12% Chrysotile
		<u> </u>		1009/ Non-Shares (Others)	None Datasted
B-8-Mastic 162123967-0008A	Flooded Basement Rubble - Mosaic Sheet Flooring	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
				4000/ Now Electric (Others)	Nama Data - t - d
B-9 162123967-0009	Main Rubble Pile - Wall Plaster	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-10-Sheet Flooring	Main Rubble Pile - Green Mosaic Sheet	White/Green Fibrous		88% Non-fibrous (Other)	12% Chrysotile
162123967-0010	Flooring	Homogeneous			

Initial report from: 10/18/2021 16:24:15



EMSL Order: 162123967 Customer ID: JPCI50

Customer PO: Project ID:

#### Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

	Description		Non-Asbestos		<u>Asbestos</u>
Sample		Appearance	% Fibrous	% Non-Fibrous	% Type
B-10-Mastic	Main Rubble Pile - Green Mosaic Sheet Flooring	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-11-Sheet Flooring	NW Main Rubble - Pink Sheet Flooring	White/Pink Fibrous Homogeneous		88% Non-fibrous (Other)	12% Chrysotile
B-11-Mastic	NW Main Rubble - Pink Sheet Flooring	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-12-Floor Tile	North Slab - 9x9 Rose Floor Tile	Pink Non-Fibrous Homogeneous		96% Non-fibrous (Other)	4% Chrysotile
B-12-Mastic	North Slab - 9x9 Rose Floor Tile	Black Non-Fibrous Homogeneous		97% Non-fibrous (Other)	3% Chrysotile
B-13-Base Coat	NE Basement Site - Plaster	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-13-Finish Coat	NE Basement Site - Plaster	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-14-Floor Tile 162123967-0014	NE Basement Site - Tan Floor Tile	Tan Non-Fibrous Homogeneous		98% Non-fibrous (Other)	2% Chrysotile
B-14-Mastic	NE Basement Site - Tan Floor Tile	Black Non-Fibrous Homogeneous		97% Non-fibrous (Other)	3% Chrysotile

Analyst(s)	$\mathcal{A}$
Analysi(s)	
Peter Pulido (24)	

Asbestos Laboratory Manager
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method") but augmented with procedures outlined in the 1993 ("final") version of the method. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc. Las Vegas, NV NVLAP Lab Code 600140-0, AZ 0953, CA 3002, NV 050132018-1

Initial report from: 10/18/2021 16:24:15

ATTACHMENT NO. 4
Ohio Asbestos Certifications for Asbestos Inspector

# State of Ohio Environmental Protection Agency Asbestos Program

Asbestos Hazard Evaluation Specialist

John P Pardee



47391 Garfield Road tection Agency Oberlin OH 44074

Certification Number Expiration Date

ES3201

2/2/22



DOB: 1/11/61

# State of Ohio Environmental Protection Agency Asbestos Program

Asbestos Hazard Abatement Project Designer

John P Pardee

-47391 Garfield Road rection Agency Oberlin OH 44074

Certification Number Expiration Date PD60060

2/2/22

DOB: 1/11/61

Pardee Environmental
Puruee Environmental
ATTACHMENT NO. 5
ORA consile between John Dander of Dander Environmental and
Q&A emails between John Pardee of Pardee Environmental and
Misty Whitmyer of the Ohio EPA DAPC-NEDO Oct. 6 <sup>th</sup> , 2021



John Pardee <jpincenv@gmail.com> to Misty, Nicole • Wed, Oct 6, 11:11 AM



Question, in a demolition situation on a commercial structure, do they have to remove asbestos containing floor tile prior to demolition? Also, if asbestos containing floor tile debris is found in the rubble pile is that considered RACM?

\*\*\*



## Misty.Whitmyer@epa.ohio.gov

to Douglas.Dobransky@epa.ohio.gov, me +

Oct 6, 2021, 4:02 PM



It depends on the condition. Asbestos containing (AC) Cat I floor tile can remain in place for demolition if it's in non-friable condition. If it's in friable condition it should be treated as RACM/abated prior to demolition.

If AC floor tile is found in a debris pile from a building where it's condition was determined to be non-friable prior to demolition, it's considered Cat I not RACM. Conversely, if floor tile is found in a debris pile is from a building not surveyed where prior condition is not known, it would be considered co-mingled RACM just like all other material in the debris pile.

\*\*\*

Pardee Environmental
ATTACHMENT NO. 6
CDA Natice of Demalities reposated by the Owner/Operator
EPA Notice of Demolition generated by the Owner/Operator



## Notification of Demolition and Renovation/Abatement Section 1: General Information

**Division of Air Pollution Control** 

Work on projects cannot begin until 10 working days after a COMPLETE original notification form, **including payment**, is submitted to Ohio EPA. Instructions and a worksheet for fee calculation are available at epa.ohio.gov/asbestos. This form can be completed, and payment made, at ebiz.epa.ohio.gov. Questions? asbestos@epa.ohio.gov or 614-466-0061

Ohio EPA Use Only	Notification #:150933 Postm		Postmarke	d:	Received: 10	/15/2020	☐Hand-Delivered		
1. Notification	Information (Check a	all that apply)							
	Revision # (count): 0	Installation  ✓	□Emergency	□Annual	☐ Cancella	tion Pro	ject County: LORAIN		
☐ NESHAP Re	sidential Exemption				-				
2. Owner, Asb	estos Abatement Con	tractor, Billing, a	and Fire Depart	tment Informat	ion		Revised?		
40-CH-040-2-	opment Group, Inc.					Is this a cor	mpany? 🗷 Yes		
Address: 800 Tu	rnpike Street, Suite 30	10,		Co	ntact Person: Karl	Youkstetter			
City: North Andox	/er			State: MASSAC	HUSETTS	Zip: 0	1845		
Email: karl@thee	earthexchange.com			Phone: (774) 275-1433			Fax: () -		
	ent Contractor (if appli	icable)					V		
Name:	en comacio (ii appii	cable)		Licens	se #:		Expiration Date:		
Address:,				Contact Person:					
City:			3	State:			Zip:		
Email:				Phone: () -			Fax: () -		
Billing Contact (E.	ntity paying for original	(notification)							
	sociated with the C		s Abatement Cor		emolition Contractor		ion)?		
City: NORTH ANDOVER				State: MASSACHUSETTS			Zip: 01854		
Email: karl@theearthexchange.com				Phone: (774) 275-1433			Fax: () -		
ire Department (				•		1 1 1200	·		
Name: City of Lo	orain Fire Department			7 7 10					
Address: 1350 B	roadway,			Co	ntact Person: Greg	Neal	341-		
City: Lorain				State: OHIO		Zip: 4	4052		
Email: greg_neal@cityoflorain.org			1	Phone: (440) 2	04-2204	Fax:	Fax: () -		
	tos Hazard Evaluation	n Specialist and	<b>Evaluation Pro</b>		Transaction of the second		Revised?		
Evaluation Speci	ialist:			Certifica	tion #:	Expi	ration Date:		
Procedure, inclu (RACM) and Cat Below):	ding analytical method egory l and Category	s, employed to de Il non-friable asb	tect the presencestoscontaining	ce of and to esti material: PLM	mate the quantity o	f regulated as	sbestoscontaining material ☐Other Method (Explain		
	to be followed should						Revised?		
<b>≭</b> Stop Work and Wet	top Work and Keep Evacuate area Demarcate area Contra			Contact licensed abatement antractor			Contact district office/local air authority		
☐Other (Explain	n):								
i. Planned De	molition (check all th	at apply)					Revised?		
	ion work to be perform								
	]Fire Training ☐We								
		s (include attachm	ent if necessary)	: St. Joseph Ho	spital will be mechar	nical razed wit	n slabs and foundations to remain.		
Demolition Attach	ment:								



# Notification of Demolition and Renovation/Abatement Section 1: General Information Division of Air Pollution Control

Protection Agency	and Engineering Con	trala /if aabaataa i	a balaa abata	.al\			DevisedO
For the material listed in ea emissions and ensure prop	n and Engineering Con ach project, describe the per waste handling:	type(s) of ACM to b	e abated, eng	ineerin	g controls and	work practices to be used to	Revised? minimize
Type of ACM to be	□Surfacing	□Mechanical	☐Other:				
abated: Engineering Controls:	☐Wet Methods	☐Glove Bag	□NPE		□AFD	☐Other:	
Work Practices:	□Intact Removal	□Manual	□Mecha	nical	□Other:		
7. Asbestos Waste Trar	⊥ nsporter (if applicable	<b>)</b>					Revised?
	oosal Site (if applicabl	•					Revised?
Name:	occar one (ii applicabl	<b>-</b>					7.00001
Address:,				Conta	act Person:		
City:			State:			Zip:	
Email:			Phone: () -			Fax: () -	
Emergency Demolitie	on (complete if you ch	ecked "Emergenc	v" ahove and	l "Dem	olition" for ar	y project)	Revised?
A copy of the issued order,						ly project)	IVEA1960 I
Government Official Issuing	o Order:	·	Title:				
Agency:			Authority	of Ord	er (Citation of	Code):	
Date of Order:			Demolitic	n Date	):		
Issued Order Document:							
10. Emergency Renovati	on/Abatement (comple	ete if vou checked "	'Emergency" :	above a	and "Renovatio	on/Abatement" for any proje	ct) Revised?
Date of Emergency:		,	Time of E				
Description of Sudden, Une	expected Event:						
Explanation of how the eve	nt caused unsafe cond	tions or equipment	damage:				
•							
General Notification Attach	ments:						
11. Attestation							
In accordance with Ohio A 37452004 of the Administr false or misleading statem	dministrative Code rule ative Code will supervise ents is prohibited by law	3745 20 03 (A)(4) se the stripping and v and I certify that f	)(p), I certify the removal desc acts contained	nat at le ribed b I in this	east one person by this notificati a notification are	n trained as required by para on. I acknowledge that the e true, accurate, and comple	agraph (B) of rule submission of ste.
Signature: Submitted Onli	ne via eBiz				Date:	10/15/2020	
Name: Karl Youkstetter			Title: Pre	Title: President			
Organization: The Earth E	xchange, Inc.						



# Notification of Demolition and Renovation/Abatement Section 2: Project Address Specific Information Division of Air Pollution Control

Protection Agency
Please complete Section 2 for the address included with this notification. If the project is an "Installation" per OAC 3745-20, complete a separate Section 2 page for each address associated with this notification.

Ohio EPA Use On	Use Only Project II			#: 150933 -	1			
A. Facility Desc	ription							Revised?
	applicable): Saint Jos	eph Hospital		Site Location	n (specific): Prop	erty bound by W201	h St., Broadway, 21	
Address: 205 W2	Oth Street,			7.00				
City: Lorain				State:	ОН	Zip: 44052		
Building Size (squ	uare feet): 420000.0			No. of Floors	s:5	Age (years): 100.0	)	
Present Use: Aba	ndoned building			Prior Use: H	ospice center,VA	center, nursing coll	ege,hospital	
B. Type of Oper	ration (check all that	apply)						Revised? [
Demolition	Renovation	/ Abatement – Type:	□Removal	⊟Repair	□Encapsulatio	on <u></u> Enclosure		
C. Asbestos Pro	esent? (check one)							Revised?
∐Yes	□No	□No, previously ab	ated	Year Ab	ated: 2013			
D. Approximate	Amount of Asbesto	sContaining Materials Material to be Rem	(complete	e table belov	w and Section 1	#6 if asbestos is	oresent) OT to be Removed	Revised?
	RACM	Non-friable Asb				Non-friable Asbes	stos-Containing Ma	
Pipes (linear		Category I		Category	II	Category I	Catego	•
feet) `	0.0	0.0		0.0		0.0	0.0	
Surface area on other facility components (ft²)	0.0	0.0		0.0		0.0	0.0	
Volume if length or area cannot be measured (ft³)	0.0							
E. Asbestos Ab Setup Date		」 nd Abatement Special Abatem	list <i>(origina</i> ent Date:	al notification i	is required 10 wor	king days prior to the Complete Date:	start of work)	Revised? [
	Contractor (if applica	ble)						Revised?
Name: The Earth B	Exchange, Inc.							
Address: 800 Turn	npike Street, Suite 300,			(	Contact Person:	Karl Youkstetter		
City: North Andover			State: MASS	ACHUSETTS	Zip: 01	845		
Email: karl@theearthexchange.com			F	Phone: (774) 275-1433 Fax: () -			) -	
G. Demolition S	Schedule (original no	tification is required 1	0 working	days prior	to the start of w	ork)		Revised?
Start Date: 11/6/2	2020			Complete I	Date: 4/30/2021			
H. Project Hold								Revised [
Asbestos Offsite/On Hold as of Date:				Asbestos On Site/Off Hold, Work Resume Date:				
Demolition Offsite/On Hold as of Date:				Demolition On Site/Off Hold, Work Resume Date:				

Pardee Environmental
Turuee Environmentui
ATTACHMENT NO. 7
ATTACHMENT NO. 7
October 6 <sup>th</sup> , 2021 Environmental Site Assessment Photo Log and
aerial photos taken by the Lorain County Auditor's Office (Spring 2021)



View of demo site from top of parking garage looking northeast



Demo site from parking garage looking southeast (ACM sheet flooring)



Note ACM floor tile upper left and ACM sheet flooring lower right



Partially demolished x-ray labs from parking garage



Lead sheeting in rubble of x-ray lab



Florescent light ballast in x-ray lab debris site



Lead sheeting in rubble of x-ray lab



Lead sheeting in rubble of x-ray lab



Lead sheeting in rubble of x-ray lab adjacent to parking garage



Lead sheeting in rubble of x-ray lab adjacent to parking garage



Lead sheeting in rubble of x-ray lab



Sprayed-on fire proofing that tested negative for asbestos



Pipe bollards southeast of parking garage



View of demo site from the top of the debris pile



Severed product lines by pipe bollards



ACM "Brown mosaic sheet flooring" on debris pile



ACM "Brown mosaic sheet flooring" on debris pile



Lead sheeting pieces on debris pile



Lead sheeting pieces on debris pile



Floor tile and ACM sheet flooring "sandwich" in basement pit



Lead sheeting pieces on debris pile



"Green mosaic" ACM sheet flooring on debris pile



"Green mosaic" ACM sheet flooring on debris pile



9x9 ACM Floor tile field on the north side of demo site



Collected florescent lamp ballasts in the Reid Ave. building



Collection of fire extinguishers (Some discharged) in the Reid Ave. building



Asbestos work area signage in Reid Ave. building



Photo taken by Morning Journal during site assessment

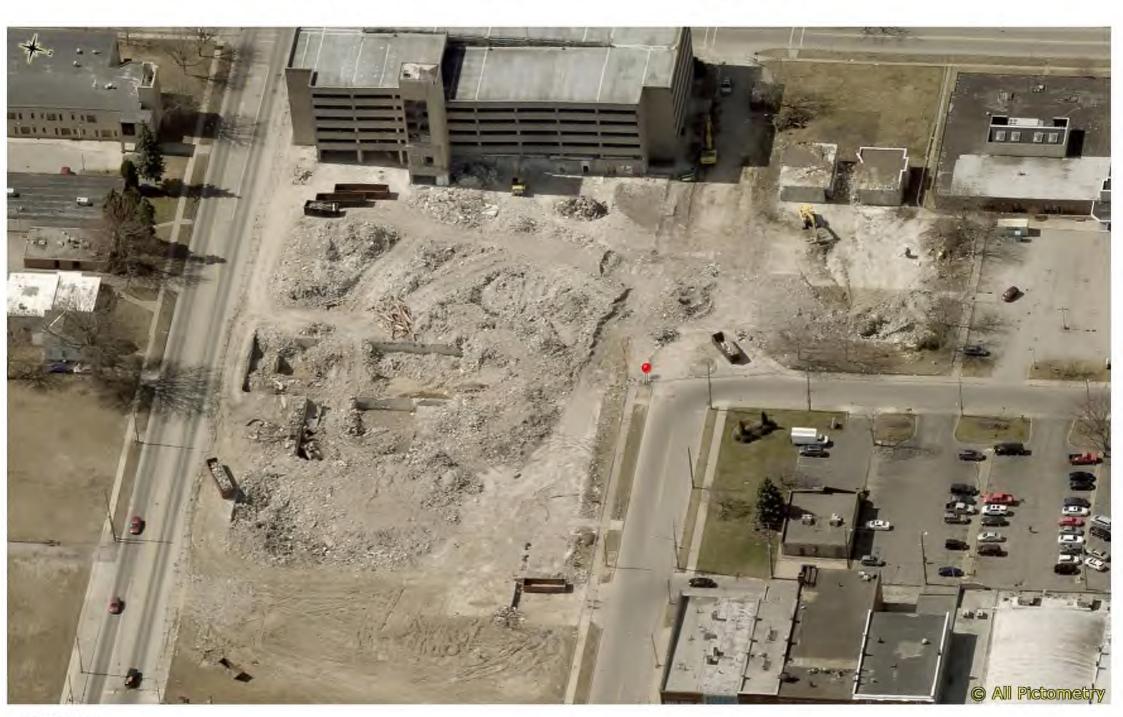
# St. Joe's demo site looking northeast



# St. Joe's demo site looking southwest



# St. Joe's demo site looking west



APPENDIX A-2



Mike DeWine, Governor Jon Husted, Lt. Governor Laurie A. Stevenson, Director

December 2, 2021

RE: Former St. Joseph Community Center

Notice of Violation (NOV) Related Correspondence RCRA C - Hazardous Waste

Lorain County OHD077765782

Mr. Salvatore Tecce A7 Development Co. Inc. 4 Dansreau Place Middleton, MA 01949 **DELIVERY CONFIRMATION**9488 8090 0027 6008 2058 60

Mr. Salvatore Tecce A7 Development Co. Inc. 800 Turnpike St., Suite 300 North Andover, MA 01845 <u>DELIVERY CONFIRMATION</u> 9488 8090 0027 6008 2058 53

Mr. Karl Youkstetter Earth Exchange Inc. 269 Boylston St. Shrewsbury, MA 01545 **DELIVERY CONFIRMATION** 9488 8090 0027 6008 2058 22

Mr. Karl Youkstetter
Earth Exchange Inc.
800 Turnpike St., Suite 300
North Andover, MA 01845

<u>DELIVERY CONFIRMATION</u> 9488 8090 0027 6008 2058 15

**Hazardous Waste Program - DERR** 

Subject: FCI Report Transmittal Letter

Dear Mr. Tecce and Mr. Youkstetter:

On November 5, 2021, Ohio EPA conducted a Focused Compliance Inspection (FCI) of the former St. Joseph Community Center facility located at 205 W. 20th St. in Lorain, Ohio (Facility). The inspection included a review of wastes generated from demolition activities of the Facility.

Enclosed is the December 2, 2021 Notice of Violation (NOV) letter outlining the violation that was observed during the inspection. Also included is the inspection report which contains an inspection narrative, facility maps, photographs, and site verification form.

FORMER ST. JOSEPH COMMUNITY CENTER DECEMBER 2, 2021 PAGE 2 OF 2

Please be advised that this inspection report is only associated with those areas of the operations that were inspected or documentation reviewed and does not constitute a waiver of potential violations not discovered.

You can find Ohio's hazardous waste rules and other information on the division's web page at: <a href="https://epa.ohio.gov/derr/compliance">https://epa.ohio.gov/derr/compliance</a>.

Should you have any questions, please contact me at (330) 963-1108, or via email at <a href="mailto:frank.zingales@epa.ohio.gov">frank.zingales@epa.ohio.gov</a>.

Sincerely,

Frank Zingales

**Environmental Specialist** 

/s/ Frank Zingales

Division of Environmental Response and Revitalization

FZ/sc

**Enclosure** 

ec: Natalie Oryshkewych, Ohio EPA, NEDO, DERR Nyall McKenna, Ohio EPA, NEDO, DERR Misty Whitmyer, Ohio EPA, NEDO, DAPC Doug Dobransky, Ohio EPA, NEDO, DAPC Jennifer Carlin, Ohio EPA, NEDO, DMWM Zak Kabelen, Ohio EPA, CO, DERR



Mike DeWine, Governor Jon Husted, Lt. Governor Laurie A. Stevenson, Director

December 2, 2021

RE: Former St. Joseph Community Center

Notice of Violation (NOV)

NOV

RCRA C - Hazardous Waste

Lorain County OHD077765782

Mr. Salvatore Tecce A7 Development Co. Inc. 4 Dansreau Place Middleton, MA 01949 **DELIVERY CONFIRMATION**9488 8090 0027 6008 2058 60

Mr. Salvatore Tecce A7 Development Co. Inc. 800 Turnpike St., Suite 300 North Andover, MA 01845 **DELIVERY CONFIRMATION** 9488 8090 0027 6008 2058 53

Mr. Karl Youkstetter Earth Exchange Inc. 269 Boylston St. Shrewsbury, MA 01545 **DELIVERY CONFIRMATION** 9488 8090 0027 6008 2058 22

Mr. Karl Youkstetter Earth Exchange Inc. 800 Turnpike St., Suite 300 North Andover, MA 01845 <u>DELIVERY CONFIRMATION</u> 9488 8090 0027 6008 2058 15

Hazardous Waste Program - DERR Subject: FCI Notice of Violation

Dear Mr. Tecce and Mr. Youkstetter:

On November 5, 2021, Ohio EPA conducted a Focused Compliance Inspection (FCI) of the former St. Joseph Community Center facility located at 205 W. 20<sup>th</sup> St. in Lorain, Ohio (Facility). The goal of this inspection was to determine A7 Development Co. Inc.'s and Earth Exchange Inc.'s compliance with Ohio's hazardous waste laws as found in Chapter 3734. of the Ohio Revised Code (ORC) and the rules adopted pursuant to ORC § 3734.12 found in Chapter 3745 of the Ohio Administrative Code (OAC). The inspection included a review of wastes generated from demolition activities of the Facility.

FORMER ST. JOSEPH COMMUNITY CENTER DECEMBER 2, 2021 PAGE 2 OF 3

#### **Findings**

Ohio EPA identified the following violation of Ohio's hazardous waste laws and rules.

1. OAC Rule 3745-52-11, Hazardous Waste Determination: A person who generates a waste as defined in OAC rule 3745-51-02 shall make an accurate determination as to whether that waste is a hazardous waste in order to ensure wastes are properly managed according to all applicable hazardous waste rules.

A7 Development Co. Inc., as the facility owner, and Earth Exchange Inc., as the demolition contractor/operator, failed to determine if the wastes generated from demolition activities of the Facility are a hazardous waste. During the inspection, Ohio EPA observed waste demolition debris located at five areas of the Facility as further described in Attachment A. In addition, Ohio EPA observed lead sheeting/debris commingled with demolition debris located in a pile and in demolished structures as further described in Attachment B.

In order to resolve this violation, Ohio EPA recommends that A7 Development Co. Inc. and Earth Exchange Inc. immediately evaluate the demolition debris to determine if it is a hazardous waste as required by this rule and submit the determination(s) to this office for review.

### Conclusion

Ohio EPA requests that A7 Development Co. Inc. and Earth Exchange Inc. promptly undertake the necessary measures to return to compliance with Ohio's environmental laws and rules. Within 14 days of receipt of this letter, A7 Development Co. Inc. and Earth Exchange Inc. are requested to provide documentation to Ohio EPA including the steps taken to resolve the violations cited above. Documentation of steps taken to return A7 Development Co. Inc. and Earth Exchange Inc. to compliance includes written correspondence, updated policies, and photographs as appropriate may be submitted via the postal service or electronically to <a href="mailto:frank.zingales@epa.ohio.gov">frank.zingales@epa.ohio.gov</a>.

Please be advised that violations cited above will continue until the violations have been properly resolved. Failure to comply with Chapter 3734. of the ORC and rules promulgated thereunder may result in an administrative or civil penalty.

The submission of any requested information in response to this letter does not constitute waiver of the Ohio EPA's authority to seek administrative or civil penalties as provided in Chapter 3734. of the ORC.

This NOV is only associated with the areas of the operations that were inspected or the documentation reviewed and does not constitute a waiver of potential violations not discovered.

FORMER ST. JOSEPH COMMUNITY CENTER DECEMBER 2, 2021 PAGE 3 OF 3

A copy of the inspection report will be sent with a separate letter. You can find Ohio's hazardous waste rules and other information on the division's web page at: <a href="https://epa.ohio.gov/derr/compliance">https://epa.ohio.gov/derr/compliance</a>.

Should you have any questions, please contact me at (330) 963-1108, or via email at <a href="mailto:frank.zingales@epa.ohio.gov">frank.zingales@epa.ohio.gov</a>.

Sincerely,

Frank Zingales

Hazardous Waste Program

/s/ Frank Zingales

Division of Environmental Response and Revitalization

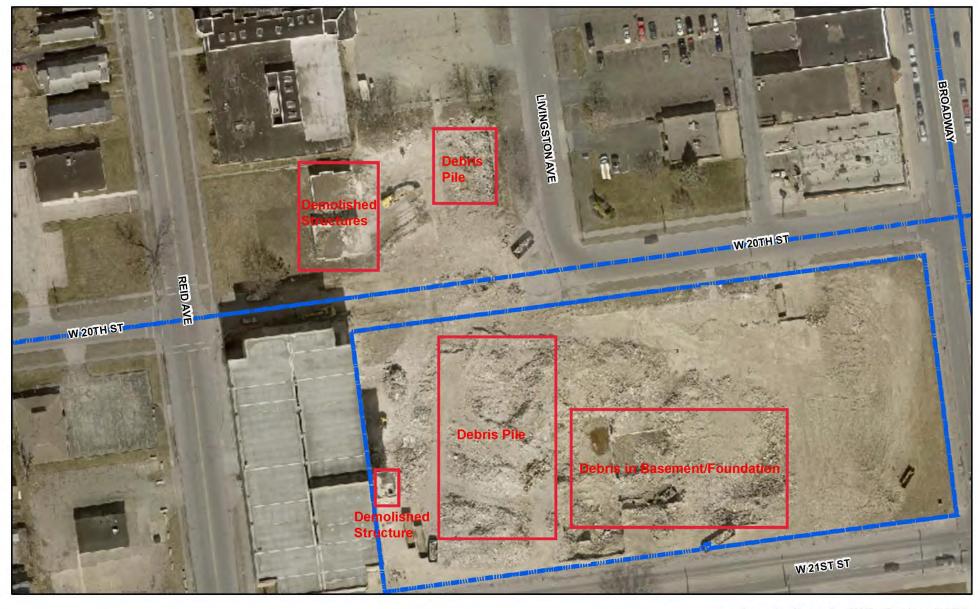
FZ/sc

**Enclosure** 

ec: Natalie Oryshkewych, Ohio EPA, NEDO, DERR Nyall McKenna, Ohio EPA, NEDO, DERR Misty Whitmyer, Ohio EPA, NEDO, DAPC Doug Dobransky, Ohio EPA, NEDO, DAPC Jennifer Carlin, Ohio EPA, NEDO, DMWM Zak Kabelen, Ohio EPA, CO, HW-DERR

# $W \longrightarrow E$

## Attachment A



Lorain County GIS, Spring 2021

Former St. Joseph Community Center 205 W. 20th St., Lorain, Ohio

**Approximate Areas of Debris** 



## **Attachment B**



Lorain County GIS, Spring 2021

Former St. Joseph Community Center 205 W. 20th St., Lorain, Ohio

**Approximate Areas of Lead Sheeting/Debris** 

# Ohio EPA Division of Environmental Response and Revitalization Hazardous Waste Program Inspection Report

Facility & Address: Former St. Joseph Community Center

205 W. 20<sup>th</sup> St.

Lorain, Ohio 44052, Lorain County

U.S. EPA ID number: OHD077765782

Ohio EPA Inspector: Frank Zingales, NEDO, DERR-HW

(330) 963-1108 / frank.zingales@epa.ohio.gov

Dates/Times: 11-5-2021 / 0950-1250 Photographs: Yes, see photograph log.

Report Prepared By: Frank Zingales

### **Pre-Inspection Information**

RCRAInfo: Previous notification as St. Joseph Hospital / OHD077765782.

U.S. EPA ECHO: Compliance reports available.

Mr. John Pardee, Pardee Environmental contacted Ohio EPA regarding demolition activities that occurred at the former St. Joseph Community Center site. Mr. Pardee was retained by the City of Lorain to assess conditions at the Facility. In particular, Mr. Pardee noted the potential presence of asbestos containing materials and lead sheeting/debris within demolition debris at the Facility.

### **Purpose of Inspection**

An unannounced Focused Compliance Inspection (FCI) was conducted at the former St. Joseph Community Center facility (hereinafter "Facility") located at 205 W. 20th St. in Lorain, Ohio on November 5, 2021. The FCI was conducted by the Ohio EPA as an evaluation of the Facility's compliance with certain provisions of the Resource Conservation and Recovery Act (RCRA) and its implementing regulations found in the Ohio Administrative Code (OAC). The FCI included an evaluation of the Facility's compliance with the regulations pertaining to the generation of hazardous waste. In addition, the FCI was conducted in response to information provided by Mr. Pardee regarding conditions at the Facility.

#### **Participants**

- Frank Zingales, Ohio EPA, NEDO, DERR-HW
- Doug Dobransky and Chris Williams, Ohio EPA, NEDO, DAPC
- John Pardee, Pardee Environmental
- Greg Landry and Brian, City of Lorain, Building and Housing
- Sanford Washington, City of Lorain, Public Safety/Service Department

### **Facility Walkthrough**

The City of Lorain obtained a search warrant to access the property compromising the Facility. The warrant was posted on a window at 1800 Livingston Avenue, Building A; see photograph log and photograph numbers 77 and 78. We entered the property from the north at 1800 Livingston Avenue and moved south across the property. Mr. Pardee identified areas of potential asbestos containing materials and lead sheeting/debris within the demolition debris. These areas were identified by Mr. Pardee using survey flags or orange marking paint, respectively. Mr. Pardee believed the lead sheeting/debris was associated with former X-ray rooms that had been located at the Facility. Note, this inspection report identifies observation related to the lead sheeting/debris within the waste demolition debris. Observations related to potential asbestos containing materials were collected through Ohio EPA-DAPC staff.

Waste demolition debris was located at five areas of the Facility as identified in Attachment A. In addition, I observed potential lead sheeting/debris commingled with demolition debris located in a pile and in demolished structures as identified in Attachment B. These areas are further described below.

At the North end of the property, I observed two partially demolished structures, each with areas of potential lead sheeting/debris. The lead sheeting/debris was located on the northeast corner of the partially demolished structures. In addition, waste demolition debris was located around the demolished structures and east of the structures. See Attachments A and B (Areas 1 and 2), photograph log and photograph numbers 1-21 and 72-76.

Adjacent to the parking garage structure, I observed a partially demolished structure with two areas of potential lead sheeting/debris. See Attachments A and B (Areas 3A and 3B), photograph log and photograph numbers 22-37.

East of the parking garage structure was a pile of waste demolition debris. I observed two areas of potential lead sheeting/debris. See Attachments A and B (Areas 4 and 5), photograph log and photograph numbers 38-52, 60-64, and 70-71.

Further east of the parking garage structure and demolition debris pile was an area where waste demolition debris had been placed into the building foundation/basement. See Attachment A, photograph log and photograph numbers 53-56 and 65-69.

Mr. Pardee collected samples of the potential lead sheeting/debris using bolt cutters when needed. Mr. Pardee donned disposable gloves to conduct sample collection activities. The samples were collected as follows with each sample being placed into a set of triple plastic bags that were labeled with sample number, date (11-5-21), and time:

 Sample L1 – sample obtained of suspected lead sheeting/debris, Area 5. The sample consisted of an approximately 10" X 10" irregularly shaped piece of

- sheeting/debris that was folded over and placed into a plastic bag. Sample time approximately 1200.
- Sample L2 sample obtained of suspected lead sheeting/debris, Area 4. The sample consisted of an approximately 6" X 4" irregularly shaped piece of sheeting/debris that was placed into a plastic bag. Sample time – approximately 1210.
- Sample L3 sample obtained of suspected lead sheeting/debris attached to wallboard, Area 3A. The sample consisted of an approximately 10" X 8" irregularly shaped piece of sheeting/debris with wallboard that was placed into a plastic bag. Sample time – approximately 1215. See photograph log and photograph numbers 57 and 58.
- Sample L4 sample obtained of suspected lead sheeting/debris, Area 1. The sample consisted of an approximately 8" X 4" irregularly shaped piece of sheeting/debris that was folded over and placed into a plastic bag. Sample time – approximately 1225. See photograph log and photograph number 59.
- All samples were maintained under the custody of Mr. Pardee. Mr. Pardee indicated the samples would be delivered to Eurofins Test America for total and TCLP RCRA metals analysis.

All structures had been demolished/partially demolished at the Facility except for the parking garage and buildings with addresses of 1859 and 1919 Reid Avenue and 1800 Livingston Avenue. Demolition debris included, but may not be limited to, concrete, concrete block, brick, pipe, rebar, conduit, wire, insulation, roofing material, plastic, carpet, wood, metal, and vinyl flooring.

End of walkthrough inspection. I then left the Facility.

#### Inspection Report Attachments

- A. Facility Map Approximate Areas of Debris
- B. Facility Map Approximate Areas of Lead Sheeting/Debris
- C. Photograph Log
- D. Site Verification Form

## Ohio EPA Photograph Log Former St. Joseph Community Center: 205 W. 20<sup>th</sup> St., Lorain, Ohio November 5, 2021 Photographs by Frank Zingales

Photo #	Photographs by Frank Zingales.				
	Pacing W. Perspective of Areas 1 and 2.				
1 2	Facing W. Perspective of Area 1.				
3	Facing SW. View of Area 1 denoted by orange marking paint.				
4-11	Close-up of lead sheeting/debris at Area 1 denoted by orange marking paint.				
12	Facing W. Perspective of Area 2.				
13&14	Facing SW. View of Area 2 denoted by orange marking paint.				
15-18	Close-up of lead sheeting/debris at Area 2 denoted by orange marking paint.				
19-21	View of lead sheeting/debris on ground at Area 2.				
22	Facing W. Perspective of Areas 3A and 3B.				
23&24	Facing SW/S. View of Area 3A (east end) denoted by orange marking paint.				
25-29	Close-up of lead sheeting/debris at Area 3A denoted by orange marking paint.				
30	Facing SW. View of Area 3A (west end) denoted by orange marking paint.				
31	Close-up of lead sheeting/debris at Area 3A denoted by orange marking paint.				
32-36	Close-up of lead sheeting/debris at Area 3B denoted by orange marking paint.				
37	Facing W. View of Area 3B denoted by orange marking paint.				
38	Facing W. Perspective of Area 4 denoted by orange marking paint.				
39-41	Close-up of lead debris in debris pile at Area 4 denoted by orange marking paint.				
42	Facing W. Perspective of Area 5 denoted by orange marking paint.				
43&44	Close-up of lead debris in debris pile at Area 5 denoted by orange marking paint.				
45	Facing W. Perspective of debris pile located east of parking garage.				
46-48	Facing N, pan E to W. View of South side of debris pile.				
49-52	Close-up of debris in debris pile, South side of debris pile.				
53	Facing E. Perspective of debris in building foundation/basement.				
54-56	Close-up of debris in building foundation/basement.				
57&58	View of sample location L3 – lead sheeting/debris at Area 3A.				
59	View of sample location L4 – lead sheeting/debris at Area 1.				
60	Facing S. Perspective of debris pile (North side) located east of parking garage.				
61&62	Close-up of debris in debris pile (North side).				
63&64	Facing W. View of ballast in debris pile (East side).				
65	Facing S. Perspective of debris in building foundation/basement.				
66	Close-up of debris in building foundation/basement.				
67	Facing E. Perspective of debris in building foundation/basement.				
68&69	Close-up of debris in building foundation/basement.				
70	Facing N. View of South side of debris pile.				
71	Facing E. View of West side of debris pile.				
72	Facing N. View of debris pile located East of lead sheeting/debris Areas 1 and 2.				
73	Close-up of debris in debris pile located East of lead sheeting/debris Areas 1 and 2.				
74-76	Facing W. View of debris at lead sheeting/debris Areas 1 and 2.				
77&78	View of warrants posted on window at 1800 Livingston Ave., Building A.				



11-5-2021 001



11-5-2021 003



11-5-2021 002



11-5-2021 004



11-5-2021 005



11-5-2021 007



11-5-2021 006



11-5-2021 008



11-5-2021 009



11-5-2021 011



11-5-2021 010



11-5-2021 012



11-5-2021 013



11-5-2021 015



11-5-2021 014



11-5-2021 016



11-5-2021 017



11-5-2021 019



11-5-2021 018



11-5-2021 020



11-5-2021 021



11-5-2021 023



11-5-2021 022



11-5-2021 024



11-5-2021 025



11-5-2021 027



11-5-2021 026



11-5-2021 028



11-5-2021 029



11-5-2021 031



11-5-2021 030



11-5-2021 032



11-5-2021 033



11-5-2021 035



11-5-2021 034



11-5-2021 036



11-5-2021 037



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11-5-2021 075



11-5-2021 074



11-5-2021 076



11-5-2021 077



11-5-2021 078

# Ohio Environmental Protection Agency

# RCRA SUBTITLE C SITE

Core Place ID (CO Use Only)

IDENTIFICATION/VERIFICATION FORM Completed verification forms should be e-mailed to <a href="mailto:EPA.RCRAInfoData@epa.ohio.gov">EPA.RCRAInfoData@epa.ohio.gov</a> Inspector's Name + District Date of Inspection (Day One) **Complaint Investigation?** ⊠ Yes □ No Frank Zingales/NEDO 11/5/21 Evaluation Type (list one): CEI, FCI, FUI, FCI Focus Area (list one if Evaluation Type is FCI): OTH, FCI **OTH** GME, OAM, FSD, CAC, CAV, or CDI UOI, UWR, ISI, CAR, CPC, IEC are the most common Site EPA ID Number EPA ID Number: **OHD077765782** Website: Site Name Name: Former St. Joseph Community Center (Optional) **Site Location Information** Street Address: 205 W. 20 St. City: Lorain State: OH County Name: Zip Code: 44052 Lorain Latitude/Longitude (decimal) Latitude/Longitude: 41.4518, -82.1674 Site Land Type Private Federal County District Indian Municipal State Other (check only one) M 1 1 11 11 NAICS code(s) **Facility Representative** First Name: Salvatore MI: Last Name: Tecce Title: Additional names can be recorded in the space **Phone Number:** Phone Number Ext: provided on the next page. E-Mail Address: Fax Number: Fax Number Ext: Provide address information if it is different than the site Street or P.O. Box: 4 Dansreau Place address. City: Middleton State: MA Zip Code: 01949 **Legal Owner and Operator** Name of Site's Legal Owner: **Date Became Owner** of the Site A7 Development Co. Inc. (mm/dd/yyyy): 03/16/2020 List Additional Owners and/or Indian Other Operators in the Comment Owner Private County District Federal Municipal State Section. Type:  $\boxtimes$ 11 Street/PO Box: 4 Dansreau Place City: Middleton State: MA Provide address information when known even if it is the same as above. Owner's Phone #: Zip Code: 01949 Country: Name of Site's Operator: **Date Became Operator** (mm/dd/yyyy): Operator Private County District Federal Indian Municipal State Other Type: Ш Street/PO Box: City: State: Operator's Phone #: Zip Code: Country:  $\boxtimes$  Yes  $\square$  No  $\square$  Undetermined at this time Violations Found? TYPE OF HANDLER (REQUIRED - MARK ANY THAT APPLY) ■ Not a HW Generator M UNKNOWN: ☐ Large Quantity Generator (LQG) LQG Consolidator of VSQG HW Cited for violation of 3745-52-11 ☐ Short-Term/Temporary Generator Small Quantity Generator (SQG) (generates from a short-term or one-time event and not from on-going processes). Check the box for the applicable generator status and provide a comment.

TYPE OF REGULATED WASTE ACTIVITY (MARK ANY THE	
Hazardous Waste Transporter	Receives Hazardous Waste from Off-site
Hazardous Waste Transfer Facility	Underground Injection Control Facility
☐ Treater, Storer or Disposer of Hazardous Waste	U.S. Importer of Hazardous Waste
Recycler of Hazardous Waste	Recognized Trader
Stores prior to recycling	☐ Importer ☐ Exporter
☐ Does not store prior to recycling☐ 72-Hour Recycler	Spent Lead-Acid Battery  Importer Exporter
Exempt Boiler and/or Industrial Furnace	☐ Importer ☐ Exporter ☐ Electronic Manifest Broker
☐ Small Quantity On-Site Burner Exemption	Liectionic Manifest Broker
☐ Smelting, Melting, Refining Furnace Exemption	
UNIVERSAL WASTE ACTIVITIES (MARK ANY THAT APPL	Y)
☐ Small Quantity Handler of Universal Waste	Destination Facility for Universal Waste
☐ Large Quantity Handler of Universal Waste	Bootington a chivorous vidoto
(accumulates 5,000 kg. or more)	
,	
INDICATE TYPE(S) OF UNIVERSAL WASTE MANAGED  ☐ Batteries	Aerosol containers
Pesticides	Antifreeze
☐ Mercury containing equipment	☐ Paint and paint-related wastes
l <del></del> -	i aint and paint-related wastes
LISED OIL ACTIVITIES (MADIC ANIVITIAT ADDIVI	
USED OIL ACTIVITIES (MARK ANY THAT APPLY)	
Used Oil Generator	
☐ Used Oil Transporter☐ Used Oil Transfer Facility	
Used Oil Processor	
Used Oil Processor	
☐ Off-Specification Used Oil Burner	
Used Oil Fuel Marketer who directs shipment of Off-Spec	Llead Oil
Used Oil Fuel Marketer who first claims the Used Oil mee	
	sis the specifications
Eligible Healthcare Facilities and Reverse Distributors: Facility I pharmaceuticals pursuant to OAC rules 3745-266-500 through 3745-266-5	nas previously notified that they are opting into managing hazardous waste 10. Check the box below to indicate the facility type.
☐ Healthcare Facility ☐ Reverse Distributor	
Eligible Academic Entities with Laboratories: Facility has previous pursuant to OAC rules 3745-52-200 through 3745-52-216. Check the box(6	usly notified that they are opting into managing laboratory hazardous waste es) below to indicate the laboratory type.
☐ College or University	
Teaching hospital that is owned by or has a formal writter	affiliation agreement with a college or university
Non-profit Institute that is owned by or has a formal writte	
	se list the codes for the federally regulated hazardous waste handled at the
	1, D003, F007, U112). If the waste codes are the same as listed in the most
COMMENTS: USE THIS AREA TO DESCRIBE WHETHER	THE INSPECTION WAS ANNOUNCED, WHETHER THE
WASTE IS STORED IN TANKS OR CONTAINERS, ETC.	
WASTE IS STORED IN TANKS OR CONTAINERS, ETC. Announced ☐ Yes ☒ No Additional Facility Rep	
WASTE IS STORED IN TANKS OR CONTAINERS, ETC. Announced ☐ Yes ☒ No Additional Facility Rep Tanks ☐ Yes ☒ No	
WASTE IS STORED IN TANKS OR CONTAINERS, ETC. Announced ☐ Yes ☒ No Additional Facility Rep	
WASTE IS STORED IN TANKS OR CONTAINERS, ETC. Announced ☐ Yes ☒ No Additional Facility Rep Tanks ☐ Yes ☒ No Containers ☐ Yes ☒ No	
WASTE IS STORED IN TANKS OR CONTAINERS, ETC. Announced Yes No Additional Facility Rep Tanks Yes No Containers Yes No  Comments:	presentatives:
WASTE IS STORED IN TANKS OR CONTAINERS, ETC. Announced ☐ Yes ☒ No Additional Facility Rep Tanks ☐ Yes ☒ No Containers ☐ Yes ☒ No	presentatives:
WASTE IS STORED IN TANKS OR CONTAINERS, ETC. Announced Yes No Additional Facility Rep Tanks Yes No Containers Yes No  Comments:	presentatives:
WASTE IS STORED IN TANKS OR CONTAINERS, ETC. Announced Yes No Additional Facility Rep Tanks Yes No Containers Yes No  Comments:	presentatives:
WASTE IS STORED IN TANKS OR CONTAINERS, ETC. Announced Yes No Additional Facility Rep Tanks Yes No Containers Yes No  Comments:	presentatives:
WASTE IS STORED IN TANKS OR CONTAINERS, ETC. Announced Yes No Additional Facility Rep Tanks Yes No Containers Yes No  Comments:	presentatives:
WASTE IS STORED IN TANKS OR CONTAINERS, ETC. Announced Yes No Additional Facility Rep Tanks Yes No Containers Yes No  Comments:	presentatives:



# **Environment Testing America**

# ANALYTICAL REPORT

Eurofins TestAmerica, Canton 4101 Shuffel Street NW North Canton, OH 44720 Tel: (330)497-9396

Laboratory Job ID: 240-159597-1 Client Project/Site: St. Joe's Hospital

For:

Pardee Environmental 47391 Garfield Road Oberlin, Ohio 44074

Attn: John Pardee

Authorized for release by: 11/15/2021 3:18:33 PM

Nicole Kalis, Project Manager I

(330)497-9396

Nicole.Kalis@Eurofinset.com

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Total Access

**Have a Question?** 



Visit us at:

www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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# **Table of Contents**

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# **Definitions/Glossary**

Client: Pardee Environmental Job ID: 240-159597-1

Project/Site: St. Joe's Hospital

**Qualifiers** 

**Metals** 

Qualifier Qualifier Description

^1+ Initial Calibration Verification (ICV) is outside acceptance limits, high biased.

U Indicates the analyte was analyzed for but not detected.

**Glossary** 

Abbreviation These commonly used abbreviations may or may not be present in this report.

Listed under the "D" column to designate that the result is reported on a dry weight basis

%R Percent Recovery

CFL Contains Free Liquid

CFU Colony Forming Unit

CNF Contains No Free Liquid

DER Duplicate Error Ratio (normalized absolute difference)

Dil Fac Dilution Factor

DL Detection Limit (DoD/DOE)

DL, RA, RE, IN Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample

DLC Decision Level Concentration (Radiochemistry)

EDL Estimated Detection Limit (Dioxin)

LOD Limit of Detection (DoD/DOE)

LOQ Limit of Quantitation (DoD/DOE)

MCL EPA recommended "Maximum Contaminant Level"

MDA Minimum Detectable Activity (Radiochemistry)

MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit
ML Minimum Level (Dioxin)
MPN Most Probable Number
MQL Method Quantitation Limit

NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

NEG Negative / Absent POS Positive / Present

PQL Practical Quantitation Limit

PRES Presumptive
QC Quality Control

RER Relative Error Ratio (Radiochemistry)

RL Reporting Limit or Requested Limit (Radiochemistry)

RPD Relative Percent Difference, a measure of the relative difference between two points

TEF Toxicity Equivalent Factor (Dioxin)
TEQ Toxicity Equivalent Quotient (Dioxin)

TNTC Too Numerous To Count

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#### **Case Narrative**

Client: Pardee Environmental
Project/Site: St. Joe's Hospital

Job ID: 240-159597-1

Job ID: 240-159597-1

**Laboratory: Eurofins TestAmerica, Canton** 

**Narrative** 

Job Narrative 240-159597-1

#### **Comments**

No additional comments.

#### Receipt

The samples were received on 11/8/2021 3:30 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.3° C.

#### Metals

Method 6010D: The initial calibration verification low (ICVL) result for batch 240-512735 was above the upper control limit for arsenic. Sample results were below the reporting limit, and have been reported.L1 EASTSIDE OF DEBRIS PILE (240-159597-1), L2 CENTER OF DEBRIS PILE (240-159597-2), L3 X-RAY LAB EAST OF PARKING GARAGE (240-159597-3) and L4 NORTH MOST X-RAY LAB (240-159597-4)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **Organic Prep**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

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# **Method Summary**

Client: Pardee Environmental Project/Site: St. Joe's Hospital

Job ID: 240-159597-1

Method	Method Description	Protocol	Laboratory
6010D	Metals (ICP)	SW846	TAL CAN
7470A	Mercury (CVAA)	SW846	TAL CAN
7471B	Mercury (CVAA)	SW846	TAL CAN
1311	TCLP Extraction	SW846	TAL CAN
3010A	Preparation, Total Metals	SW846	TAL CAN
3050B	Preparation, Metals	SW846	TAL CAN
7470A	Preparation, Mercury	SW846	TAL CAN
7471B	Preparation, Mercury	SW846	TAL CAN
Part Size Red	Particle Size Reduction Preparation	None	TAL CAN
Part Size Red	Particle Size Reduction Preparation	None	TAL CAN

#### **Protocol References:**

None = None

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

#### **Laboratory References:**

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

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# **Sample Summary**

Client: Pardee Environmental Project/Site: St. Joe's Hospital

Job ID: 240-159597-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-159597-1	L1 EASTSIDE OF DEBRIS PILE	Solid	11/05/21 12:00	11/08/21 15:30
240-159597-2	L2 CENTER OF DEBRIS PILE	Solid	11/05/21 12:10	11/08/21 15:30
240-159597-3	L3 X-RAY LAB EAST OF PARKING GARAGE	Solid	11/05/21 12:15	11/08/21 15:30
240-159597-4	L4 NORTH MOST X-RAY LAB	Solid	11/05/21 12:25	11/08/21 15:30

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# **Detection Summary**

Client: Pardee Environmental Project/Site: St. Joe's Hospital

Job ID: 240-159597-1

Lab	Sample	ID:	240-159597-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Silver	37		0.81		mg/Kg	1	_	6010D	Total/NA
Lead	64000		81		mg/Kg	100		6010D	Total/NA
Lead	730		5.0		mg/L	100		6010D	TCLP
Mercury	0.16		0.11		mg/Kg	1		7471B	Total/NA

# **Client Sample ID: L2 CENTER OF DEBRIS PILE**

**Client Sample ID: L1 EASTSIDE OF DEBRIS PILE** 

# Lab Sample ID: 240-159597-2

Analyte	Result	Qualifier RL	MDL Unit	Dil Fac	D	Method	Prep Type
Silver	22	0.70	mg/Kg	1	_	6010D	Total/NA
Lead	50000	70	mg/Kg	100		6010D	Total/NA
Lead	860	5.0	mg/L	100		6010D	TCLP

# **Client Sample ID: L3 X-RAY LAB EAST OF PARKING GARAGE**

# Lab Sample ID: 240-159597-3

Analyte	Result Qualifier	RL	MDL Unit	Dil Fac D	Method	Prep Type
Cadmium	1.4	0.34	mg/Kg		6010D	Total/NA
Silver	27	0.68	mg/Kg	1	6010D	Total/NA
Lead	46000	34	mg/Kg	50	6010D	Total/NA
Lead	880	5.0	mg/L	100	6010D	TCLP

# Client Sample ID: L4 NORTH MOST X-RAY LAB

# Lab Sample ID: 240-159597-4

Analyte	Result Qualifier	RL	MDL (	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.41	0.40	r	mg/Kg	1	_	6010D	Total/NA
Silver	13	0.80	r	mg/Kg	1		6010D	Total/NA
Lead	56000	40	r	mg/Kg	50		6010D	Total/NA
Selenium	1.7	1.6		mg/Kg	1		6010D	Total/NA
Lead	830	5.0	r	mg/L	100		6010D	TCLP

11/15/2021

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Client: Pardee Environmental Project/Site: St. Joe's Hospital

**Client Sample ID: L1 EASTSIDE OF DEBRIS PILE** Lab Sample ID: 240-159597-1

Date Collected: 11/05/21 12:00 **Matrix: Solid** 

Date Received: 11/08/21 15:30

Mercury

Method: 6010D - Metals (ICP)	Dec. !!	Ovelities.	DI.	MD	11:4	_	December	Amahmad	D!! E
Analyte		Qualifier	RL _	MUL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	16	U	16		mg/Kg		11/11/21 14:00	11/12/21 12:42	1
Cadmium	0.41	_	0.41		mg/Kg		11/11/21 14:00	11/12/21 12:42	1
Chromium	0.81	U	0.81		mg/Kg		11/11/21 14:00	11/12/21 12:42	1
Silver	37		0.81		mg/Kg		11/11/21 14:00	11/12/21 12:42	1
Arsenic	1.2	U	1.2		mg/Kg		11/11/21 14:00	11/12/21 12:42	1
Lead	64000		81		mg/Kg		11/11/21 14:00	11/15/21 12:04	100
Selenium	1.6	U	1.6		mg/Kg		11/11/21 14:00	11/12/21 12:42	1
Method: 6010D - Metals (ICP) - TO	LP								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.050	U ^1+	0.050		mg/L		11/11/21 14:00	11/12/21 15:18	1
Barium	0.50	U	0.50		mg/L		11/11/21 14:00	11/12/21 15:18	1
Cadmium	0.050	U	0.050		mg/L		11/11/21 14:00	11/12/21 15:18	1
Chromium	0.050	U	0.050		mg/L		11/11/21 14:00	11/12/21 15:18	1
Lead	730		5.0		mg/L		11/11/21 14:00	11/15/21 12:08	100
Selenium	0.050	U	0.050		mg/L		11/11/21 14:00	11/12/21 15:18	1
Silver	0.050	U	0.050		mg/L		11/11/21 14:00	11/12/21 15:18	1
Method: 7470A - Mercury (CVAA)	- TCLP								
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0020	U	0.0020		mg/L		11/11/21 14:00	11/12/21 12:03	1
Method: 7471B - Mercury (CVAA)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac

0.11

mg/Kg

0.16

11/15/2021

11/11/21 14:00 11/12/21 09:37

Job ID: 240-159597-1

Client: Pardee Environmental

Project/Site: St. Joe's Hospital

**Client Sample ID: L2 CENTER OF DEBRIS PILE** 

Lab Sample ID: 240-159597-2 Date Collected: 11/05/21 12:10 **Matrix: Solid** 

Date Received: 11/08/21 15:30

Method: 6010D - Metals (ICP) Analyte	Result	Qualifier	RL	MDI	Unit	D	Prepared	Analyzed	Dil Fac
Barium	14	U	14	INDL	mg/Kg		11/11/21 14:00	11/12/21 12:47	1
Cadmium	0.35	_	0.35		mg/Kg		11/11/21 14:00	11/12/21 12:47	1
Chromium	0.33	_	0.70		mg/Kg		11/11/21 14:00	11/12/21 12:47	1
Silver	22		0.70		mg/Kg		11/11/21 14:00	11/12/21 12:47	1
Arsenic	1.1	U	1.1		mg/Kg		11/11/21 14:00	11/12/21 12:47	1
Lead	50000		70		mg/Kg		11/11/21 14:00	11/15/21 11:34	100
Selenium	1.4	U	1.4		mg/Kg		11/11/21 14:00	11/12/21 12:47	1
Method: 6010D - Metals (ICP) - T	CLP								
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.050	U ^1+	0.050		mg/L		11/11/21 14:00	11/12/21 15:23	1
Barium	0.50	U	0.50		mg/L		11/11/21 14:00	11/12/21 15:23	1
Cadmium	0.050	U	0.050		mg/L		11/11/21 14:00	11/12/21 15:23	1
Chromium	0.050	U	0.050		mg/L		11/11/21 14:00	11/12/21 15:23	1
Lead	860		5.0		mg/L		11/11/21 14:00	11/15/21 11:38	100
Selenium	0.050	U	0.050		mg/L		11/11/21 14:00	11/12/21 15:23	1
Silver	0.050	U	0.050		mg/L		11/11/21 14:00	11/12/21 15:23	1
Method: 7470A - Mercury (CVAA	) - TCLP								
Analyte	•	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0020	U	0.0020		mg/L		11/11/21 14:00	11/12/21 12:05	1
Method: 7471B - Mercury (CVAA	<b>s</b> )				J				
Analysis	D 14	Ouglition	DI		I Imi4	_ D	Droporod	Analyzad	D:I

Job ID: 240-159597-1

Analyte	Result Qualifier	RL	MDL Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.11 U	0.11	mg/Kg	_	11/11/21 14:00	11/12/21 09:39	1

Client: Pardee Environmental Project/Site: St. Joe's Hospital

**Client Sample ID: L3 X-RAY LAB EAST OF PARKING GARAGE** Lab Sample ID: 240-159597-3

Date Collected: 11/05/21 12:15

**Matrix: Solid** 

Job ID: 240-159597-1

Date Received: 11/08/21 15:30

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	14	U	14		mg/Kg		11/11/21 14:00	11/12/21 12:51	
Cadmium	1.4		0.34		mg/Kg		11/11/21 14:00	11/12/21 12:51	
Chromium	0.68	U	0.68		mg/Kg		11/11/21 14:00	11/12/21 12:51	
Silver	27		0.68		mg/Kg		11/11/21 14:00	11/12/21 12:51	
Arsenic	1.0	U	1.0		mg/Kg		11/11/21 14:00	11/12/21 12:51	•
Lead	46000		34		mg/Kg		11/11/21 14:00	11/12/21 18:49	50
Selenium	1.4	Ü	1.4		mg/Kg		11/11/21 14:00	11/12/21 12:51	
Method: 6010D - Metals (ICP) - T	CLP								
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Arsenic	0.050	U ^1+	0.050		mg/L		11/11/21 14:00	11/12/21 15:27	-
Barium	0.50	U	0.50		mg/L		11/11/21 14:00	11/12/21 15:27	
Cadmium	0.050	U	0.050		mg/L		11/11/21 14:00	11/12/21 15:27	
Chromium	0.050	U	0.050		mg/L		11/11/21 14:00	11/12/21 15:27	
Lead	880		5.0		mg/L		11/11/21 14:00	11/15/21 12:13	10
Selenium	0.050	U	0.050		mg/L		11/11/21 14:00	11/12/21 15:27	
Silver	0.050	U	0.050		mg/L		11/11/21 14:00	11/12/21 15:27	
Method: 7470A - Mercury (CVAA	) - TCLP								
Analyte	•	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Mercury	0.0020	U	0.0020		mg/L		11/11/21 14:00	11/12/21 12:07	•
Method: 7471B - Mercury (CVAA	)								
Analyte	•	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.10	U	0.10		mg/Kg		11/11/21 14:00	11/12/21 09:41	

11/15/2021

Client: Pardee Environmental

Job ID: 240-159597-1 Project/Site: St. Joe's Hospital

**Client Sample ID: L4 NORTH MOST X-RAY LAB** 

Lab Sample ID: 240-159597-4 Date Collected: 11/05/21 12:25 **Matrix: Solid** 

Date Received: 11/08/21 15:30

Analyte

Mercury

Method: 6010D - Metals (ICP) Analyte	Result	Qualifier	RL	MDI	Unit	D	Prepared	Analyzed	Dil Fac
Barium	16	U	16		mg/Kg		11/11/21 14:00	11/12/21 12:56	
Cadmium	0.41	•	0.40		mg/Kg		11/11/21 14:00	11/12/21 12:56	1
Chromium	0.80	U	0.80		mg/Kg		11/11/21 14:00	11/12/21 12:56	1
Silver	13		0.80		mg/Kg		11/11/21 14:00	11/12/21 12:56	1
Arsenic	1.2	U	1.2		mg/Kg		11/11/21 14:00	11/12/21 12:56	1
Lead	56000		40		mg/Kg		11/11/21 14:00	11/12/21 18:53	50
Selenium	1.7		1.6		mg/Kg		11/11/21 14:00	11/12/21 12:56	1
Barium Cadmium	0.50 0.050		0.50 0.050		mg/L mg/L		11/11/21 14:00 11/11/21 14:00	11/12/21 15:32 11/12/21 15:32	
Analyte Arsenic		Qualifier U ^1+	0.050	MDL	Unit mg/L	<u>D</u>	Prepared 11/11/21 14:00	Analyzed 11/12/21 15:32	Dil Fac
Cadmium	0.050	U	0.050		_		11/11/21 14:00	11/12/21 15:32	1
Chromium	0.050	U	0.050		mg/L		11/11/21 14:00	11/12/21 15:32	1
Lead	830		5.0		mg/L		11/11/21 14:00	11/15/21 12:17	100
Selenium	0.050	U	0.050		mg/L		11/11/21 14:00	11/12/21 15:32	1
Silver	0.050	U	0.050		mg/L		11/11/21 14:00	11/12/21 15:32	1
	) - TCLP								
Method: 7470A - Mercury (CVAA	, - I <del>-</del> I				11!4	D	Dropored	A malumad	Dil Fac
Method: 7470A - Mercury (CVAA Analyte	-	Qualifier	RL	MDL	Unit	U	Prepared	Analyzed	DII Fac

RL

0.097

MDL Unit

mg/Kg

Result Qualifier

0.097 U

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11/15/2021

Prepared

Analyzed

11/11/21 14:00 11/12/21 09:43

Dil Fac

Client: Pardee Environmental Job ID: 240-159597-1

Project/Site: St. Joe's Hospital

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 240-512473/2-A **Client Sample ID: Method Blank** 

**Matrix: Solid** 

**Prep Type: Total/NA Prep Batch: 512473 Analysis Batch: 512735** 

	MB	МВ							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.50	U	0.50		mg/L		11/11/21 14:00	11/12/21 11:25	1
Cadmium	0.050	U	0.050		mg/L		11/11/21 14:00	11/12/21 11:25	1
Chromium	0.050	U	0.050		mg/L		11/11/21 14:00	11/12/21 11:25	1
Arsenic	0.050	U ^1+	0.050		mg/L		11/11/21 14:00	11/12/21 11:25	1
Lead	0.050	U	0.050		mg/L		11/11/21 14:00	11/12/21 11:25	1
Selenium	0.050	U	0.050		mg/L		11/11/21 14:00	11/12/21 11:25	1
Silver	0.050	U	0.050		mg/L		11/11/21 14:00	11/12/21 11:25	1

Lab Sample ID: LCS 240-512473/3-A **Client Sample ID: Lab Control Sample Matrix: Solid Prep Type: Total/NA** 

**Analysis Batch: 512735 Prep Batch: 512473** LCS LCS Snika

Opike	LOO	LUU				/uixco.	
Added	Result	Qualifier	Unit	D	%Rec	Limits	
2.00	1.96		mg/L		98	50 - 150	
1.00	0.999		mg/L		100	50 - 150	
1.00	0.975		mg/L		97	50 - 150	
2.00	2.13	^1+	mg/L		107	50 - 150	
1.00	0.909		mg/L		91	50 - 150	
2.00	2.10		mg/L		105	50 - 150	
0.100	0.107		mg/L		107	50 <sub>-</sub> 150	
	2.00 1.00 1.00 2.00 1.00 2.00	Added         Result           2.00         1.96           1.00         0.999           1.00         0.975           2.00         2.13           1.00         0.909           2.00         2.10	Added         Result         Qualifier           2.00         1.96           1.00         0.999           1.00         0.975           2.00         2.13         ^1+           1.00         0.909           2.00         2.10	Added         Result         Qualifier         Unit           2.00         1.96         mg/L           1.00         0.999         mg/L           1.00         0.975         mg/L           2.00         2.13         ^1+         mg/L           1.00         0.909         mg/L           2.00         2.10         mg/L	Added         Result         Qualifier         Unit         D           2.00         1.96         mg/L         mg/L           1.00         0.999         mg/L         mg/L           1.00         0.975         mg/L         mg/L           2.00         2.13         ^1+         mg/L           1.00         0.909         mg/L         mg/L           2.00         2.10         mg/L	Added         Result         Qualifier         Unit         D         %Rec           2.00         1.96         mg/L         98           1.00         0.999         mg/L         100           1.00         0.975         mg/L         97           2.00         2.13         ^1+         mg/L         107           1.00         0.909         mg/L         91           2.00         2.10         mg/L         105	Added         Result         Qualifier         Unit         D         %Rec         Limits           2.00         1.96         mg/L         98         50 - 150           1.00         0.999         mg/L         100         50 - 150           1.00         0.975         mg/L         97         50 - 150           2.00         2.13         ^1+         mg/L         107         50 - 150           1.00         0.909         mg/L         91         50 - 150           2.00         2.10         mg/L         105         50 - 150

Lab Sample ID: MB 240-512539/1-A **Client Sample ID: Method Blank Prep Type: Total/NA** 

**Matrix: Solid** 

**Analysis Batch: 512737** 

_	MB	MB						_	
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	20	U	20		mg/Kg		11/11/21 14:00	11/12/21 11:16	1
Cadmium	0.50	U	0.50		mg/Kg		11/11/21 14:00	11/12/21 11:16	1
Chromium	1.0	U	1.0		mg/Kg		11/11/21 14:00	11/12/21 11:16	1
Arsenic	1.5	U	1.5		mg/Kg		11/11/21 14:00	11/12/21 11:16	1
Lead	1.0	U	1.0		mg/Kg		11/11/21 14:00	11/12/21 11:16	1
Selenium	2.0	U	2.0		mg/Kg		11/11/21 14:00	11/12/21 11:16	1
Silver	1.0	U	1.0		mg/Kg		11/11/21 14:00	11/12/21 11:16	1

Lab Sample ID: LCS 240-512539/2-A **Client Sample ID: Lab Control Sample Matrix: Solid** Prep Type: Total/NA

Analysis Batch: 512737							Prep Batch: 512539
	Spike	LCS	LCS				%Rec.
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
Barium	200	194		mg/Kg		97	80 - 120
Cadmium	100	99.9		mg/Kg		100	80 - 120
Chromium	100	98.4		mg/Kg		98	80 - 120
Arsenic	200	202		mg/Kg		101	80 - 120
Lead	100	96.9		mg/Kg		97	80 - 120
Selenium	200	192		mg/Kg		96	80 - 120
Silver	10.0	9.84		ma/Ka		98	80 - 120

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**Prep Batch: 512539** 

Client: Pardee Environmental Job ID: 240-159597-1

Project/Site: St. Joe's Hospital

Method: 6010D - Metals (ICP) (Continued)

Lab Sample ID: LB 240-512379/1-B Client Sample ID: Method Blank

**Matrix: Solid** 

**Analysis Batch: 512735** 

**Prep Type: TCLP** Prep Batch: 512473

	LB	LB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.50	U	0.50		mg/L		11/11/21 14:00	11/12/21 11:13	1
Cadmium	0.050	U	0.050		mg/L		11/11/21 14:00	11/12/21 11:13	1
Chromium	0.050	U	0.050		mg/L		11/11/21 14:00	11/12/21 11:13	1
Arsenic	0.050	U ^1+	0.050		mg/L		11/11/21 14:00	11/12/21 11:13	1
Lead	0.050	U	0.050		mg/L		11/11/21 14:00	11/12/21 11:13	1
Selenium	0.050	U	0.050		mg/L		11/11/21 14:00	11/12/21 11:13	1
Silver	0.050	U	0.050		mg/L		11/11/21 14:00	11/12/21 11:13	1
_									

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 240-512475/2-A **Client Sample ID: Method Blank Prep Type: Total/NA** 

**Matrix: Solid** 

**Analysis Batch: 512739** 

MB MB

LB LB

Analyte Result Qualifier RL **MDL** Unit Dil Fac Prepared Analyzed 0.0020 U 0.0020 11/11/21 14:00 11/12/21 11:41 Mercury mg/L

Lab Sample ID: LCS 240-512475/3-A **Client Sample ID: Lab Control Sample Matrix: Solid** Prep Type: Total/NA

**Analysis Batch: 512739** 

**Prep Batch: 512475** LCS LCS %Rec.

Spike Added **Result Qualifier** Unit D %Rec Limits Analyte 0.00500 0.00495 99 80 - 120 Mercury mg/L

Lab Sample ID: LB 240-512379/1-C **Client Sample ID: Method Blank** 

**Matrix: Solid** 

**Analysis Batch: 512739** 

**Prep Type: TCLP** Prep Batch: 512475

**Prep Batch: 512475** 

Result Qualifier **MDL** Unit Analyte RLPrepared **Analyzed** Dil Fac Mercury 0.0020 U 0.0020 mg/L 11/11/21 14:00 11/12/21 11:39

Method: 7471B - Mercury (CVAA)

Lab Sample ID: MB 240-512544/1-A **Client Sample ID: Method Blank** 

**Matrix: Solid** 

**Analysis Batch: 512691** 

**Prep Type: Total/NA** Prep Batch: 512544 MB MB

RL **Analyte Result Qualifier MDL** Unit **Dil Fac** Prepared **Analyzed** 0.10 11/11/21 14:00 11/12/21 09:09 Mercury 0.10 U mg/Kg

Lab Sample ID: LCS 240-512544/2-A **Client Sample ID: Lab Control Sample Matrix: Solid** 

Analysis Batch: 512691

**Prep Type: Total/NA Prep Batch: 512544** 

LCS LCS %Rec. Spike Added Limits Analyte Result Qualifier Unit D %Rec Mercury 0.833 0.819 mg/Kg 98 80 - 120

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# **QC Association Summary**

Client: Pardee Environmental Project/Site: St. Joe's Hospital

Job ID: 240-159597-1

### **Metals**

### **Processed Batch: 512268**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159597-1	L1 EASTSIDE OF DEBRIS PILE	Total/NA	Solid	Part Size Red	
240-159597-2	L2 CENTER OF DEBRIS PILE	Total/NA	Solid	Part Size Red	
240-159597-3	L3 X-RAY LAB EAST OF PARKING GARAGE	Total/NA	Solid	Part Size Red	
240-159597-4	L4 NORTH MOST X-RAY LAB	Total/NA	Solid	Part Size Red	

### **Processed Batch: 512269**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159597-1	L1 EASTSIDE OF DEBRIS PILE	TCLP	Solid	Part Size Red	
240-159597-2	L2 CENTER OF DEBRIS PILE	TCLP	Solid	Part Size Red	
240-159597-3	L3 X-RAY LAB EAST OF PARKING GARAGE	TCLP	Solid	Part Size Red	
240-159597-4	L4 NORTH MOST X-RAY LAB	TCLP	Solid	Part Size Red	

#### Leach Batch: 512379

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159597-1	L1 EASTSIDE OF DEBRIS PILE	TCLP	Solid	1311	512269
240-159597-2	L2 CENTER OF DEBRIS PILE	TCLP	Solid	1311	512269
240-159597-3	L3 X-RAY LAB EAST OF PARKING GARAGE	TCLP	Solid	1311	512269
240-159597-4	L4 NORTH MOST X-RAY LAB	TCLP	Solid	1311	512269
LB 240-512379/1-B	Method Blank	TCLP	Solid	1311	
LB 240-512379/1-C	Method Blank	TCLP	Solid	1311	

#### **Prep Batch: 512473**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159597-1	L1 EASTSIDE OF DEBRIS PILE	TCLP	Solid	3010A	512379
240-159597-2	L2 CENTER OF DEBRIS PILE	TCLP	Solid	3010A	512379
240-159597-3	L3 X-RAY LAB EAST OF PARKING GARAGE	TCLP	Solid	3010A	512379
240-159597-4	L4 NORTH MOST X-RAY LAB	TCLP	Solid	3010A	512379
LB 240-512379/1-B	Method Blank	TCLP	Solid	3010A	512379
MB 240-512473/2-A	Method Blank	Total/NA	Solid	3010A	
LCS 240-512473/3-A	Lab Control Sample	Total/NA	Solid	3010A	

### **Prep Batch: 512475**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159597-1	L1 EASTSIDE OF DEBRIS PILE	TCLP	Solid	7470A	512379
240-159597-2	L2 CENTER OF DEBRIS PILE	TCLP	Solid	7470A	512379
240-159597-3	L3 X-RAY LAB EAST OF PARKING GARAGE	TCLP	Solid	7470A	512379
240-159597-4	L4 NORTH MOST X-RAY LAB	TCLP	Solid	7470A	512379
LB 240-512379/1-C	Method Blank	TCLP	Solid	7470A	512379
MB 240-512475/2-A	Method Blank	Total/NA	Solid	7470A	
LCS 240-512475/3-A	Lab Control Sample	Total/NA	Solid	7470A	

#### **Prep Batch: 512539**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159597-1	L1 EASTSIDE OF DEBRIS PILE	Total/NA	Solid	3050B	512268
240-159597-2	L2 CENTER OF DEBRIS PILE	Total/NA	Solid	3050B	512268
240-159597-3	L3 X-RAY LAB EAST OF PARKING GARAGE	Total/NA	Solid	3050B	512268
240-159597-4	L4 NORTH MOST X-RAY LAB	Total/NA	Solid	3050B	512268
MB 240-512539/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 240-512539/2-A	Lab Control Sample	Total/NA	Solid	3050B	

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# **QC Association Summary**

Client: Pardee Environmental Project/Site: St. Joe's Hospital

**Metals** 

**Prep Batch: 512544** 

Lab Sample ID 240-159597-1	Client Sample ID L1 EASTSIDE OF DEBRIS PILE	Prep Type Total/NA	Matrix Solid	Method 7471B	Prep Batch 512268
240-159597-2	L2 CENTER OF DEBRIS PILE	Total/NA	Solid	7471B	512268
240-159597-3	L3 X-RAY LAB EAST OF PARKING GARAGE	Total/NA	Solid	7471B	512268
240-159597-4	L4 NORTH MOST X-RAY LAB	Total/NA	Solid	7471B	512268
MB 240-512544/1-A	Method Blank	Total/NA	Solid	7471B	
LCS 240-512544/2-A	Lab Control Sample	Total/NA	Solid	7471B	

**Analysis Batch: 512691** 

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159597-1	L1 EASTSIDE OF DEBRIS PILE	Total/NA	Solid	7471B	512544
240-159597-2	L2 CENTER OF DEBRIS PILE	Total/NA	Solid	7471B	512544
240-159597-3	L3 X-RAY LAB EAST OF PARKING GARAGE	Total/NA	Solid	7471B	512544
240-159597-4	L4 NORTH MOST X-RAY LAB	Total/NA	Solid	7471B	512544
MB 240-512544/1-A	Method Blank	Total/NA	Solid	7471B	512544
LCS 240-512544/2-A	Lab Control Sample	Total/NA	Solid	7471B	512544

**Analysis Batch: 512735** 

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159597-1	L1 EASTSIDE OF DEBRIS PILE	TCLP	Solid	6010D	512473
240-159597-2	L2 CENTER OF DEBRIS PILE	TCLP	Solid	6010D	512473
240-159597-3	L3 X-RAY LAB EAST OF PARKING GARAGE	TCLP	Solid	6010D	512473
240-159597-4	L4 NORTH MOST X-RAY LAB	TCLP	Solid	6010D	512473
LB 240-512379/1-B	Method Blank	TCLP	Solid	6010D	512473
MB 240-512473/2-A	Method Blank	Total/NA	Solid	6010D	512473
LCS 240-512473/3-A	Lab Control Sample	Total/NA	Solid	6010D	512473

**Analysis Batch: 512737** 

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159597-1	L1 EASTSIDE OF DEBRIS PILE	Total/NA	Solid	6010D	512539
240-159597-2	L2 CENTER OF DEBRIS PILE	Total/NA	Solid	6010D	512539
240-159597-3	L3 X-RAY LAB EAST OF PARKING GARAGE	Total/NA	Solid	6010D	512539
240-159597-3	L3 X-RAY LAB EAST OF PARKING GARAGE	Total/NA	Solid	6010D	512539
240-159597-4	L4 NORTH MOST X-RAY LAB	Total/NA	Solid	6010D	512539
240-159597-4	L4 NORTH MOST X-RAY LAB	Total/NA	Solid	6010D	512539
MB 240-512539/1-A	Method Blank	Total/NA	Solid	6010D	512539
LCS 240-512539/2-A	Lab Control Sample	Total/NA	Solid	6010D	512539

**Analysis Batch: 512739** 

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159597-1	L1 EASTSIDE OF DEBRIS PILE	TCLP	Solid	7470A	512475
240-159597-2	L2 CENTER OF DEBRIS PILE	TCLP	Solid	7470A	512475
240-159597-3	L3 X-RAY LAB EAST OF PARKING GARAGE	TCLP	Solid	7470A	512475
240-159597-4	L4 NORTH MOST X-RAY LAB	TCLP	Solid	7470A	512475
LB 240-512379/1-C	Method Blank	TCLP	Solid	7470A	512475
MB 240-512475/2-A	Method Blank	Total/NA	Solid	7470A	512475
LCS 240-512475/3-A	Lab Control Sample	Total/NA	Solid	7470A	512475

**Analysis Batch: 513015** 

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159597-1	L1 EASTSIDE OF DEBRIS PILE	TCLP	Solid	6010D	512473
240-159597-1	L1 EASTSIDE OF DEBRIS PILE	Total/NA	Solid	6010D	512539

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Job ID: 240-159597-1

# **QC Association Summary**

Client: Pardee Environmental
Project/Site: St. Joe's Hospital
Job ID: 240-159597-1

# **Metals (Continued)**

### **Analysis Batch: 513015 (Continued)**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159597-2	L2 CENTER OF DEBRIS PILE	TCLP	Solid	6010D	512473
240-159597-2	L2 CENTER OF DEBRIS PILE	Total/NA	Solid	6010D	512539
240-159597-3	L3 X-RAY LAB EAST OF PARKING GARAGE	TCLP	Solid	6010D	512473
240-159597-4	L4 NORTH MOST X-RAY LAB	TCLP	Solid	6010D	512473

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Client: Pardee Environmental Project/Site: St. Joe's Hospital

**Client Sample ID: L1 EASTSIDE OF DEBRIS PILE** 

Lab Sample ID: 240-159597-1 Date Collected: 11/05/21 12:00 **Matrix: Solid** 

Date Received: 11/08/21 15:30

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
TCLP	Processed	Part Size Red			512269	11/10/21 09:21	POP	TAL CAN
TCLP	Leach	1311			512379	11/10/21 17:35	DRJ	TAL CAN
TCLP	Prep	3010A			512473	11/11/21 14:00	SHB	TAL CAN
TCLP	Analysis	6010D		1	512735	11/12/21 15:18	DSH	TAL CAN
TCLP	Processed	Part Size Red			512269	11/10/21 09:21	POP	TAL CAN
TCLP	Leach	1311			512379	11/10/21 17:35	DRJ	TAL CAN
TCLP	Prep	3010A			512473	11/11/21 14:00	SHB	TAL CAN
TCLP	Analysis	6010D		100	513015	11/15/21 12:08	RKT	TAL CAN
Total/NA	Processed	Part Size Red			512268	11/10/21 09:20	POP	TAL CAN
Total/NA	Prep	3050B			512539	11/11/21 14:00	DEE	TAL CAN
Total/NA	Analysis	6010D		100	513015	11/15/21 12:04	RKT	TAL CAN
Total/NA	Processed	Part Size Red			512268	11/10/21 09:20	POP	TAL CAN
Total/NA	Prep	3050B			512539	11/11/21 14:00	DEE	TAL CAN
Total/NA	Analysis	6010D		1	512737	11/12/21 12:42	RKT	TAL CAN
TCLP	Processed	Part Size Red			512269	11/10/21 09:21	POP	TAL CAN
TCLP	Leach	1311			512379	11/10/21 17:35	DRJ	TAL CAN
TCLP	Prep	7470A			512475	11/11/21 14:00	SHB	TAL CAN
TCLP	Analysis	7470A		1	512739	11/12/21 12:03	MRL	TAL CAN
Total/NA	Processed	Part Size Red			512268	11/10/21 09:20	POP	TAL CAN
Total/NA	Prep	7471B			512544	11/11/21 14:00	DEE	TAL CAN
Total/NA	Analysis	7471B		1	512691	11/12/21 09:37	MRL	TAL CAN

Client Sample ID: L2 CENTER OF DEBRIS PILE

Date Collected: 11/05/21 12:10

Date Received: 11/08/21 15:30

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
TCLP	Processed	Part Size Red			512269	11/10/21 09:21	POP	TAL CAN
TCLP	Leach	1311			512379	11/10/21 17:35	DRJ	TAL CAN
TCLP	Prep	3010A			512473	11/11/21 14:00	SHB	TAL CAN
TCLP	Analysis	6010D		1	512735	11/12/21 15:23	DSH	TAL CAN
TCLP	Processed	Part Size Red			512269	11/10/21 09:21	POP	TAL CAN
TCLP	Leach	1311			512379	11/10/21 17:35	DRJ	TAL CAN
TCLP	Prep	3010A			512473	11/11/21 14:00	SHB	TAL CAN
TCLP	Analysis	6010D		100	513015	11/15/21 11:38	RKT	TAL CAN
Total/NA	Processed	Part Size Red			512268	11/10/21 09:20	POP	TAL CAN
Total/NA	Prep	3050B			512539	11/11/21 14:00	DEE	TAL CAN
Total/NA	Analysis	6010D		100	513015	11/15/21 11:34	RKT	TAL CAN
Total/NA	Processed	Part Size Red			512268	11/10/21 09:20	POP	TAL CAN
Total/NA	Prep	3050B			512539	11/11/21 14:00	DEE	TAL CAN
Total/NA	Analysis	6010D		1	512737	11/12/21 12:47	RKT	TAL CAN
TCLP	Processed	Part Size Red			512269	11/10/21 09:21	POP	TAL CAN
TCLP	Leach	1311			512379	11/10/21 17:35	DRJ	TAL CAN
TCLP	Prep	7470A			512475	11/11/21 14:00	SHB	TAL CAN
TCLP	Analysis	7470A		1	512739	11/12/21 12:05	MRL	TAL CAN

Lab Sample ID: 240-159597-2

**Matrix: Solid** 

### **Lab Chronicle**

Client: Pardee Environmental Job ID: 240-159597-1

Project/Site: St. Joe's Hospital

Date Received: 11/08/21 15:30

Client Sample ID: L2 CENTER OF DEBRIS PILE

Lab Sample ID: 240-159597-2 Date Collected: 11/05/21 12:10 **Matrix: Solid** 

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Processed	Part Size Red			512268	11/10/21 09:20	POP	TAL CAN
Total/NA	Prep	7471B			512544	11/11/21 14:00	DEE	TAL CAN
Total/NA	Analysis	7471B		1	512691	11/12/21 09:39	MRL	TAL CAN

Client Sample ID: L3 X-RAY LAB EAST OF PARKING GARAGE

Lab Sample ID: 240-159597-3

**Matrix: Solid** 

Date Collected: 11/05/21 12:15 Date Received: 11/08/21 15:30

_	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
TCLP	Processed	Part Size Red			512269	11/10/21 09:21	POP	TAL CAN
TCLP	Leach	1311			512379	11/10/21 17:35	DRJ	TAL CAN
TCLP	Prep	3010A			512473	11/11/21 14:00	SHB	TAL CAN
TCLP	Analysis	6010D		1	512735	11/12/21 15:27	DSH	TAL CAN
TCLP	Processed	Part Size Red			512269	11/10/21 09:21	POP	TAL CAN
TCLP	Leach	1311			512379	11/10/21 17:35	DRJ	TAL CAN
TCLP	Prep	3010A			512473	11/11/21 14:00	SHB	TAL CAN
TCLP	Analysis	6010D		100	513015	11/15/21 12:13	RKT	TAL CAN
Total/NA	Processed	Part Size Red			512268	11/10/21 09:20	POP	TAL CAN
Total/NA	Prep	3050B			512539	11/11/21 14:00	DEE	TAL CAN
Total/NA	Analysis	6010D		1	512737	11/12/21 12:51	RKT	TAL CAN
Total/NA	Processed	Part Size Red			512268	11/10/21 09:20	POP	TAL CAN
Total/NA	Prep	3050B			512539	11/11/21 14:00	DEE	TAL CAN
Total/NA	Analysis	6010D		50	512737	11/12/21 18:49	RKT	TAL CAN
TCLP	Processed	Part Size Red			512269	11/10/21 09:21	POP	TAL CAN
TCLP	Leach	1311			512379	11/10/21 17:35	DRJ	TAL CAN
TCLP	Prep	7470A			512475	11/11/21 14:00	SHB	TAL CAN
TCLP	Analysis	7470A		1	512739	11/12/21 12:07	MRL	TAL CAN
Total/NA	Processed	Part Size Red			512268	11/10/21 09:20	POP	TAL CAN
Total/NA	Prep	7471B			512544	11/11/21 14:00	DEE	TAL CAN
Total/NA	Analysis	7471B		1	512691	11/12/21 09:41	MRL	TAL CAN

Client Sample ID: L4 NORTH MOST X-RAY LAB

Lab Sample ID: 240-159597-4

**Matrix: Solid** 

Date Collected: 11/05/21 12:25 Date Received: 11/08/21 15:30

_	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
TCLP	Processed	Part Size Red			512269	11/10/21 09:21	POP	TAL CAN
TCLP	Leach	1311			512379	11/10/21 17:35	DRJ	TAL CAN
TCLP	Prep	3010A			512473	11/11/21 14:00	SHB	TAL CAN
TCLP	Analysis	6010D		1	512735	11/12/21 15:32	DSH	TAL CAN
TCLP	Processed	Part Size Red			512269	11/10/21 09:21	POP	TAL CAN
TCLP	Leach	1311			512379	11/10/21 17:35	DRJ	TAL CAN
TCLP	Prep	3010A			512473	11/11/21 14:00	SHB	TAL CAN
TCLP	Analysis	6010D		100	513015	11/15/21 12:17	RKT	TAL CAN
Total/NA	Processed	Part Size Red			512268	11/10/21 09:20	POP	TAL CAN
Total/NA	Prep	3050B			512539	11/11/21 14:00	DEE	TAL CAN
Total/NA	Analysis	6010D		1	512737	11/12/21 12:56	RKT	TAL CAN

Eurofins TestAmerica, Canton

11/15/2021

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# **Lab Chronicle**

Client: Pardee Environmental Job ID: 240-159597-1

Project/Site: St. Joe's Hospital

Client Sample ID: L4 NORTH MOST X-RAY LAB

Lab Sample ID: 240-159597-4

Date Collected: 11/05/21 12:25 Matrix: Solid

Date Received: 11/08/21 15:30

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Processed	Part Size Red			512268	11/10/21 09:20	POP	TAL CAN
Total/NA	Prep	3050B			512539	11/11/21 14:00	DEE	TAL CAN
Total/NA	Analysis	6010D		50	512737	11/12/21 18:53	RKT	TAL CAN
TCLP	Processed	Part Size Red			512269	11/10/21 09:21	POP	TAL CAN
TCLP	Leach	1311			512379	11/10/21 17:35	DRJ	TAL CAN
TCLP	Prep	7470A			512475	11/11/21 14:00	SHB	TAL CAN
TCLP	Analysis	7470A		1	512739	11/12/21 12:09	MRL	TAL CAN
Total/NA	Processed	Part Size Red			512268	11/10/21 09:20	POP	TAL CAN
Total/NA	Prep	7471B			512544	11/11/21 14:00	DEE	TAL CAN
Total/NA	Analysis	7471B		1	512691	11/12/21 09:43	MRL	TAL CAN

#### **Laboratory References:**

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

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# **Accreditation/Certification Summary**

Client: Pardee Environmental

Project/Site: St. Joe's Hospital

Job ID: 240-159597-1

# **Laboratory: Eurofins TestAmerica, Canton**

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority Program		Identification Number	<b>Expiration Date</b>	
California	State	2927	02-23-22	
Connecticut	State	PH-0590	12-31-21	
Florida	NELAP	E87225	06-30-22	
Georgia	State	4062	02-23-22	
Illinois	NELAP	200004	07-31-22	
lowa	State	421	06-01-23	
Kansas	NELAP	E-10336	04-30-22	
Kentucky (UST)	State	112225	02-23-22	
Kentucky (WW)	State	KY98016	12-31-21	
Minnesota	NELAP	OH00048	12-31-21	
Minnesota (Petrofund)	State	3506	08-01-23	
New Jersey	NELAP	OH001	06-30-22	
New York	NELAP	10975	03-31-22	
Ohio VAP	State	CL0024	12-21-23	
Oregon	NELAP	4062	02-23-22	
Pennsylvania	NELAP	68-00340	08-31-22	
Texas	NELAP	T104704517-18-10	08-31-22	
Virginia	NELAP	11570	09-14-22	
Washington	State	C971	01-12-22	
West Virginia DEP	State	210	12-31-21	

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Sompany Name: Partee Environmental Telling Rd.	Project Manager The Const	Sito Contact	Doctor	COC No
47391 Car Hold Rd.		T	Corrier	300
Jin Abouth	1 2	$\top$	Carrier.	
	CALENDAR DAYS WORKING DAYS	40		For Lab Use Only:
ie:	1 from Bel	-		Walk-in Client:
Project Name: St. 7 30 Jul(015)	2 weeks A SUDWAS	/A)		Lab Sampling:
12	2 days Mach			Job / SDG No.:
Sample Identification	Sample Sample (C=Comp.) Mafrix Con.	med benefiii SM mrohe イインア M AF/J〉		O change of the control of the contr
'ile	1 12:00 6 Metal			Cample Checker Notes.
obols pile	11-5-4 12:10 0 6 Metal 1	XXX		
y Garage	11.5.21 12:13 6 12:11	×××		
	ی	XX		
			240-159597 Chain of Custody	
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other	daOH; 6≈ Other			
Obssible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please Lis Comments Section if the lab is to dispose of the sample.	Please List any EPA Waste Codes for the sample in the		Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)	d longer than 1 month)
Non-Hazard Rammable Skin Irritant	Poison 8 Unknown	X Return to Client	Disposal by Lab	Months
special Instructions/QC Requirements & Comments:				
Intact: Pres No	Custody Seal No.:	ooler Jemp. ("	Corr'd:	Therm ID No.:
Relinquished by Com	Darke ENV. 11108 15.	30 Received by:	Andrew X	Date/Time: 1331
	Company My Could Fine	1) Received by	Company:	Date/Time: // /5/30
Refinquished by Com	Company: Date/fime:	Received in Laboratory by:	Company:	Date/Time:

Page 21 of 22

11/15/2021

Eurofins TestAmerica Canton Sample Receipt Form/Narrative	Login # : 159 597
Canton Facility	15 15 .
Client Parale foul. Site Name	Cooler unpacked by:
Cooler Received on 11-8-21 Opened on 11-8-21	Jann - Dun
FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off (TestAmerica Courier)	Other
Receipt After-hours: Drop-off Date/Time Storage Location	
TestAmerica Cooler # Foam Box Client Cooler Box Other	
Packing material used: Bubble Wrap Foam Plastic Bag None Other	
COOLANT: Wet Ice Blue Ice Dry Ice Water None	
1. Cooler temperature upon receipt  ID See Multiple Cooler For	
IR GUN# IR-14 (CF +0.1 °C) Observed Cooler Temp °C Corrected Cooler TR GUN #IR-15 (CF +0.2 °C) Observed Cooler Temp. °C Corrected Cooler	
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity	No No
-Were the seals on the outside of the cooler(s) signed & dated?	No NA Tests that are not
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	checked for pH by
-Were tamper/custody seals intact and uncompromised? Yes	Receiving.
3. Shippers' packing slip attached to the cooler(s)?  Yes	( )   vo.
4. Did custody papers accompany the sample(s)?	No Oil and Grease
5. Were the custody papers relinquished & signed in the appropriate place?	No TOC
6. Was/were the person(s) who collected the samples clearly identified on the COC?	No
7. Did all bottles arrive in good condition (Unbroken)?	No
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC?  Yes  9. For each sample, does the COC specify preservatives (YN), # of containers (YN), and sa	No
10. Were correct bottle(s) used for the test(s) indicated?	No
11. Sufficient quantity received to perform indicated analyses?	No
12. Are these work share samples and all listed on the COC?	(No)
If yes, Questions 13-17 have been checked at the originating laboratory.	
	No, (NA) pH Strip Lot# HC157842
14. Were VOAs on the COC?	
15. Were air bubbles >6 mm in any VOA vials? Larger than this.	
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # Yes 17. Was a LL Hg or Me Hg trip blank present? Yes	
Contacted PM Date by via Verbal V	oice Mail Other
Concerning	
18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES  additional next page	Samples processed by:
9. SAMPLE CONDITION	
Sample(s) were received after the recommended holdi	ng time had expired.
	in a broken container.
Sample(s) were received with bubble >6 mm in	n diameter. (Notify PM)
0. SAMPLE PRESERVATION	
Sample(s) were fur	ther preserved in the laboratory.
Sample(s)were fur Sime preserved:Preservative(s) added/Lot number(s):	Paralle III Me Moduloiy.
/OA Sample Preservation - Date/Time VOAs Frozen:	

# APPENDIX A-3 OHIO EPA DIVISION OF AIR POLLUTION CONTROL NOV



December 1, 2021

#### TRANSMITTED ELECTRONICALLY

A7 Development Group, Inc. 4 Densereaux Place Middleton, MA 01949 Attention: Salvatore Tecce

Earth Exchange, Inc. 269 Boylston Street Shrewsbury, MA 01545 Attention: Karl Youkstetter

Subject: Notice of Violation

Dear Mr. Tecce and Mr. Youkstetter:

Re: Former Saint Joseph Community Center Notice of Violation (NOV) Asbestos Emission Controls Lorain County 02-592844

Division Of Air Pollution Control

On November 4, 2021, Douglas Dobransky and Christopher Williams, with Ohio EPA's Division of Air Pollution Control conducted a site inspection of the demolition debris remaining on location and that was not removed during the demolition (notification 150933) of a facility known as the former Saint Joseph Community Center, 205 W 20<sup>th</sup> Street, Lorain, OH 44052. The facility is owned by A7 Development Group, Inc. and was demolished by Earth Exchange, Inc. The purpose of this inspection was to determine compliance with Ohio's asbestos regulations identified in Ohio Administrative Code (OAC) Chapter 3745-20 and Ohio Revised Code (ORC) Section 3704.

#### **Findings**

As a result of the inspection, Ohio EPA observed the following violations of OAC Chapter 3745-20 and ORC 3704.05(G). In order to bring your company back into compliance, we recommend promptly addressing these violations within the timeframes outlined in this letter.

- ORC § 3704.05(G): prohibits any person from violating any OAC rule adopted by the Director of Ohio EPA pursuant to ORC Chapter 3704. OAC Chapter 3745-20 was adopted by the Director pursuant to ORC Chapter 3704.
  - OAC Rule 3745-20-03(A)(4)(g): Failure to include an estimate of the approximate amount of category I nonfriable asbestos-containing material in the affected part of the facility that will not be removed before demolition in the demolition notification.
  - (a) Demolition notification 150933 did not list the Category I nonfriable asbestos containing material that was present and was going to be left in place during the demolition. Category I nonfriable asbestos containing material in the form of floor tile and floor sheeting was observed in the debris. Abatement notification NE132106, dated November 4, 2013, indicates approximately 106,635 square feet of Category I nonfriable asbestos containing material was

# MR. SALVATORE TECCE AND MR. KARL YOUKSTETTER DECEMBER 1, 2021 PAGE 2

to be left in place in Buildings B, D, and E during the previous asbestos abatement of the facility that occurred in 2013.

- (b) Recommended action: In order to resolve this violation, A7 Development Group, Inc./Earth Exchange, Inc. shall submit a paper revision for notification 150933 to include the amount of Category I nonfriable asbestos-containing material in the affected part of the facility that was not removed before demolition. The notification should also include an updated completion date and emailed to Jeffrey.Gerdes@epa.ohio.gov.
- ORC § 3704.05(G): prohibits any person from violating any OAC rule adopted by the Director of Ohio EPA pursuant to ORC Chapter 3704. OAC Chapter 3745-20 was adopted by the Director pursuant to ORC Chapter 3704.

**OAC Rules 3745-20-04(A), 3745-20-05(B) and (C):** Failure to properly remove, adequately wet, seal, bag, label, and properly dispose of RACM.

- (a) Ohio EPA observed broken pieces of asbestos cement board in the main demolition debris pile during the on-site inspection. Asbestos cement board is a Category II nonfriable asbestos containing material that must be removed prior to demolition as it is made into regulated asbestos containing material (RACM) during the demolition process. The asbestos cement board is not being adequately wetted or tarped, nor properly sealed or bagged in asbestos labeled leak-tight containers.
- (b) Recommended action: In order to resolve this violation, A7 Development Group, Inc. and Earth Exchange, Inc. shall submit a compliance plan, to include a timeline, for how the asbestos cement board and any other RACM discovered on the site will be handled and properly disposed.

### Conclusion

Ohio EPA requests that A7 Development Group, Inc. and Earth Exchange, Inc. promptly undertake the necessary measures to return to compliance with Ohio's environmental laws and regulations. Within 14 days of receipt of this letter, please provide, to Ohio EPA, the documentation requested above. If you have already resolved the violations listed above, Ohio EPA recommends that you submit documentation demonstrating compliance.

Failure to comply with Chapter 3704. of the Ohio Revised Code and rules promulgated thereunder may result in an administrative or civil penalty. If circumstances delay resolution of violations, A7 Development Group, Inc. and Earth Exchange, Inc. are requested to submit written correspondence describing the steps that will be taken by date certain to attain compliance.

Please note that this does not preclude any additional asbestos emission control violations of OAC 3745-20 that may be identified in the future. In addition, the submission of any requested information to respond to this letter does not constitute waiver of the Ohio EPA's authority to seek administrative or civil penalties as provided in Section 3704.06 of the Ohio Revised Code.

# MR. SALVATORE TECCE AND MR. KARL YOUKSTETTER DECEMBER 1, 2021 PAGE 3

Thank you for your time and cooperation and if you have any questions, please do not hesitate to contact Douglas Dobransky by phone at (330) 963-1183, or by e-mail at <a href="mailto:Douglas.Dobransky@epa.ohio.gov">Douglas.Dobransky@epa.ohio.gov</a>.

Sincerely,

Douglas W. Dobransky Environmental Specialist

Division of Air Pollution Control

Doglas W. Dobah

DD/al

ec: Tim Fischer, Manager, Ohio EPA, NEDO, DAPC

Misty Whitmyer, Supervisor, Ohio EPA, NEDO, DAPC

James Kavalec, Manager, Ohio EPA, Central Office, DAPC

Jeffery Gerdes, Supervisor, Ohio EPA, Central Office, DAPC

Frank Zingales, Environmental Spec. 3, Ohio EPA, NEDO, DERR

Megan Oravec, Supervisor, Ohio EPA, NEDO, DERR

**APPENDIX A-4** 

LORAIN COUNTY PUBLIC HEALTH NOV

December 2<sup>nd</sup>, 2021

Salvatore Tecce
A7 Development
4 Dansreau Pl
Middleton, MA 01949



**CERTIFIED MAIL** 

**NOTICE OF VIOLATION** 

Re: Former St Joseph Community Center

Broadway Ave & W 21st St., Lorain, Ohio

Notice of Violation

Dear Mr. Tecce,

On November 30<sup>th</sup>, 2021, Juston Carpenter and Ryan Tristano, with Lorain County Public Health's (LCPH) Solid Waste program conducted an inspection of the former St Joseph Community Center in Lorain, Ohio. The purpose of this inspection was to determine compliance with Chapter 3734 of the Ohio Revised Code (ORC) and chapter 3745 of the Ohio Administrative Code (OAC).

### **Findings**

As a result of the inspection, LCPH observed the following violations of ORC 3734 and OAC Chapter 3745. In order for you to return to compliance, you must promptly address the violations listed in this notice.

- 1. **ORC § 3704.03** Open burning or open dumping. "No person shall dispose of solid wastes by open burning or open dumping, except as authorized by the director of environmental protection..."
- 2. OAC Rule 3745-400-04 (B) "No person shall conduct or allow illegal disposal of construction and demolition debris."
  - a. [Comment: Violations under the nuisance provisions of Chapters 3709. and 3767. of the Revised Code can also occur as a result of illegal disposal.]
- 3. OAC Rule 3745-27-05 "No person shall conduct, permit, or allow open dumping. In the event that open dumping is occurring or has occurred at a property, the person responsible for the open dumping, the owner of the property, or the person who allow or allowed open dumping to occur, shall promptly remove and dispose or otherwise manage the solid waste in accordance with Chapter 3734. of the Revised Code and shall submit verification that the solid waste has been properly managed."
  - a. [Comment: Prompt removal and disposal of solid waste does not relieve any obligations under state or federal environmental statutes. This may include environmental clean-up of the site or remediation of ground water contamination resulting from the open dumping.]

#### **Observations**

The site was assessed on November 30<sup>th</sup>, 2021. The weather was partly cloudy with a temperature of 39°F. LCPH observed illegally disposed of solid waste and construction and demolition debris. Waste and debris were packed into basements. Additionally, waste and debris were open dumped in piles along the ground. Promptly dispose of the waste and debris in a licensed facility according to Ohio Law and Rules.

### **Finding of Nuisance**

LCPH observed a hole in the debris at ground level in one of the illegally filled basements. This is a danger as a person could fall into the hole with exposed rebar and other sharp debris.

A large basement partially filled with solid waste and debris is filling with water. Water that comes into contact with solid waste is considered leachate and must be disposed of in accordance with Ohio Laws and Rules.

The site of illegal dumping is not secured. The fence surrounding part of the property is open and the site is accessible to the public.

The property and illegal disposal site are a threat to the public health, safety, and the environment, and is a nuisance. You must take immediate action to abate these nuisance conditions.

### Conclusion

Lorain County Public Health requests that you promptly undertake the necessary measures to return to compliance with Ohio's environmental laws and regulations.

You are required to respond to this notice, in writing, within 14 days of receipt. In your letter, please include the steps that either are being taken, or will be taken by date certain, to comply with the violations cited in this letter. Please be advised that violations cited herein will continue until these violations are properly abated. Failure to respond and/or abate nuisances will result in escalated enforcement.

Nothing in this letter shall be construed to authorize any waiver from the requirements of any applicable local, state, or federal laws or regulations. This letter shall not be interpreted to release you, or others, from responsibility under Chapters 3704, 3714, 3734, or 6111 of the Ohio Revised Code or under the Federal Clean Water or Comprehensive Environmental Response, Compensation, and Liability Acts remedying conditions resulting from any release of contaminants to the environment.

## Sincerely,

Juston R Carpenter, REHS MPH
Program Manager
Environmental Health, Emergency Preparedness, and Epidemiology
Lorain County Public Health
9880 S. Murray Ridge Rd.
Elyria, OH 44035

**Enclosures:** Photographs

Ecc: Jennifer Carlin, Ohio EPA

Lynn Sowers, Ohio EPA



Partially demolished building with debris disposed of on ground. 11.30.2021



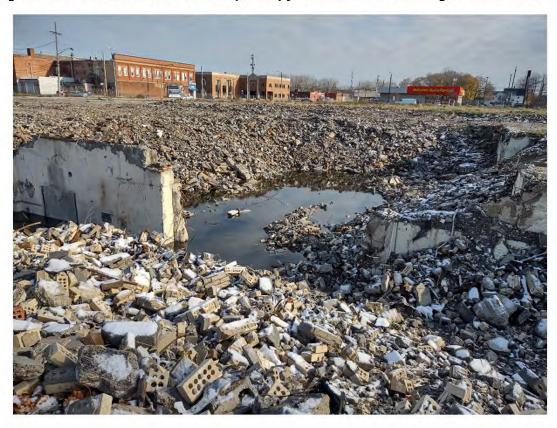


Basements used to improperly dispose of solid waste. 11.30.2021





Dangerous hole into basement. Basement partially filled with debris collecting leachate. 11.30.2021





Pile of solid waste open dumped on the site. Overview photo of the site. 11.30.2021



December 2<sup>nd</sup>, 2021

Karl Youkstetter Earth Exchange 269 Boylston St Shrewsbury, MA 01545



**CERTIFIED MAIL** 

**NOTICE OF VIOLATION** 

Re: Former St Joseph Community Center

Broadway Ave & W 21st St., Lorain, Ohio

Notice of Violation

Dear Mr. Youkstetter,

On November 30<sup>th</sup>, 2021, Juston Carpenter and Ryan Tristano, with Lorain County Public Health's (LCPH) Solid Waste program conducted an inspection of the former St Joseph Community Center in Lorain, Ohio. The purpose of this inspection was to determine compliance with Chapter 3734 of the Ohio Revised Code (ORC) and chapter 3745 of the Ohio Administrative Code (OAC).

### **Findings**

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- 2. OAC Rule 3745-400-04 (B) "No person shall conduct or allow illegal disposal of construction and demolition debris."
  - a. [Comment: Violations under the nuisance provisions of Chapters 3709. and 3767. of the Revised Code can also occur as a result of illegal disposal.]
- 3. OAC Rule 3745-27-05 "No person shall conduct, permit, or allow open dumping. In the event that open dumping is occurring or has occurred at a property, the person responsible for the open dumping, the owner of the property, or the person who allow or allowed open dumping to occur, shall promptly remove and dispose or otherwise manage the solid waste in accordance with Chapter 3734. of the Revised Code and shall submit verification that the solid waste has been properly managed."
  - a. [Comment: Prompt removal and disposal of solid waste does not relieve any obligations under state or federal environmental statutes. This may include environmental clean-up of the site or remediation of ground water contamination resulting from the open dumping.]

#### **Observations**

The site was assessed on November 30<sup>th</sup>, 2021. The weather was partly cloudy with a temperature of 39°F. LCPH observed illegally disposed of solid waste and construction and demolition debris. Waste and debris were packed into basements. Additionally, waste and debris were open dumped in piles along the ground. Promptly dispose of the waste and debris in a licensed facility according to Ohio Law and Rules.

### **Finding of Nuisance**

LCPH observed a hole in the debris at ground level in one of the illegally filled basements. This is a danger as a person could fall into the hole with exposed rebar and other sharp debris.

A large basement partially filled with solid waste and debris is filling with water. Water that comes into contact with solid waste is considered leachate and must be disposed of in accordance with Ohio Laws and Rules.

The site of illegal dumping is not secured. The fence surrounding part of the property is open and the site is accessible to the public.

The property and illegal disposal site are a threat to the public health, safety, and the environment, and is a nuisance. You must take immediate action to abate these nuisance conditions.

### Conclusion

Lorain County Public Health requests that you promptly undertake the necessary measures to return to compliance with Ohio's environmental laws and regulations.

You are required to respond to this notice, in writing, within 14 days of receipt. In your letter, please include the steps that either are being taken, or will be taken by date certain, to comply with the violations cited in this letter. Please be advised that violations cited herein will continue until these violations are properly abated. Failure to respond and/or abate nuisances will result in escalated enforcement.

Nothing in this letter shall be construed to authorize any waiver from the requirements of any applicable local, state, or federal laws or regulations. This letter shall not be interpreted to release you, or others, from responsibility under Chapters 3704, 3714, 3734, or 6111 of the Ohio Revised Code or under the Federal Clean Water or Comprehensive Environmental Response, Compensation, and Liability Acts remedying conditions resulting from any release of contaminants to the environment.

## Sincerely,

Juston R Carpenter, REHS MPH
Program Manager
Environmental Health, Emergency Preparedness, and Epidemiology
Lorain County Public Health
9880 S. Murray Ridge Rd.
Elyria, OH 44035

**Enclosures:** Photographs

Ecc: Jennifer Carlin, Ohio EPA

Lynn Sowers, Ohio EPA



Partially demolished building with debris disposed of on ground. 11.30.2021



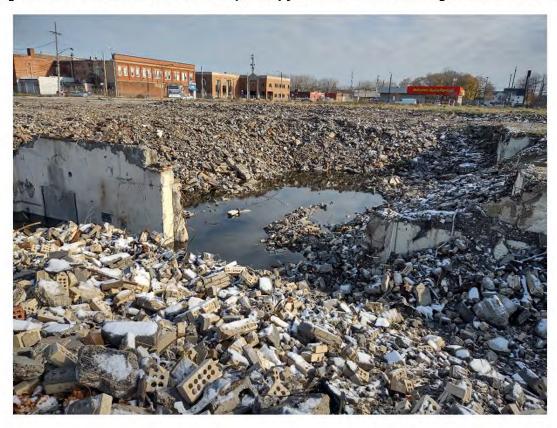


Basements used to improperly dispose of solid waste. 11.30.2021





Dangerous hole into basement. Basement partially filled with debris collecting leachate. 11.30.2021





Pile of solid waste open dumped on the site. Overview photo of the site. 11.30.2021



December 2<sup>nd</sup>, 2021

Dennis Dannenfelser Jr All Star Demolition 1249 Oakland Ave Union, New Jersey 07083



**CERTIFIED MAIL** 

**NOTICE OF VIOLATION** 

Re: Former St Joseph Community Center

Broadway Ave & W 21st St., Lorain, Ohio

Notice of Violation

Dear Mr. Dannenfelser,

On November 30<sup>th</sup>, 2021, Juston Carpenter and Ryan Tristano, with Lorain County Public Health's (LCPH) Solid Waste program conducted an inspection of the former St Joseph Community Center in Lorain, Ohio. The purpose of this inspection was to determine compliance with Chapter 3734 of the Ohio Revised Code (ORC) and chapter 3745 of the Ohio Administrative Code (OAC).

### **Findings**

As a result of the inspection, LCPH observed the following violations of ORC 3734 and OAC Chapter 3745. In order for you to return to compliance, you must promptly address the violations listed in this notice.

- 1. **ORC § 3704.03** Open burning or open dumping. "No person shall dispose of solid wastes by open burning or open dumping, except as authorized by the director of environmental protection..."
- 2. OAC Rule 3745-400-04 (B) "No person shall conduct or allow illegal disposal of construction and demolition debris."
  - a. [Comment: Violations under the nuisance provisions of Chapters 3709. and 3767. of the Revised Code can also occur as a result of illegal disposal.]
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The property and illegal disposal site are a threat to the public health, safety, and the environment, and is a nuisance. You must take immediate action to abate these nuisance conditions.

### Conclusion

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You are required to respond to this notice, in writing, within 14 days of receipt. In your letter, please include the steps that either are being taken, or will be taken by date certain, to comply with the violations cited in this letter. Please be advised that violations cited herein will continue until these violations are properly abated. Failure to respond and/or abate nuisances will result in escalated enforcement.

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## Sincerely,

Juston R Carpenter, REHS MPH
Program Manager
Environmental Health, Emergency Preparedness, and Epidemiology
Lorain County Public Health
9880 S. Murray Ridge Rd.
Elyria, OH 44035

**Enclosures:** Photographs

Ecc: Jennifer Carlin, Ohio EPA

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Partially demolished building with debris disposed of on ground. 11.30.2021



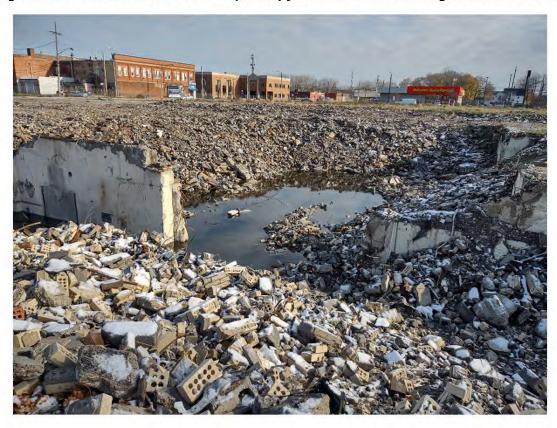


Basements used to improperly dispose of solid waste. 11.30.2021





Dangerous hole into basement. Basement partially filled with debris collecting leachate. 11.30.2021





Pile of solid waste open dumped on the site. Overview photo of the site. 11.30.2021



APPENDIX A-5
AUGUST 2022 RADIATION SCREENING MEMORANDUM

# MEMORANDUM



TO: Ms. Kathryn Golden, CPMSM, CFM, Storm Water Manager, City of Lorain

Mr. Sanford Washington Jr., Safety/Service Director, City of Lorain

FROM: Sarah Ewing, VAP Certified Professional, Verdantas

CC: Steven Gross, VAP Certified Professional, Verdantas

Hien Pham, CPG, Senior Project Manager, Verdantas

DATE: August 3, 2022

RE: Summary of Radiation Screening Activities Conducted at the City of Lorain

Former St. Joseph Hospital Assessment Project (Property); 15011.0005

Verdantas, LLC (Verdantas) conducted radiation screening activities at the City of Lorain Former St. Joseph Hospital Assessment Project located near 203 West 20th Street in Lorain, Ohio (hereafter referred to as the Property) in accordance with an approved Scope of Work dated May 27, 2022. The Scope of Work is associated with implementation of the Ohio Department of Development (ODOD) Assessment Grant awarded for the Property.

Specifically, based upon prior use of portions of the Property as a hospital and community center complex, two former x-ray structures were demolished without proper environmental clearance activities. Thus, as an added precautionary measure, radiation screening activities were conducted at the Property. On July 28, 2022, a Verdantas representative conducted a radiation survey of the Property using a Ludlum Model 2241 radiation meter capable of detecting low-level radiation and suitable for background radiation monitoring. Based upon information provided from Ohio EPA in Notice of Violation documents (NOVs) issued to the current Owner, Verdantas conducted radiation screening of three main areas of the Property associated with building debris that were noted in the NOVs to contain lead sheeting material thought to have originated from the former x-ray rooms:

- Area 1: located east of the parking garage;
- Area 2: former Building B debris pile and basement area (now filled with rubble);
- Area 3: to former x-ray buildings located north of the parking garage.

As detailed in the attached Daily Field Report (DFR), the survey reported meter readings within the range of normal background levels (8-15 uR/hr). Minor increases were observed in association with yellow clay brick used in some areas of the buildings (17 uR/hr and 21 uR/hr). These minor increases are reasonably anticipated to be associated with the natural clay minerals used to form the bricks which can have trace amounts of naturally occurring radioactive minerals. These anomalies are not related to the use of the brick material, and have no impact on the disposal of the building debris.

Based on the radiation screening activities conducted, observed levels are within the range of background, additional limited screening activities will be conducted at depth during test pit activities. An additional DFR will be prepared and transmitted to the City to document the results of screening activities conducted at depth.



# **Daily Field Report**

2
75 deg
00 am
):30 am

### **Description of Work:**

Radiation Survey

I arrived onsite, verified access through the fence near the adjacent building and completed the JSA. Equipment used: Ludlum Model 2241 radiation survey meter (equipped with a sodium iodide gamma scintillator for low-level radiation detection and background radiation monitoring), as well as measuring wheel and spray paint.

**Procedure:** The radiation survey meter was operated in the rate meter mode to measure ionizing radiation in uR/hr. The scintillation detector was maintained 2-3 inches from the surface of the ground and debris being scanned while slowly walking along transects or alongside debris piles. Background measurements on ground and the concrete paved areas of the site were generally 8-10 uR/r.

### Area 1: (East of Parking Garage)

I conducted a survey of an area approximately 25 ft x 60 ft along the eastern edge of the parking garage in the area identified as a Potential Radiological Area of Concern on the building debris investigation map. Transects were conducted at 5-ft intervals in this area due to the lack of obstructions. This survey included the concrete floor of former Building B as well as the debris along the eastern wall of the parking garage in this area. During the survey of this area, survey meter readings ranged from 8-10 uR/hr (background).

### Area 2: (Former Building B Debris Piles and Basement)

Several large stockpiles of building debris were located east of the parking garage in the former location of Building B. In this area, the survey meter was used to scan the lower 1-2 ft base of the larger stockpiles. In accessible areas between stockpiles and south of the stockpiles where building debris were walkable, the survey meter was used to scan the surface of the debris in approximately 5-ft transects. In the survey of this area, meter readings generally ranged from 10-13 uR/hr. One reading of 17 uR/hr was noted on a section of yellow brick debris from the buildings (see photo below).

### Area 3: (Two Radiation Buildings North of Parking Garage)

Two partially demolished buildings are located north of the parking garage. Concrete and brick debris were scattered around these buildings and dense vegetation was growing along sections of the northern and western walls. The survey of this area consisted of scanning the soil and debris

immediately adjacent to and between the buildings, where accessible, and scanning the building walls in accessible locations. Survey measurements in this area were generally 10-15 uR/hr with a peak of 21 uR/hr associated with yellow clay façade brick debris (see photo below).

### Findings:

The survey of the three areas noted above did not detect any radiation anomalies other than minor increases associated with yellow clay brick used in some areas of the buildings. These minor increases in clay brick are not unexpected due to the natural clay material they were formed from, which can contain low concentrations of naturally occurring radioactive minerals. These are not related to the use of the brick onsite and have no impact in disposal of the building debris.

It should be noted that concrete is often used as a shield for radiation areas. Therefore, because of the amount of concrete debris on the site and thick concrete walls of the two northern buildings, we cannot conclude that there are no radiological sources buried within the debris, basements, or inside the remains of the two partially demolished buildings, which were inaccessible.

Finally – Upon completion, I contacted Sarah to discuss the findings of the survey. She also asked about levels of water (leachate) in the basement area and feasibility of sampling that at a future date. Water (leachate) depth was less than two feet and there were gently sloping areas where samples could be collected (see photos below).

Materials Delivered Today:		
NA		

Contractor's Work Force					
Trade / Title	Company	#			
NA					

Contractor's Equipment					
Type / Model	In Use	Not In Use			
NA					

Problems Encountered Today:	
None	

NA

# **Progress Photos:**















### **List of Attachments:**

Work Observed By: Conducted by Mark Zakrzewski

Reported By: Mark Zakrzewski

Date Report Prepared: 7/28/22



# **Asbestos Demolition Debris Assessment Report**

Former St. Joseph's Community Center Property 205 West 20<sup>th</sup> St. Lorain, Ohio 44052



For

Jim Bower, Project Manager Precision Environmental 5500 Old Brecksville Road Independence, OH 44131

Prepared by:



Pardee Environmental 47391 Garfield Road Oberlin, OH 44074 440.315.2735

September 21, 2022

### Pardee Environmental

### **TABLE OF CONTENTS**

SUMMARY OF BUILDINGS AND ASBESTOS ASSESSMENT INFORMATION	1
INTRODUCTION	2
METHODOLOGY	2
SUMMARY OF FINDINGS	2
QUANTITY ESTIMATE CALCULATIONS	3
INTERPREATION OF RESULTS AND GUIDANCE FOR ACTION	3
REGULATORY INTERPRETATION	

### **LIST OF TABLES**

Table 1: Asbestos Building Materials Findings Summary Tables

### **LIST OF ATTACHMENTS**

Attachment 1: Site plan with sample locations (Debris Piles and Test Pits)

Attachment 2: Sample chain of custody

Attachment 3: Laboratory analysis report

Attachment 4: Site photographs

Attachment 5: Ohio Asbestos Certifications for Asbestos Inspector

### Pardee Environmental

### SUMMARY OF BUILDINGS AND ASBESTOS ASSESSMENT INFORMATION

Name of Facility: Former St. Joseph's Hospital

(A.K.A. St. Joe's Community Center & South Shore Community Development)

Location: 205 West 20<sup>th</sup> St. Lorain, OH

Building Owner: A7 Development Group, LLC

Date of Construction: Starting approximately 1900 to 1905 and continuing for several decades

Major Additions: Several

Approximate Area: Total structural square footage prior to demolition: 420,000 sq. ft.

Building Use: Hospital

Dates of Assessment: August 29-31, 2022

Asbestos Inspector John P. Pardee

and report writer: Ohio Asbestos Hazard Evaluation Specialist No. 3201

John P. Pardee

#### Pardee Environmental

#### INTRODUCTION

Between August 29<sup>th</sup> and 31<sup>st</sup>, 2022, Pardee Environmental conducted an inspection of the demolition debris located at 205 W. 20<sup>th</sup> St., Lorain, OH for asbestos-containing materials. The purpose of the assessment was to identify and quantify the presence of asbestos-containing materials in the remaining demolition debris to provide information regarding public health and to determine future courses of action relative to the proper handling, transportation and disposal of these materials.

The inspection was conducted in general accordance with the USEPA guidelines recommended for predemolition of buildings under National Emissions Standards for Hazardous Air Pollutants (NESHAPs) 40 CFR Parts 61 and 63.

#### **METHODOLOGY**

All accessible locations were examined for suspect asbestos containing materials. All suspect asbestos containing materials (ACM) found were adequately sampled per Federal rules codified in 40 CFR Part 763.86 and samples were submitted to an accredited lab for analysis by Polarized Light Microscopy (PLM) and Point Counting where required. Sample test pit excavation locations were determined by the lead environmental consults at Verdantas as per the attached test pit site map. Specific materials sampled within the test pits or across the site were determined by John Pardee based on field observations. The inspection and sampling process involved the utilization of a track hoe excavator operated by Precision Environmental with two members of their team operating the track hoe and assisting Pardee Environmental. Due to the occlusion of the demolition debris from the dust, dirt and debris resulting from the demolition, several areas of excavated demolition debris were washed by Precision using a garden hose hooked up to a water tank and pump. This allowed for better observations of the comingled debris and the selection of samples to be collected.

Samples were collected in 6 mil zip-lock bags, assigned a sample number and logged into the sample chain-of-custody form. After the collection of all of the samples was completed, the samples were sealed into a plastic bag and shipped via overnight shipping to EMSL Analytical of Indianapolis, IN, a NVLAP accredited laboratory for analysis. A total of 44 samples were collected and analyzed for this project.

The results of the analysis of these samples are contained in Attachment 3.

#### **SUMMARY OF FINDINGS**

Below is a summary of the laboratory analysis of the samples collected followed by an interpretation and guidance for action going forward. This report does not include the findings for RACM conducted at the site during the October, 2021 study involving the parking garage and the Reid Ave. Office Building. Both this report and the report from 2021 should be used together in developing a remedial action plan for this site overall.

TABLE 1
Asbestos Building Materials Findings Summary (Debris piles and basement cavity fill)

Site Location	RACM Description	% Asbestos	Condition	Quantity (see est. calculations)	Friable
Southern section of the main debris pile	Transite debris	60 - 80% Chrysotile	Broken RACM	Approx. 712-950 Cu. Yds.	Yes
Western section of the main basement fill Test Pit #2	Transite & pipe insulation debris	20% Chrysotile 2% Amosite	Broken Poor RACM	Approx. 3,356 Cu. Yds.	Yes

#### Pardee Environmental

### **QUANTITY ESTIMATE CALCULATIONS**

The RACM debris calculations were derived by both site observations and utilizing the Lorain County Auditor's website measuring tools (see attached screenshots). I arrived at the total estimated RACM cubic yardage as follows:

**Debris Pile:** The only RACM identified on the main debris pile was the Transite debris and that was only found on the southern section of the pile in both the Sept./Nov. 2021 study as well as during this study. With that assumption as the basis of the RACM scope of work on the pile itself, I was able to estimate the amount of materials involved. The RACM-designated pile was estimated using the calculations of the volume of a cone with a known base. The base radius was estimated at approximately 35 ft. and the height was estimated to average between 15 to 20 feet high. giving us a total volume of between 19,242 to 25,656 cubic feet, and thus **between 712 and 950 estimated cubic yardages**.

Western Main Basement: The only RACM found during this study was the Transite and pipe insulation debris found in Test Pit #2 (See attached sampling site plan). It is my opinion that based on the field observations and the observed locations of where the Transite was on the building at the time of the demolition\*, I feel that the demo debris in the western section of the main basement would need to be classified and treated as RACM. There is a partial dividing wall between the western section of the main basement and the balance of that basement cavity. Failing to find any other RACM within the eastern and central sections of the main basement, I feel we can reasonably and conservatively designate the western section of the basement as the likely repository of much of the Transite debris, along with the southern portion of the debris pile detailed above. The proximity of the RACM pile and RACM basement cavity makes intuitive sense as to how/why Transite debris may be limited to these adjacent sites. I estimate the western basement footprint to be approximately 8,630 square feet and with an estimated depth of 14 feet, gives us a total cavity volume of 120,820 cubic feet. I further estimate that the western basement cavity was approximately 75% filled with debris giving me an estimated 90,615 cubic feet of debris or 3,356 cubic yards of RACM.

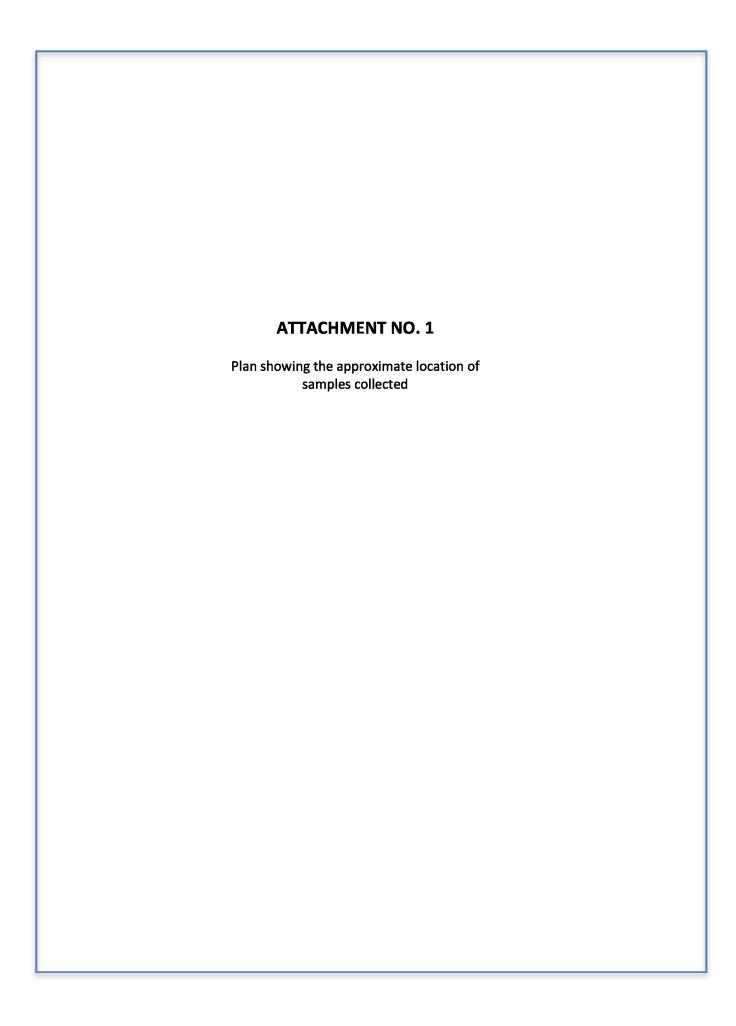
In total, I estimate there to be approximately 4,000 cubic yards or more of RACM debris in the debris field.

\*Video from Worlds Above Aerial showing the gray corrugated asbestos Transite wall panels in place (ground floor) during demolition. (seen at the 4:54 minute mark in the video).

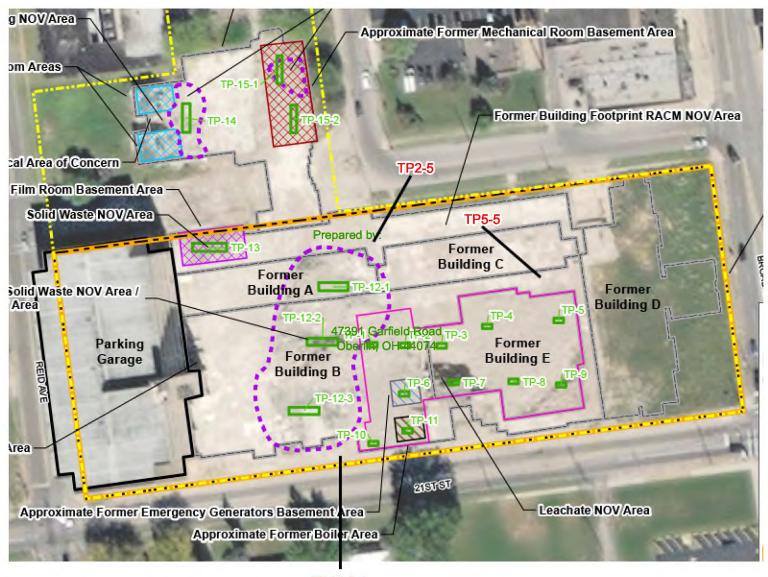
#### INTERPREATION OF RESULTS AND GUIDANCE FOR ACTION

#### Regulatory interpretation

During the previous and current studies, I was working directly with Doug Dobransky, Environmental Specialist at the NEDO of the Ohio EPA — Division of Air Pollution Control. It was his opinion, and that of the rest of his division, that the broken Transite debris would have to be treated as a RACM. Furthermore, it was the EPA's interpretation and site observations that determined that neither the ACM floor tile or vinyl flooring debris was rendered into RACM by the act of demolition. The next steps should involve updating Mr. Dobransky and his office of these latest findings and to develop an asbestos abatement specification that will address the RACM identified in this study and merged with the RACM's identified in the fall of 2021. Once the specifications and scope of work are finalized, then we can proceed to the next steps that should culminate with the safe removal and disposal of these materials.



# Sample Location Map 205 West 20th Street Lorain, OH



TP12-3-1

environmenta

ATTACHMENT NO. 2
Bulk Sample Log

162220169



## QUALITY CONTROL SAMPLE TRANSMITTAL CHAIN - OF - CUSTODY FORM

Page | .JZ

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X Regular	Rush	Results needed by:	5 day TAT	
Samples taken at:	St Joseph Hospit	al demo site, Lorain, Ohi	0	
Type of samples:	Bulk	_ Analysis requested:	PLM/Point Count as per agreement	

SAMPLE #	SAMPLE DESCRIPTION	SAMPLE LOCATION		
TP-13-1	Black fiber board	TP-13		
TP-13-2	Black fiber board	TP-13		
TP-13-3	Fiberous insulation on metal	TP-13		
TP-13-4	Fiberous insulation on metal	TP-13		
TP-13-5	Suspect pipe joint insulation	TP-13		
TP-13-6	Fiberous insulation on metal	TP-13		
TP-13-7	Fiberous insulation on metal	TP-13		
TP-12-1-1	Pipe hanger debris	TP-12-1		
TP-12-1-2	Fiberous insulation on metal	TP-12-1		
TP-12-1-3	Gypsum-like material on metal	TP-12-1		
TP-12-1-4	Insulation on pipe hanger	TP-12-1		
TP-12-1-5	Fiberous insulation on metal	TP-12-1		
TP-12-1-6	Fiberous insulation on metal	TP-12-1		
TP-12-3-1	Black composite flooring	15' off SE corner of debris pile		
TP-15-2-1	Black transite-like board	TP-15-2		
TP-15-2-2	Suspect pipe joint insulation	TP-15-2		
TP-15-2-3	Fiberous insulation on metal	TP-15-2		
TP-15-1-1	Suspect pipe joint insulation	TP-15-1		
TP-1-1	Fiberous insulation on metal	TP-1		
TP-2-1	Demolition debris	TP-2		
TP-2-2	Suspect pipe joint insulation	TP-2		
TP-2-3	Transite	TP-2, bottom of pit		
TP-2-4	Pipe insulation debris	TP-2		
TP-2-5	Pulverized debris on concrete slab	60' N of TP-2 by damaged floor tile		
TP-3-1	Insulation on hanger	TP-3		
TP-3-2	Insulation on hanger	TP-3		
TP-3-3	Fiberous insulation on metal	TP-3		
TP-4-1	Residue on duct work	TP-4		
TP-4-2	Residue on metal sheeting	TP-4		
TP-4-3	Demolition debris	TP-4, bottom of pit		
TP-5-1	Black composite flooring	TP-5		
TP-5-2	Insulating debris on metal	TP-5		
TP-5-3	Insulating material on duct	TP-5		
TP-5-4	Sediment sample	TP-5, bottom of pit		
TP-5-5	Pulverized debris on concrete slab	30' N of TP-5		
TP-9-1	Insulating debris on metal	TP-9		
TP-8-1	Insulating debris on metal	TP-8		
TP-8-2	Pipe insulation debris	TP-8		
TP-7-1	General debris	TP-7		
TP-11-1	Insulating debris on metal	TP-11		

PARDEE ENVIRONMENTAL, 47391 Garfield Road, Oberlin, Ohio 44074
Email: jpincenv@gmail.com || Phone: (440) 315-2735

OrderID: 162220169

20169

TP-11-2	Sediment sample	TP-11	
TP-6-1	Switch gear insulation	TP-6	
TP-10-1	Insulating debris on metal	TP-10	
TP-10-2	Refractory brick	TP-10	

TRANSFERAL RECORD

Relinquished by:

John Pardee

Relinquished to:

Date:

Relinquished by: Sent by courier:

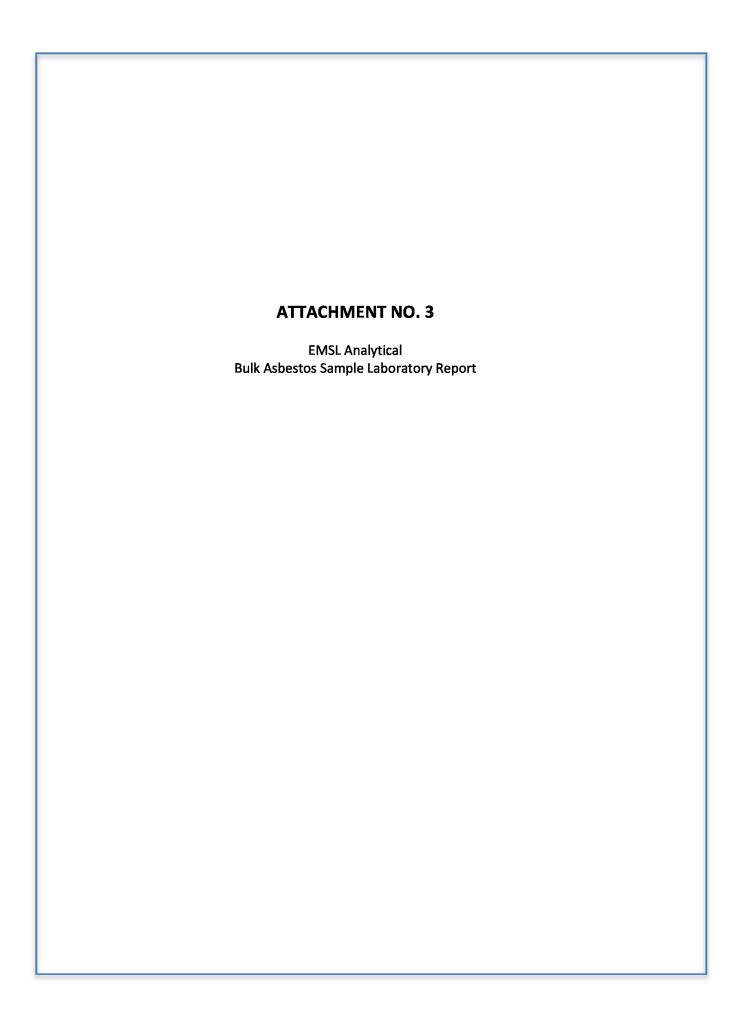
FedEx

Relinquished to:

Date:

08-31-22

(indicate type)





47391 Garfield Road

Oberlin, OH 44074

Attention: John Pardee

EMSL Order: 162220169 Customer ID: JPCI50

Customer PO: Project ID:

Phone: (440) 315-2735

Fax: (440) 984-3145

Received Date: 09/01/2022 9:55 AM

**Analysis Date**: 09/07/2022

Collected Date:

Project: St. Joseph Hospital Demo Site, Lorain, Ohio

JP ENVIRONMENTAL CONSULT, INC.

# Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

		Non-Asbestos			<u>Asbestos</u>	
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Type	
TP-13-1	TP-13 - Black Fiberboard	Brown/Black Fibrous Homogeneous	90% Cellulose 3% Glass	7% Non-fibrous (Other)	None Detected	
TP-13-2	TP-13 - Black Fiberboard	Brown/Black Fibrous	90% Cellulose 3% Glass	7% Non-fibrous (Other)	None Detected	
162220169-0002		Homogeneous				
TP-13-3	TP-13 - Fiberous Insulation on Metal	Brown Non-Fibrous	5% Glass	95% Non-fibrous (Other)	None Detected	
162220169-0003		Homogeneous				
TP-13-4	TP-13 - Fiberous Insulation on Metal	Brown Non-Fibrous	5% Cellulose 5% Glass	90% Non-fibrous (Other)	None Detected	
162220169-0004		Homogeneous				
TP-13-5	TP-13 - Suspect Pipe Joint Insulation	Brown Fibrous	5% Cellulose 15% Glass	80% Non-fibrous (Other)	None Detected	
162220169-0005	TD 40 EV	Homogeneous	E0/ O II I	===: (O) :		
TP-13-6 162220169-0006	TP-13 - Fiberous Insulation on Metal	Brown Fibrous	5% Cellulose 20% Glass	75% Non-fibrous (Other)	None Detected	
	TD 40 - T''	Homogeneous	EN C " '	OFO( NI _ E'' (O'' )	N 5	
TP-13-7 162220169-0007	TP-13 - Fiberous Insulation on Metal	Brown Fibrous	5% Cellulose 10% Glass	85% Non-fibrous (Other)	None Detected	
	TD 40.4 Di	Homogeneous	400/ Callulana	75% No. 5h (Oth)	None Detected	
TP-12-1-1 162220169-0008	TP-12-1 - Pipe Hanger Debris	Brown/Gray Fibrous Homogeneous	10% Cellulose 15% Glass	75% Non-fibrous (Other)	None Detected	
	TD 40.4 Elbanna		400/ 0-11-1	75% No. 5hour (Other)	None Detected	
TP-12-1-2 162220169-0009	TP-12-1 - Fiberous Insulation on Metal	Gray Fibrous Homogeneous	10% Cellulose 15% Glass	75% Non-fibrous (Other)	None Detected	
	TD 40.4		4E0/ Callulana	CEN Compound	None Detected	
TP-12-1-3 162220169-0010	TP-12-1 - Gypsum-like Material on Metal	Brown Fibrous Homogeneous	15% Cellulose 10% Glass	65% Gypsum 10% Non-fibrous (Other)	None Detected	
			4E0/ Callulana	000/ Non-Eleania (Other)	None Detected	
TP-12-1-4	TP-12-1 - Insulation on Pipe Hanger	Brown Fibrous	15% Cellulose 5% Glass	80% Non-fibrous (Other)	None Detected	
162220169-0011		Homogeneous				
TP-12-1-5	TP-12-1 - Fiberous Insulation on Metal	Gray Fibrous	15% Glass	85% Non-fibrous (Other)	None Detected	
162220169-0012		Homogeneous				
TP-12-1-6	TP-12-1 - Fiberous	Brown/Tan	15% Cellulose	10% Perlite	None Detected	
162220169-0013	Insulation on Metal	Fibrous Homogeneous	20% Glass	55% Non-fibrous (Other)		
	45! off CC C	Homogeneous	E9/ C!	EP/ Quest-	None Detected	
TP-12-3-1	15' off SE Corner of Debris Pile - Black	Gray Non-Fibrous	5% Glass	5% Quartz 90% Non-fibrous (Other)	None Detected	
162220169-0014	Composite Flooring	Homogeneous		35 /5 / 15//		
TP-15-2-1	TP-15-2 - Black	Black	90% Cellulose	10% Non-fibrous (Other)	None Detected	
-	Transite-like Board	Fibrous		, , ,		
162220169-0015		Homogeneous				
TP-15-2-2	TP-15-2 - Suspect Pipe Joint Insulation	Tan Fibrous	25% Cellulose 15% Glass	5% Quartz 55% Non-fibrous (Other)	None Detected	
162220169-0016		Homogeneous				

Initial report from: 09/09/2022 08:29:26



EMSL Order: 162220169 Customer ID: JPCI50

Customer PO: Project ID:

# Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

		Non-Asbestos			<u>Asbestos</u>	
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Туре	
TP-15-2-3	TP-15-2 - Fiberous Insulation on Metal	Gray/Various Fibrous	25% Glass	75% Non-fibrous (Other)	None Detected	
162220169-0017		Homogeneous -	400/ 0. 11. 1	700/ N 51 (OII )		
TP-15-1-1	TP-15-1 - Suspect Pipe Joint Insulation	Tan Fibrous	10% Cellulose 20% Glass	70% Non-fibrous (Other)	None Detected	
162220169-0018	TD 4 E"	Homogeneous	200/ 0 11 1	400/ 11 (7) (0)		
ΓP-1-1 162220169-0019	TP-1 - Fiberous Insulation on Metal	Brown Fibrous	20% Cellulose 40% Glass	40% Non-fibrous (Other)	None Detected	
		Homogeneous		222/11 #1 /21		
ΓP-2-1	TP-2 - Demolition Debris	Gray Fibrous	30% Cellulose 40% Glass	30% Non-fibrous (Other)	None Detected	
162220169-0020		Homogeneous				
ГР-2-2	TP-2 - Suspect Pipe Joint Insulation	Gray/White Fibrous	20% Cellulose 60% Glass	17% Non-fibrous (Other)	3% Amosite	
62220169-0021		Homogeneous				
ΓP-2-3	TP-2, Bottom of Pit - Transite	Gray Fibrous		80% Non-fibrous (Other)	20% Chrysotile	
162220169-0022		Homogeneous				
ΓP-2-4	TP-2 - Pipe Insulation Debris	Gray Fibrous	50% Glass	48% Non-fibrous (Other)	2% Amosite	
62220169-0023		Homogeneous				
TP-2-5	60'N of TP-2 by Damaged Floor Tile -	Gray Non-Fibrous		20% Quartz 80% Non-fibrous (Other)	None Detected	
62220169-0024	Pulverized Debris on Concrete Slab	Homogeneous				
TP-3-1	TP-3 - Insulation on	Gray/White	40% Glass	20% Mica	None Detected	
62220169-0025	Hanger	Fibrous Homogeneous		40% Non-fibrous (Other)		
ГР-3-2	TP-3 - Insulation on	Brown	80% Glass	20% Non-fibrous (Other)	None Detected	
62220169-0026	Hanger	Fibrous Homogeneous	2072 21322			
TP-3-3	TP-3 - Fiberous	Gray	20% Cellulose	30% Non-fibrous (Other)	None Detected	
162220169-0027	Insulation on Metal	Fibrous Homogeneous	50% Glass		None Belevied	
 ГР- <b>4</b> -1	TP-4 - Residue on	White	20% Cellulose	80% Non-fibrous (Other)	None Detected	
162220169-0028	Ductwork	Fibrous Homogeneous	20% Centilose		None Detected	
TP-4-2	TP-4 - Residue on	White	30% Cellulose	70% Non-fibrous (Other)	None Detected	
1P-4-2 162220169-0029	Metal Sheeting	Fibrous Homogeneous	30 /a Celulose		MONE DETECTED	
	TD_/ Pattom of Dit		10% Cellulose	20% Quartz	None Detected	
TP-4-3 162220169-0030	TP-4, Bottom of Pit - Demolition Debris	Brown/Gray Fibrous Heterogeneous	10% Cellulose	70% Quartz 70% Non-fibrous (Other)	Notic Detected	
	TD 6 D''-	-		409/ Ownts	Name D-44- 1	
ΓP-5-1	TP-5 - Black Composite Flooring	Black Non-Fibrous		10% Quartz 90% Non-fibrous (Other)	None Detected	
162220169-0031		Homogeneous		4000/ 11 (17 )		
ГР-5-2	TP-5 - Insulating Debris on Metal	White Non-Fibrous		100% Non-fibrous (Other)	None Detected	
162220169-0032		Homogeneous				
TP-5-3	TP-5 - Insulating Material on Duct	Gray Fibrous	40% Min. Wool	60% Non-fibrous (Other)	None Detected	
162220169-0033		Homogeneous				
TP-5-4	TP-5, Bottom of Pit - Sediment Sample	Brown/Black Fibrous	15% Cellulose	20% Quartz 65% Non-fibrous (Other)	None Detected	
162220169-0034		Heterogeneous				

(Initial report from: 09/09/2022 08:29:26



EMSL Order: 162220169 Customer ID: JPCI50

Customer PO: Project ID:

### Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

		Non-Asbestos			<u>Asbestos</u>
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Type
TP-5-5 162220169-0035	30'N of TP-5 - Pulverized Debris on Concrete Slab	Brown Non-Fibrous Homogeneous		30% Quartz 70% Non-fibrous (Other)	None Detected
TP-9-1 162220169-0036	TP-9 - Insulating Debris on Metal	Gray Fibrous Homogeneous	10% Cellulose 15% Glass	75% Non-fibrous (Other)	None Detected
TP-8-1 162220169-0037	TP-8 - Insulating Debris on Metal	Gray/Various Fibrous Homogeneous	20% Glass	80% Non-fibrous (Other)	None Detected
TP-8-2 162220169-0038	TP-8 - Pipe Insulation Debris	Gray/Various Fibrous Homogeneous	30% Cellulose	70% Non-fibrous (Other)	None Detected
TP-7-1 162220169-0039	TP-7 - General Debris	Brown/Various Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
TP-11-1 162220169-0040	TP-11 - Insulating Debris on Metal	Gray/Various Fibrous Homogeneous	<1% Fibrous (Other)	100% Non-fibrous (Other)	None Detected
TP-11-2 162220169-0041	TP-11 - Sediment Sample	Gray/Various Fibrous Homogeneous	15% Glass	20% Quartz 65% Non-fibrous (Other)	None Detected
TP-6-1 162220169-0042	TP-6 - Switch Gear Insulation	Brown/White Fibrous Homogeneous	40% Cellulose	60% Non-fibrous (Other)	None Detected
TP-10-1 162220169-0043	TP-10 - Insulating Debris on Metal	White/Various Fibrous Homogeneous	20% Min. Wool	80% Non-fibrous (Other)	None Detected
TP-10-2 162220169-0044	TP-10 - Refractory Brick	Gray/Orange Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected

Analyst(s)

Hilary Jarvis (9) Maggie Hayden (7) Ross Matlock (11)

Sydney Bell (17)

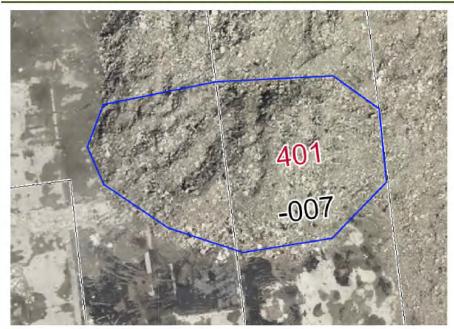
Asbestos Laboratory Manager or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 60/M4-82-020 "Interim Method") but augmented with procedures outlined in the 1993 ("final") version of the method. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc. Indianapolis, IN NVLAP Lab Code 200188-0, AZ0939, CA 2575, CO AL-15132, TX 300262

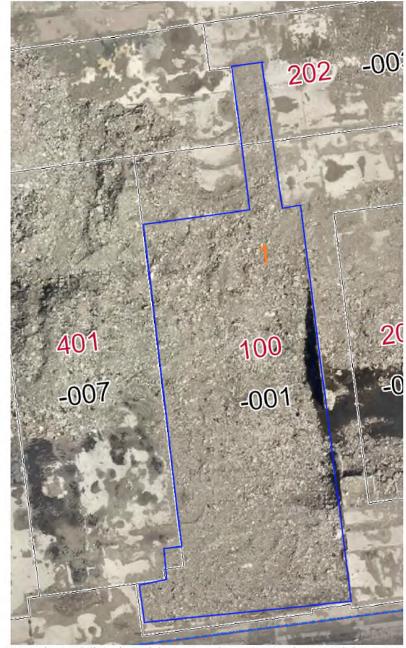
Initial report from: 09/09/2022 08:29:26

ATTACHMENT NO. 4
Project photos



Approximate delineation of the RACM debris pile

These two images taken from the Lorain County Auditor's website using their measuring tools.



Approximate delineation of the western basement section containing RACM



Sampled black fiber board from TP-13

Commencement at TP-13





TP-13-1

TP-13-2





TP-13 debris

TP-13 commencement



Samples TP-13-3 & 4



Sample TP-13-5 parent material



Sample TP-13-5



Sample TP-13-6



Water flow into TP-13 (likely storm water inflow until equilibrium was met)



Sample TP-13-7 with parent material



Sample TP-12-1-1 with parent material



Sample TP-12-1-2 with parent material



Sample TP-12-1-3 with parent material in background



Sample TP-12-1-4 with parent material



Sample TP-12-1-5 with parent material in background



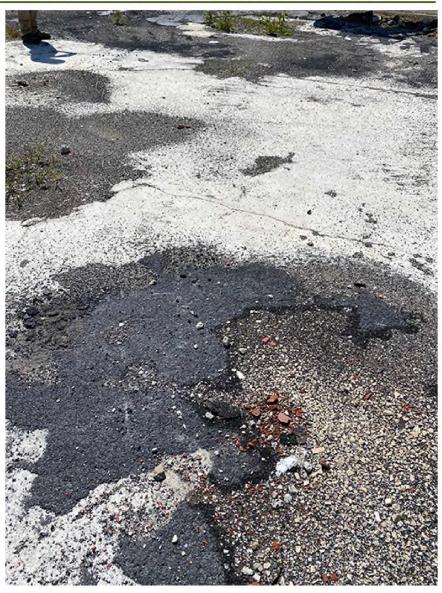
Sample TP-12-1-6 with parent material in background



Track hoe excavator beginning on TP-12 (note rainwater which helped minimize dust during excavation)



Sample TP-12-3-1 with parent material



Wide view of parent material (tested negative for asbestos)



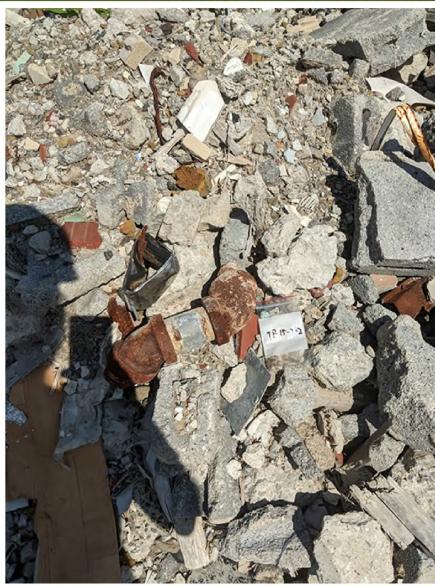
Precision Environmental personnel washing debris for better observation



Resulting improved view of demolition debris



Sample TP-15-2-1 with parent material



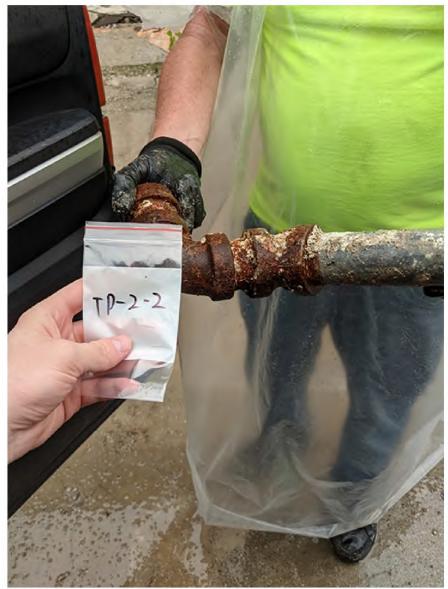
Sample TP-15-2-2 with parent material



Sample TP-15-2-3 with parent material



Sample TP-15-1-1 with parent material



Sample TP-2-2, suspected pipe joint insulation with parent material (Found to contain Amosite asbestos)



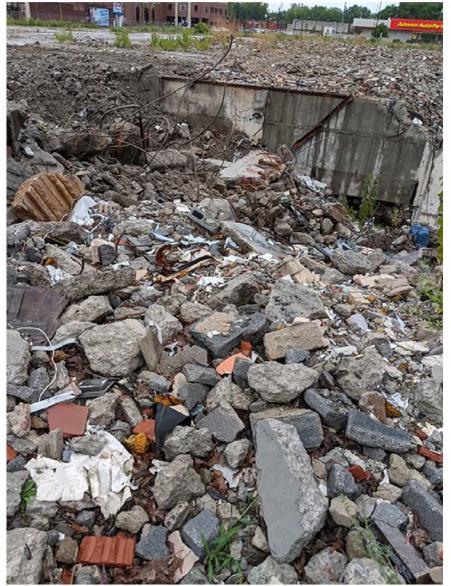
Samples TP-2-3 & 4, suspected Transite cement board and pipe joint insulation (Both samples found to contain asbestos)



Samples TP-2-3, suspected Transite cement board (Sample found to contain Chrysotile asbestos)



Parent material for sample TP-2-3



Wide view of TP-2 where RACM's were found



Sample TP-2-5



Sample TP-4-1 with parent material



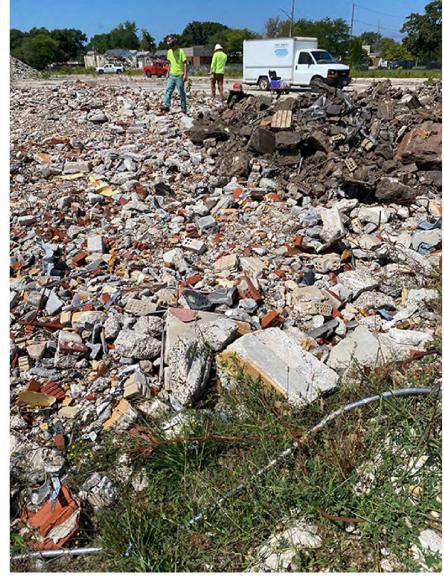
Sample TP-4-2 with parent material



Sample TP-5-1 with parent material



Sample TP-5-2 with parent material



Test Pit 5 Sample

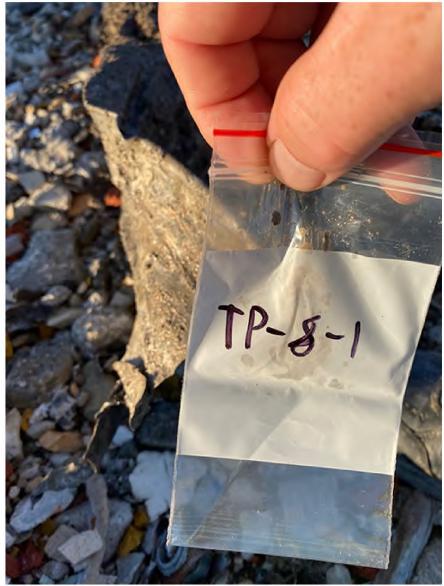




Sample TP-5-5 with parent material



Sample TP-9-1 with parent material



Sample TP-8-1 with parent material



Sample TP-8-2 with parent material







Sample TP-7-1



Sample TP-11-1 with parent material



Sample TP-6-1 with parent material



Sample site for TP-6-2



Sample TP-6-2 with parent material



Sample TP-10-1 with parent material



Sample TP-10-2 with parent material



Photo inspection of inaccessible pipe chases under foundation slab with no suspect ACM's observed



Photo inspection of inaccessible pipe chases under foundation slab with no suspect ACM's observed



Photo inspection of inaccessible pipe chases under foundation slab with no suspect ACM's observed



Photo inspection of inaccessible pipe chases under foundation slab with no suspect ACM's observed

Pardee Environmental
ATTACUMENT NO. E
ATTACHMENT NO. 5
Ohio Asbestos Certifications for Asbestos Inspector
Onio Aspestos Certifications for Aspestos inspector

# State of Ohio Environmental Protection Agency Asbestos Program

Asbestos Hazard Evaluation Specialist

John Pardee



47391 Garfield Road rection Agency Oberlin OH 44074

Certification Number Expiration Date

ES3201

2/11/23



# State of Ohio Environmental Protection Agency Asbestos Program

Asbestos Hazard Abatement Project Designer

John Pardee

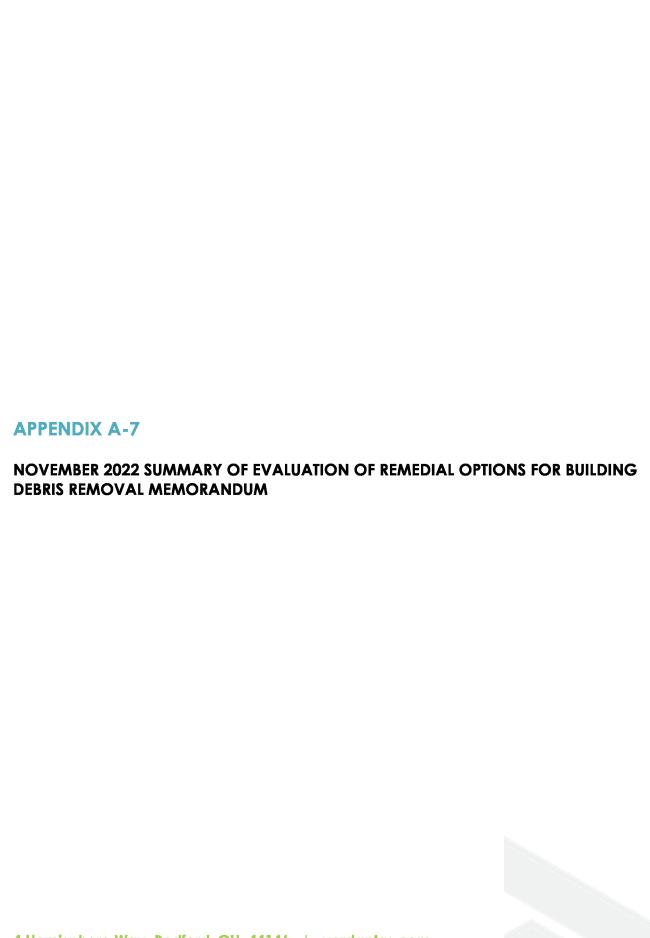


47391 Garfield Road tection Agency Oberlin OH 44074

Certification Number Expiration Date 2/11/23



DOB: 1/11/61



# MEMORANDUM



TO: Ms. Kathryn Golden, CPMSM, CFM, Storm Water Manager, City of Lorain

Mr. Sanford Washington Jr., Safety/Service Director, City of Lorain

FROM: Hien Pham, CPG, Senior Project Manager, Verdantas

Sarah Ewing, VAP Certified Professional, Verdantas

CC: Steven Gross, VAP Certified Professional, Verdantas

DATE: November 22, 2022

RE: Summary of Evaluation of Remedial Options for Building Debris Removal at

the City of Lorain Former St. Joseph Hospital Assessment Project (Property);

15011.0011.

#### PROJECT BACKGROUND AND OBJECTIVES

In accordance with approved May 27, 2022 Scope of Work, Verdantas, LLC (Verdantas) completed a series of test pits at the Property for further determination of the presence of Regulated Asbestos Containing Materials (RACM) and characterization of building demolition debris. Verdantas also installed and sampled six soil borings, five of which were converted to permanent monitoring wells, for the characterization of soil and groundwater media at the Property. These activities were conducted in effort to provide the City an Evaluation of Remedial Options (ERO) alternatives and associated Project Assumptions and Cost Estimate (PACE) for potential remedial activities at the Property.

The ERO and PACE discussed herein were developed based upon: the findings of radiation screening activities; visual observations, sampling of building debris, lead sheeting, and residual liquids during test pit activities; and sampling of soil and groundwater. A detailed discussion of these activities and the associated findings will be presented within a Phase II Property Assessment report, which will be submitted to the City under separate cover. The overall objective of this Memorandum is to provide the City with a probable ERO and PACE so that the City can evaluate the reasonably anticipated remedial activities and associated budgetary costs to conduct such activities that would be protective of human health and the environment and allow for the redevelopment of the Property.

Additionally, the investigation activities and findings were developed to further support the appropriate response actions associated with the Notice of Violations (NOVs) issued for the Property by both the Ohio EPA and the Lorain County Public Health Department (LCPH). The NOVs issued for the Property were in reference to improper clearance and disposal of building demolition debris including, the potential presence of hazardous waste, including observed lead sheeting materials comingled with demolition debris and failure to properly remove and dispose of asbestos-containing materials (ACM). LCPH also indicated that solid waste debris was present and that water that was infiltrating the former basement areas was considered leachate and must be disposed of in accordance with applicable laws and regulations.



#### **INFORMATION AND INVESTIGATION ACTIVITIES**

The following information was used in the development of this ERO and PACE:

- Results of radiological screening survey conducted both at the surface and of material at depth within test pits and rubble mound piles;
- Results of an October 2021 Environmental Assessment Report by Pardee Environmental to examine the Property and other tracts of land for suspect Asbestos Containing Material (ACM);
- Results of an August 2022, Asbestos Demolition Debris Assessment Report by Pardee Environmental to further characterize potential RACM in building debris at the Property, including at depth during test pit activities;
- Visual observations and analytical results of building debris material collected during test pit activities by Verdantas and Pardee;
- Analytical results of water samples from residual liquids (potential leachate) that has
  collected in the voids (i.e., basement areas) of the former building footprint areas on
  the Property; and,
- Analytical results of soil and groundwater samples collected from the installation and sampling of six soil borings, five of which were converted to permanent monitoring wells.

Between August 29 and August 31, 2022, exploratory test pits were advanced at the Property to further investigate the contents of the building debris material at the Property. Verdantas personnel oversaw test pit activities conducted by Precision Environmental Co., who also subcontracted Pardee Environmental to evaluate potential RACM. Both Contractors are Ohio licensed Asbestos Hazardous Abatement specialist and were retained by Verdantas. A total of eighteen (18) test pits were advanced across the Property to various depths, depending on the height/depth of rubble mound piles and the absence/presence of former basement areas that were filled in during demolition activities. Test pits were advanced for visual observations by Verdantas staff as well as Pardee Environmental for identification of potential RACM and Solid Waste. Based upon observations, several of the test pits were composited into a sample for laboratory characterization. During test pit activities, Verdantas also collected grab samples of residual liquids that had accumulated within the voids of the former building footprints in four areas across the Property (identified as W-1 through W-4 on the attached figure and noted below) to evaluate proper disposal requirements. Additionally, discrete samples were collected of material surrounding observed pieces of lead sheeting (VL-1 through VL-4) to characterize the potential for the lead sheeting to have leached to the surrounding building debris. The locations of the test pits are illustrated with former building features on the attached figure. A sampling summary of the test pits is provided in the attached Table 1A, and a sampling summary of soil and groundwater media is provided in Table 1B. Tabulated analytical results will be provided as part of the forthcoming Phase II report.

On October 24 and October 25, 2022, Verdantas installed six soil borings at the Property. Samples were collected from each soil boring from the 0-2 foot depth interval and based on the highest observed PID reading observed between 2 foot and the termination of the boring/soil boring refusal. Five of the six soil borings were converted to permanent monitoring wells. The monitoring wells were developed, purged, gauged, and sampled to characterize the conditions of groundwater underlying the Property.



#### FINDINGS OF TEST PIT ACTIVITIES, SOIL AND GROUNDWATER SAMPLING ACTIVITIES

In general, the test pits advanced at the Property consistently identified construction and demolition debris (C&DD) including brick, concrete, masonry, drywall, plaster, glass, wood, metal, wiring, insulation, and carpeting. The C&DD materials are all co-mingled and cannot be easily segregated. Verdantas personnel did not observe solid waste materials such as clothing, refuse bags, mattresses, furniture, or other household materials. Verdantas did observe isolated components of light ballasts in two of the test pits (TP-3 and TP-8) which will need to be separated and disposed of properly.

Radiological screening investigation activities both at the surface, at depth in the test pits and rubble mound piles did not identify any radiological readings above normal background levels.

Based upon a cursory review of the analytical results associated with samples collected from the C&DD material and the water that has infiltrated the void spaces, there are no characteristically hazardous materials. Limited detections of volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), metals, and total petroleum hydrocarbons (TPH) were present; however, the concentrations were not of significant concern.

Analytical results of the water samples collected from the building voids exhibited detections of metals, VOCs, and SVOCs in addition to reportable oil and grease. A cursory review of the water results in comparison to Ohio Voluntary Action Program (VAP) unrestricted potable use standards (UPUS) identified detections of 1,4-dioxane (maximum of 14 ug/L above VAP UPUS 4.6 ug/L) and pentachlorophenol (maximum of 1.7 ug/L above VAP UPUS of 1 ug/L), which is not an applicable or representative comparison but can be utilized as a screening tool to gauge the concentrations of chemicals reported and facilitate evaluation of appropriate disposal options.

Analytical results for building debris sampled in the vicinity of observed lead sheeting material did contain concentrations of lead above direct contact soil standards for residential land use and construction/excavation activities. However, the objective of the sampling was to characterize the material for proper disposal. Samples of the debris in the vicinity of the lead sheeting material are below the toxicity characteristic leaching procedure (TCLP) criteria for lead. The maximum lead TCLP result of 3.42 mg/L at lead sheeting location VL-2 is below the TCLP criteria of 5 mg/L. This indicates that the material can be disposed of as characteristically non-hazardous.

Pardee Environmental did identify RACM consisting of transite debris and pipe insulation debris in both the southern section of the large rubble mound pile and the western section of the main basement fill area in the vicinity of test pit TP-2. Pardee estimates that approximately 4,000 cubic yards of RACM is present at the Property, co-mingled within the southern portion of the large rubble mound pile and in the western portion of the Former Building E basement area.



Two soil samples were collected from each of the six soil borings installed at the Property and were submitted for analysis of VOCs, SVOCs, PCBs, TPH, and VAP metals. Soil samples did not exhibit any detections of VOCs or PCBs above laboratory reporting limits. Select SVOCs were detected in soil boring VSB-6 from 2-4 feet at concentrations below applicable VAP direct contact standards for a residential land use category. TPH was detected in several soil samples at concentrations below VAP residual soil saturation limits. Various metals were detected in all soil samples at concentrations that do not pose significant concerns and will be discussed further within the Phase II report to be submitted under separate cover.

Groundwater samples were collected from each of the five monitoring wells installed at the Property. There were no detections of VOCs or SVOCs above laboratory reporting limits. Several metals were detected in groundwater, including detections of select metals at concentrations above VAP UPUS. Concentrations of cadmium, cobalt, and chromium were reported in one or more monitoring wells at concentrations above UPUS. Nevertheless, a groundwater use restriction was placed on the southern portion of the Property as part of the 2015 VAP NFA and CNS, and it is not reasonably anticipated that groundwater is utilized for potable purposes. Additionally, groundwater was determined to be low yielding (i.e., Class B determination) based on the investigation activities conducted during October 2022 as well as the 2015 NFA and CNS. A more detailed evaluation of groundwater will be presented in the Phase II report.

#### **ERO and PACE**

As indicated, the information obtained from the screening investigation activities, the advancement, and observations of test pits, the Pardee ACM investigation activities, and a cursory review of the analytical results were utilized in order to develop a reasonably anticipated evaluation of remedial options and associated cost estimate for proper removal and disposal of the C&DD at the Property.

The ERO and PACE are based upon the following assumptions:

- The City does not own the Property but is contemplating purchase of the Property.
- If the Property is acquired, it is assumed that the City would proceed through the Ohio VAP to obtain a new VAP No Further Action Letter and request a Covenant Not to Sue from Ohio EPA to ensure redevelopment is deemed protective of human health and the environment.
- Redevelopment plans for the Property may include some combination of mixed use, including restricted residential and commercial/industrial uses.
- The ERO and PACE does not include any potential remedial activities associated with the existing parking garage, the only remaining structure within the Property limits, which is known to also contain RACM based upon the information contained within the October 2021 Pardee report.
- The ERO and PACE does not include any potential remedial activities associated with the partially demolished former x-ray room structures, which may potentially contain additional lead sheeting material that would require additional characterization and proper handling for demolition and disposal activities.
- There are no indication of radiological materials remaining at the Property that were formerly utilized in the former x-ray areas of the Property. However, the partially demolished x-ray structures should be further evaluated for proper demolition and



disposal activities, as the remaining thick concrete structures were not characterized herein.

- The building demolition debris generated on the Property primarily consists of C&DD materials, as defined in OAC 3745-400-01(C)(4).
- Given the co-mingled nature of the C&DD materials, and the fact that it has been used to fill in former basement areas, there is potential that once removal is initiated, some minor amount of solid waste (as defined in OAC 3745-27-01(S)(22) and OAC 3734;0101(E)) could be encountered. Therefore, as a contingency for appropriate disposal purposes, the ERO assumes that approximately 5% of the C&DD material could be characterized as solid waste.
- RACM is present and co-mingled within the southern portion of the large rubble mound pile (TP12-2 and TP12-3) and within the western portion of the Former Building E basement area (CTP-1 and CTP-4). These areas consist of approximately 4,000 cubic yards.
- Universal wastes may be encountered and require additional disposal considerations.
   However, given that components of light ballasts were observed in only 2 of the 18 test pits (TP-3 and TP-8), the potential to encounter additional universal wastes is considered isolated and nominal.
- The PACE assumes that an Ohio licensed Asbestos Hazardous Abatement Inspector
  will be present on Property during the remedial activities to observe and properly
  direct and document the removal and handling activities of ACM and RACM as
  noted above.

Based on the information gathered and the assumptions identified above, a PACE table was developed to provide a summary of remedial cleanup alternatives and professional environmental support services for consideration of selecting the most feasible remedial approaches at the Property to comply with potential future VAP requirements. The array of budgeting initial cost estimates associated with the summary for remedial cleanup alternatives were developed for use as the basis for future contract planning, decisions, and remedy selection decisions only, and are not intended for final project budgeting. Due to the preliminary nature of our study associated with potential remedial alternatives, the cost estimate developed accounts only for the initial proposed implementation of the various potential remedial alternatives and does not include any cost estimates associated with demolition, grading, and potential future redevelopment activities. For reference, the PACE table is attached hereto as Table 2.

It is anticipated that completion of these proposed remedial activities might range from approximately \$3,265,625 (does not include contingency or off-site residual liquid disposal) to \$4,545,993 (include contingency and off-site disposal of residual liquids).

A comprehensive Phase II Property Assessment Report will be prepared and submitted under separate cover to provide a more detailed discussion of the assessment activities conducted and associated Phase II findings.

**TABLES** 

# MEMORANDUM: SUMMARY OF EVALUATION OF REMEDIAL OPTIONS FOR BUILDING DEBRIS REMOVAL FORMER ST. JOSEPH HOSPITAL REDEVELOPMENT 205 & 208 W 20th STREET, LORAIN, OHIO

### TABLE 1A

#### **SUMMARY OF TEST PIT INVESTIGATION ACTIVITIES**

	Took Dik Long Many		Samuele Danie							Labo	ratory Analy	tical Parc	meters						
Sample Location Area Description	Test Pit Location / Sample Location	Sample Name	Sample Depth (feet)	Sample Date	Field Sample ID				RCRA 8	TCLP RCRA	RACM	VAP 16	Oil &		TCLP		TPH		Notes
	oumpio rocalion		(.66.)			VOCs	SVOCs	PCBs	Metals	8 Metals	Identified *		Grease			C6-C12		C <sub>20</sub> -C <sub>3</sub>	4
						Ž.													
	TP-1	CTP-1	0 - 14 feet	8/30/2022	LRN005:CTP-1:D083022	x	×	х	Х	x	x					Х	x	х	
Former Building E / B Basement	TP-2	Ciii-i	0 - 14 1001	0/30/2022	EKN003.C11-1.D003022	_ ^	^	_^_	^	^	^					^		^	
Area - West	TP-6			W. C. C. C. C.	10 Sept. 10							1	-					1000	
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	TP-10	CTP-4	0 - 14 feet	8/31/2022	LRN005:CTP-4:D083122	Х	Х	Х	Х	Х	Х					Х	Х	Х	Several test pits, short in length but deep to characterize material placed within the former
	TP-11								4									100	basement footprint. Based upon visual
	TP-3			700 X 700 X 700 X	TALL BOOK NO. 12 (2013) 1882				17.7				-	1					observations, individual test pits were
	TP-4	CTP-2	0 - 14 feet	8/30/2022	LRN005:CTP-2:D083022	Х	Х	Х	Х	Х						Х	X	Х	composited for into four samples for laboratory
Former Building E / B Basement	TP-7																		analysis as noted.
Area - East	TP-5			7.34	200000000000000000000000000000000000000		100		19.71								174,11		
	TP-8	CTP-3	0 - 14 feet	8/30/2022	LRN005:CTP-3:D083022	Х	Х	Х	Х	Х						Х	X	Х	
	TP-9																		
Large Rubble Mound Piles between basement area and parking garage - North	TP-12-1	TP12-1	0 - 5 feet	8/29/2022	LRN005:TP12-1:D082922	х	x	x	x	x						x	x	×	Long shallow transect test pits to characterize the material in the large rubble piles. Visual
Large Rubble Mound Piles	TP-12-2	TP-12-2	0 - 5 feet	8/29/2022	LRN005:TP12-2:D082922	х	х	х	Х	х	х					Х	х	х	observations will be used to determine RACM, solid waste, and identify any additional lead
between basement area and parking garage - South	TP-12-3	TP-12-3	0 - 5 feet	8/29/2022	LRN005:TP12-3:D082922	х	х	х	х	х	х					х	х	х	sheeting material.
Former radiology film storage basement room near northeast comer of parking garage.	TP-13	TP-13	0 - 12 feet	8/29/2022	LRN005:TP-13:D082922	х	х	х	х	х						х	х	х	One long deep test pit to characterize material placed within former radiological storage basement area.
Rubble located outside footprint of partially demolished former X-ray rooms at the northwest portion of the Property.	TP-14	TP-14	0 - 5 feet	8/29/2022	LRN005:TP-14:D082922	х	х	x	х	х						х	х	x	Shallow test pit to characterize debris outside of former x-ray rooms.
Former mechanical room basement area northeast portion	TP-15-1	- CTP-5	0 - 14 feet	8/30/2022	LRN005;CTP-5;D083022	x	x	х	x	x						x	x	x	Deep transect test pits to characterize the material in the rubble pile and former basemen footprint. Based on visual observations, the
of Property	TP-15-2	CIP-5	0 - 14 1661	6/30/2022	LKN005.C1F-5.D063022	^		^	^	^						^		^	individual test pits were composited into one sample for laboratory analysis as noted.
	TP12-2	VL-1	0 - 0 feet	8/30/2022	LRN005:VL-1:D083022									х	х				
	TP-4	VL-2	0 - 0 feet	8/30/2022	LRN005:VL-2:D083022									х	х				Additional Discrete samples to characterize
Lead sheeting characterization	TP-10	VL-3	0 - 0 feet	8/31/2022	LRN005:VL-3:D083122									х	х				debris around lead sheeting material
	Adjacent to Parking Garage	VL-4	0 - 0 feet	8/31/2022	LRN005:VL-4:D083122									х	х				
Characterization of liquid	W-1	W-1		8/29/2022	LRN005:W-1:W082922	Х	Х	Х			h	Х	Х						Liquid samples to characterize water that has
Characterization of liquid accumulated in former basment	W-2	W-2	Not Applicable	8/30/2022	LRN005:W-2:W083022	Х	Х	Х			1	Х	Х						Induition of the filled former basement areas / voids of building
void areas	W-3	W-3	(NA)	8/30/2022	LRN005:W-3:W083022	Х	Х	Χ				Х	Х						debris
5.5 5.000	W-4	W-4		8/31/2022	LRN005:W-4:W083122	Х	Х	Х				X	Х						GODIII

<sup>\*</sup> Regulated Asbestos Containing Material (RACM) was investigated by Pardee Environmental and identified through analysis at this test pit location.

# MEMORANDUM: SUMMARY OF EVALUATION OF REMEDIAL OPTIONS FOR BUILDING DEBRIS REMOVAL FORMER ST. JOSEPH HOSPITAL REDEVELOPMENT 205 & 208 W 20th STREET, LORAIN, OHIO

## TABLE 1B

## SUMMARY OF SOIL AND GROUNDWATER INVESTIGATION ACTIVITIES

			Sampl	е Туре					Laborator	y Analy	tical Par	ameters	b
IA/REC <sup>a</sup>	IA/REC Description	Sample Location	Soil Boring	Monitoring Well	Sample Depth	Sample Date	Field Sample ID	VOCs	SVOCs	PCBs	VAP 16 Metals	GRO	DRO
		VSB-1/MW-1	Х		0 - 2 feet	10/24/2022	LRN005:VMW-1:S000020	Х	Х	Х	Х	X	Х
		V3D-1/WW-1	Λ		7 - 9 feet	10/24/2022	LRN005:VMW-1:S070090	Х	Х	Х	Х	Χ	Х
		VSB-2/VMW-2	X		0 - 2 feet	10/25/2022	LRN005:VMW-2:S000020	Х	Х	Х	Χ	Х	Х
		V3D-2/V1V(VV-2	^		2 - 2.5 feet	10/25/2022	LRN005:VMW-2:S020025	Х	X	Х	Χ	Χ	Х
		VSB-3/VMW-3	Х		0 - 2 feet	10/24/2022	LRN005:VMW-3:S000020	Х	X	Х	Х	X	Х
		V3D-3/V1VIVV-3	^		4 - 5 feet	10/24/2022	LRN005:VMW-3:S040050	Х	X	Х	Χ	Х	Х
		VSB-4/VMW-4	Х		0 - 2 feet	10/24/2022	LRN005:VMW-4:S000020	Х	Χ	Х	Χ	X	Х
		V 3D-4/ V /VIVV-4	^		5 - 7 feet	10/24/2022	LRN005:VMW-4:S050070	Х	X	Х	Χ	Х	Х
		VSB-5/VMW-5	Х		0 - 2 feet	10/24/2022	LRN005:VMW-5:S000020	Х	Χ	Х	Χ	Х	Х
	Demolition Debris	V3B-3/ V1VIVV-3	^		5 - 7 feet	10/24/2022	LRN005:VMW-5:S050070	Х	Х	Х	Χ	Χ	Х
IA-1/REC-1		VSB-6	Х		0 - 2 feet	10/24/2022	LRN005:VSB-6:S000020		X	Х	Χ	Χ	Х
'- >°'		V3D-0	^	4	2 - 4 feet	10/24/2022	LRN005:VSB-6:S020040		Х	Х	Χ	Х	Х
	1	VMW-1		Х		10/28/2022	LRN005:VMW-1:G102822	Х	X		Х		
		VMW-2		X	1	10/28/2022	LRN005:VMW-2:G102822	Х	Х		Х		
		VMW-3		х		10/28/2022	LRN005:VMW-3:G102822	Х	х		х		
		VMW-4		Х	-	10/28/2022	LRN005:VMW-4:G102822	Х	Х		х		
	1 1	VMW-5		Х		10/28/2022	LRN005:VMW-5:G102822	Х	Х		х		

# Notes:

- a. Identified Area (IA)/Recognized Environmental Condition (REC), as determined in the 2022 Phase I Property Assessment (Verdantas Document #15011.0006, September 2022).
- b. Laboratory Analytical Parameter Acronym Summary:

Volatile Organic Compounds (VOCs)

Semi-Volatile Organic Compounds (SVOCs)

Voluntary Action Program (VAP) Metals

Polychlorinated Biphenyls (PCBs)

Total Petroleum Hydrocarbons (TPH), gasoline range organics (GRO) and diesel range organics (DRO)

# MEMORANDUM: SUMMARY OF EVALUATION OF REMEDIAL OPTIONS FOR BUILDING DEBRIS REMOVAL FORMER ST. JOSEPH HOSPITAL REDEVELOPMENT 205 & 208 W 20th STREET, LORAIN, OHIO

### TABLE 2

### PROJECT ASSUMPTIONS AND COST ESTIMATE (PACE)

Category	Item	Units	Es	timated Unit Price	Estimated Quantity	Estimated Total	Notes
	Cleanup/Remediation						
	Health & Safety Plan	ls	\$	5,000.00	1	\$ 5,000	
	Mobilization/ Demobilization/ General Conditions	ls	\$	20,000.00	1	\$ 20,000	Assumes an estimated 2 month remediation schedule.
	Remedial Excavation and Loading of Assumed RACM Co-mingled with Demo Debris Complete	су	\$	81.00	4,185	\$ 339,006	
	Off-Site Transportation and Disposal of Assumed RACM Co-mingled with Demo Debris Complete	ton	\$	116.00	6,696	\$ 776,784	
	Excavation and Loading of Construction Demolition Debris Complete	су	\$	5.50	13,076	\$ 71,916	
	Off-Site Transportation and Disposal of Construction Demolition Debris Complete	ton	\$	46.50	20,921	\$ 972,824	
	Excavation and Loading of Solid Waste Co-mingled with Demo Debris Complete	су	\$	8.50	688	\$ 5,850	
	Off-Site Transportation and Disposal of Solid Waste Comingled with Demo Debris Complete	ton	\$	67.00	1,101	\$ 73,774	
	Management Residual Liquids	gallons	\$	0.20	561,408	\$ 112,282	Assumes basement areas to be filled to about 15% of capacity with residual liquids.
	Off-Site Transport and Disposal of Residual Liquids	gallons	\$	1.25	561,408	\$ 701,761	If Residual Liquids can be discharged directly to Sanitary Sewer line then there could be a potential cost savings.
	Off-Site Borrow Material Complete	cyds	\$	32.00	18,528	\$ 592,907	Assumes Borrow material will be required to meet VAP residential standards.
	Backfill and Compaction of Remedial Areas Complete.	cyds	\$	10.00	18,528	\$ 185,283	Assumes compaction to achieve 98% .
	Contingency						
Contingency	15% Project Contingency	ls	\$	578,607.82	1	\$ 578,608	Assumes a 15% Project Contingency on Site Debris Remediation Activities.
Compl	iance and Regulatory Support Services						
	Regulatory Compliance Technical Implementation Activities Support	ls	\$	35,000.00	1	\$ 35,000	Assumes Support through an estimated 2 month remediation schedule.
Compliance and Regulatory Support		ls	\$	5,000.00	1	\$ 5,000	
	Observation and Documentation of Remediation Activities	ls	\$	60,000.00	1	\$ 60,000	Assumes Support through an estimated 2 month remediation schedule.
	Confirmation Sampling Activities and Clearance Report	ls	\$	10,000.00	1	\$ 10,000	
	Estimated Total Costs					\$ 4,545,993	

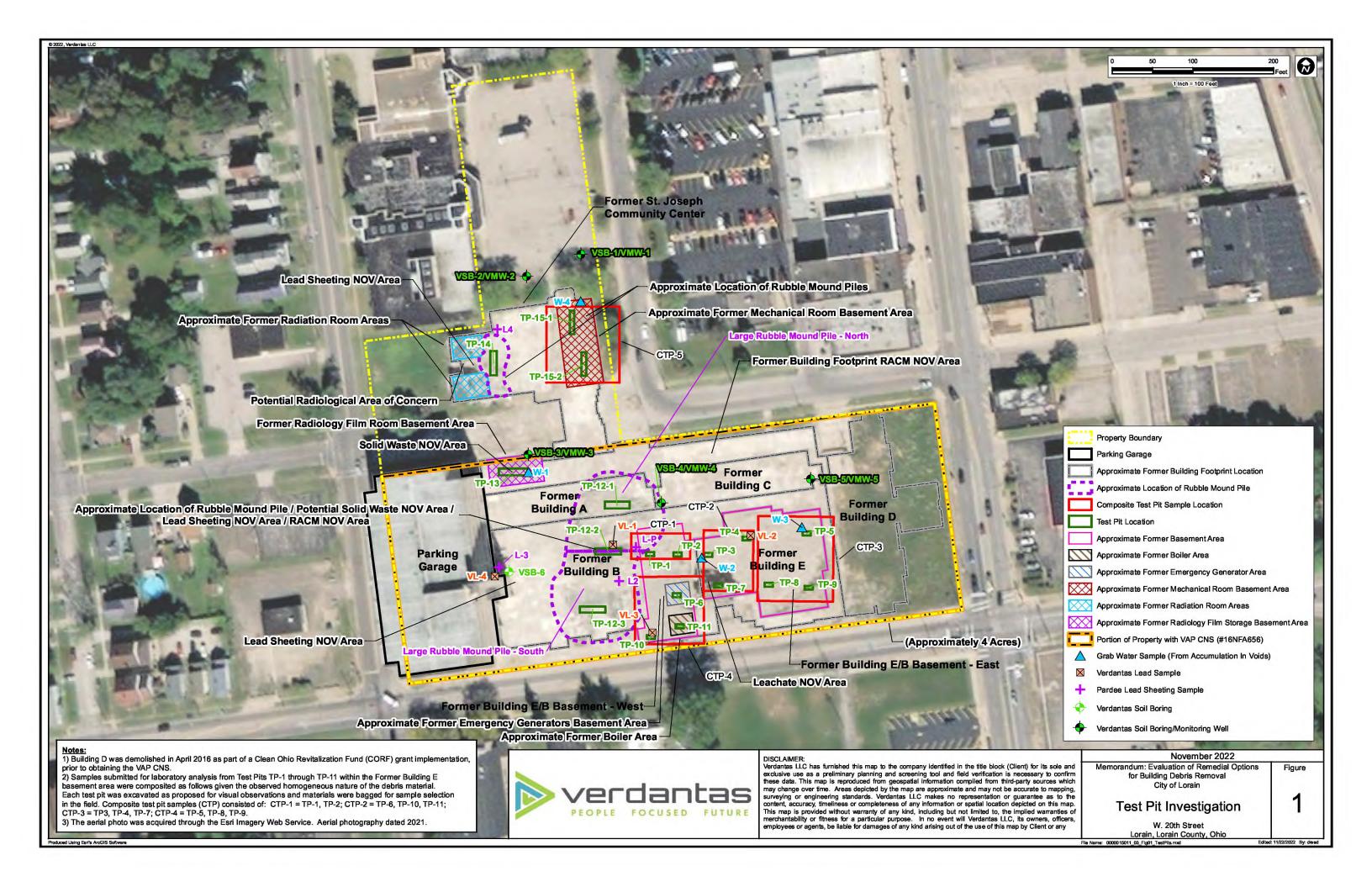
#### Notes:

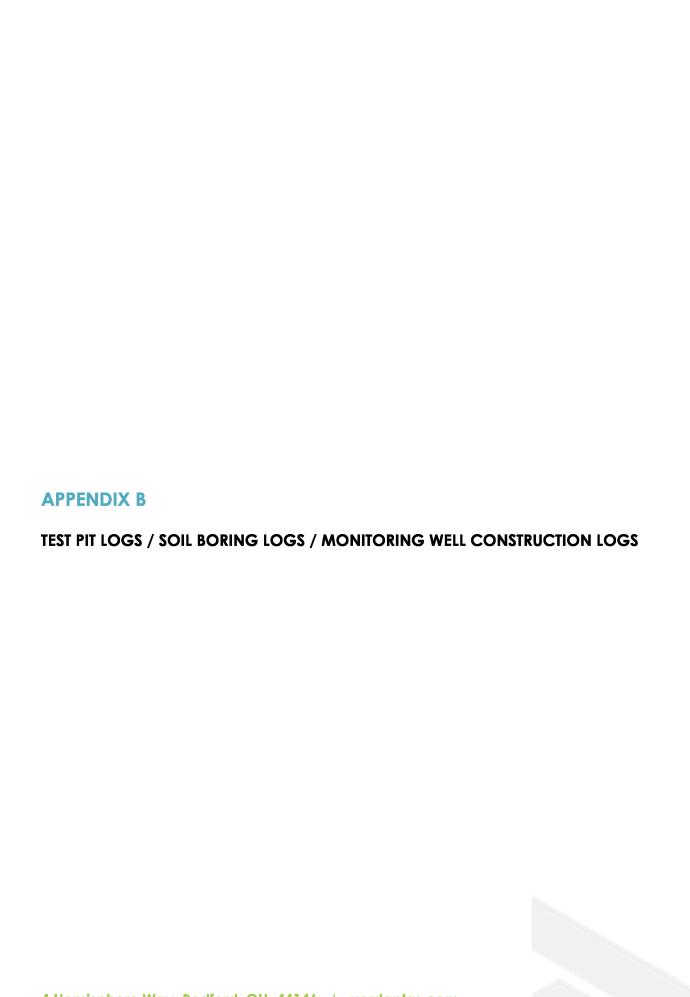
- 1. Costs are provided as a general summary estimate and are our opinion of the most probable project costs based on our best judgment and experience.
- 2. The opinion of probable cost prepared will vary accordingly to the actual cost of labor, materials, equipment, competitive bidding, market condition, specific site requirements, and size, as well as actual quantities expended.
- 3. Unit prices were estimated using published cost data for similar types of materials or construction.
- 4. The total project cost will also be affected by the time of year that bids are solicited, the amount of time allocated for construction, and the total amount of construction performed under a particular contract.

Memorandum Project Number: 15011.0011



# **FIGURE**







Date Started : 10-24-22
Date Completed : 10-24-22
Logged By : J. Belopotosky

Logged By : J. Belopotosk
Reviewed By : J. Mielecki
Drilling Contractor : Envirocore

Drilling Method : Geoprobe/4.25" HSA Sampling Method : 5' Dual Tube

Total Depth : 13' Lab Samples : 2

PID Model : Mini RAE 3000

LOG OF BORING VMW-1

(Page 1 of 1)

PID Calibration : 100 ppm Isobutylene

epth in eet	Length Drive/ Sample Recovery (ft.)	Sample Number/ Sample Interval	PID	Blow Count (6"-12"-6")	Samples	GRAPHIC	Soil Samples  Sample Interval  Lab Sample	Water Levels  _▼ Static  _▽ During drilling	Well: VMW-1 TOC Elevation: 98.80
	പ്പ് പ്	8 8		<u>a</u> e	တိ	ত	DESCI	KIPTION	Cover
1-	DP-1 5.0/4.0	SS-1 0-2.0	3.9	NA			FILL: CONCRETE.  Gray, CLAY, with rock frag	gments, moist.	Surface Casing Concrete
3-		SS-2 2.0-4.0	4.1	NA			Brown and gray, CLAY, w moist.	ith rock fragments,	2" PVC Riser Bentonite Sea
5-	DP-2 5.0/5.0	SS-3 5.0-7.0	2.5	NA					—Sand Pack —2" PVC Scree
7		SS-4 7.0-9.0	4.3	NA	/ \		Brown, CLAY, with weather fragments, moist.	ered shale and rock	—Sand Pack —2" PVC Scree
9-		SS-5 9.0-10.0	3.7	NA	X				
10-	DP-3 2.0/2.0	SS-6 10.0-12.0	4.9	NA			Brown and red, CLAY, wit moist.	th weathered shale,	
12-							Sampler refusal at 12.0 fe	eet bgs.	
13-						//	Auger refusal at 13.0 feet	V.0	<u>                                  </u>

SOIL SAMPLE SS-1 MW-1:S000020 SUBMITTED FOR LAB ANALYSIS SOIL SAMPLE SS-4 MW-1:S070090 SUBMITTED FOR LAB ANALYSIS

11-09-2022 Z:\Project Files\15000\15011\Working\Boring logs\MW-1.bo



Date Started : 10-25-22
Date Completed : 10-25-22
Logged By : J. Belopoto

Logged By : J. Belopotosky Reviewed By : J. Mielecki Drilling Contractor : Envirocore

Drilling Method : Geoprobe/4.25" HSA Sampling Method : 5' Dual Tube

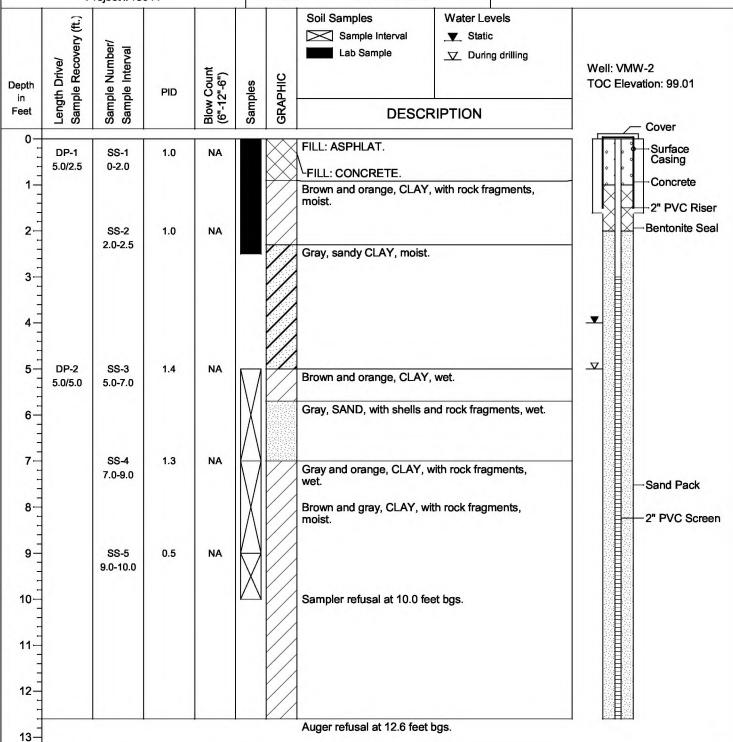
Total Depth : 12.6' Lab Samples : 2

PID Model : Mini RAE 3000

#### LOG OF BORING VMW-2

(Page 1 of 1)

PID Calibration : 100 ppm Isobutylene



SOIL SAMPLE SS-1 MW-2:S000020 SUBMITTED FOR LAB ANALYSIS SOIL SAMPLE SS-2 MW-2:S020025 SUBMITTED FOR LAB ANALYSIS

11-09-2022 Z:\Project Files\15000\15011\Working\Boring logs\MW-2.bo



Date Started : 10-24-22
Date Completed : 10-24-22
Logged By : J. Belopoto

Logged By : J. Belopotosky Reviewed By : J. Mielecki Drilling Contractor : Envirocore

Drilling Method : Geoprobe/4.25" HSA Sampling Method : 5' Dual Tube

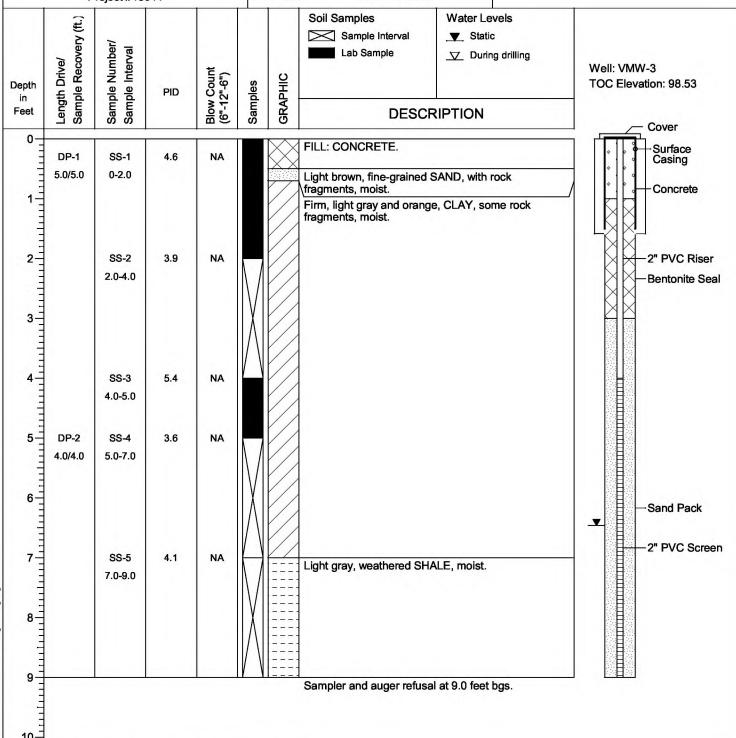
Total Depth : 9' Lab Samples : 2

PID Model : Mini RAE 3000

LOG OF BORING VMW-3

(Page 1 of 1)

PID Calibration : 100 ppm Isobutylene



SOIL SAMPLE SS-1 MW-3:S000020 SUBMITTED FOR LAB ANALYSIS SOIL SAMPLE SS-3 MW-3:S040050 SUBMITTED FOR LAB ANALYSIS

11-09-2022 Z:\Project Files\15000\15011\Working\Boring logs\MW-3.bo



Date Started : 10-24-22
Date Completed : 10-24-22
Logged By : J. Belopotos

Logged By : J. Belopotosky Reviewed By : J. Mielecki Drilling Contractor : Envirocore

Drilling Method : Geoprobe/4.25" HSA Sampling Method : 5' Dual Tube

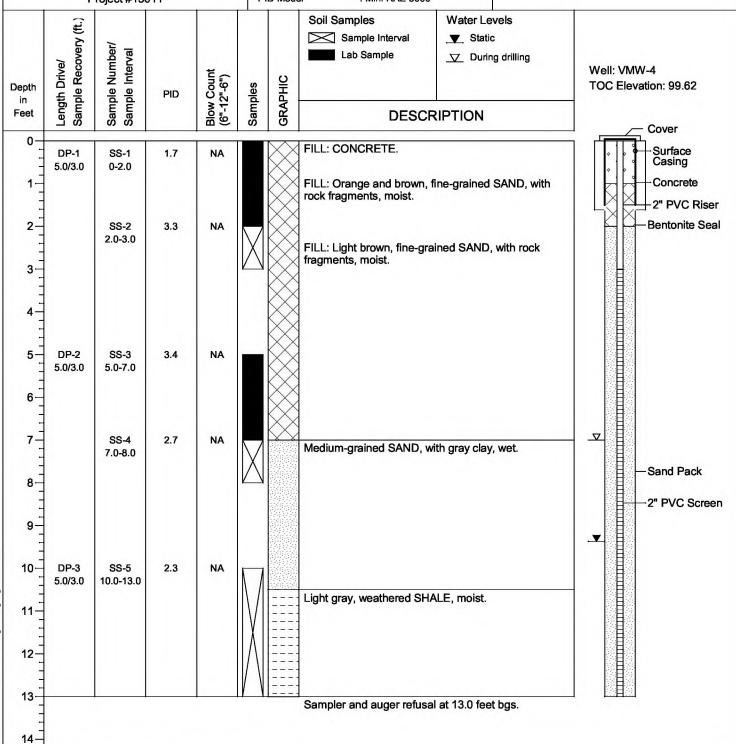
Total Depth : 13' Lab Samples : 2

PID Model : Mini RAE 3000

LOG OF BORING VMW-4

(Page 1 of 1)

PID Calibration : 100 ppm Isobutylene



SOIL SAMPLE SS-1 MW-4:S000020 SUBMITTED FOR LAB ANALYSIS SOIL SAMPLE SS-3 MW-4:S050070 SUBMITTED FOR LAB ANALYSIS

11-09-2022 Z:\Project Files\15000\15011\Working\Boring logs\MW-4.bo



Date Started : 10-24-22
Date Completed : 10-24-22
Logged By : J. Belopoto

Logged By : J. Belopotosky Reviewed By : J. Mielecki Drilling Contractor : Envirocore

Drilling Method : Geoprobe/4.25" HSA Sampling Method : 5' Dule Tube

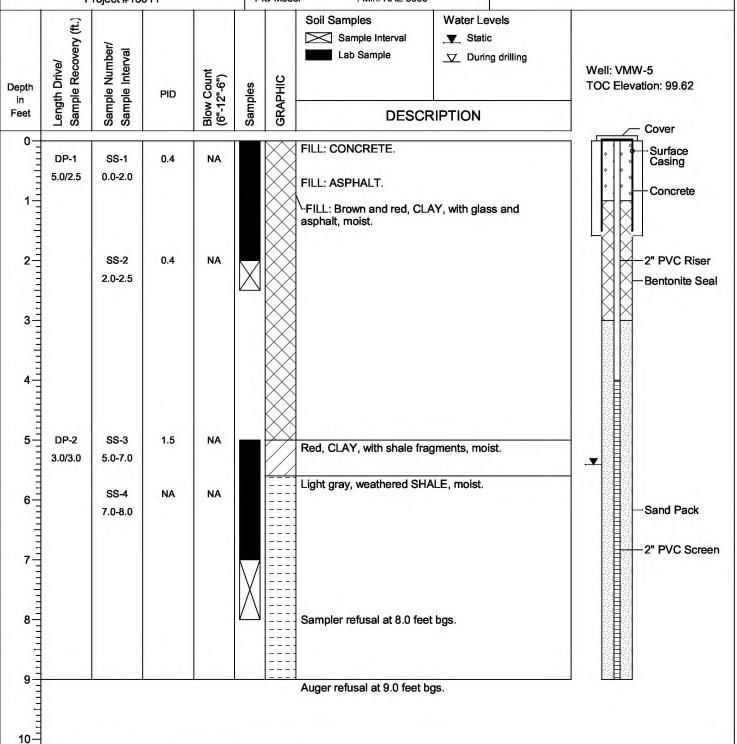
Total Depth : 9' Lab Samples : 2

PID Model : Mini RAE 3000

LOG OF BORING VMW-5

(Page 1 of 1)

PID Calibration : 100 ppm Isobutylene



SOIL SAMPLE SS-1 MW-5:S000020 SUBMITTED FOR LAB ANALYSIS SOIL SAMPLE SS-3 MW-5:S050070 SUBMITTED FOR LAB ANALYSIS

11-09-2022 Z:\Project Files\15000\15011\Working\Boring logs\MW-5.bo



Date Started : 10-24-22
Date Completed : 10-24-22
Logged By : L Release

Logged By : J. Belopotosky
Reviewed By : J. Mielecki
Drilling Contractor : Envirocore

Drilling Method : Geoprobe Sampling Method : 5' Dual Tube

Total Depth

Lab Samples : 2 PID Model : Mini RAE 3000

: 10'

LOG OF BORING VSB-6

(Page 1 of 1)

PID Calibration

: 100 ppm Isobutylene

Depth in Feet Puive/	Sample Recovery (ft.) Sample Number/		PID	Blow Count (6"-12"-6")	Samples	GRAPHIC	Soil Samples Sample Interval Lab Sample	Water _▼ Str	atic ring drilling	Water Level	REMARKS
0 DF 5.0/	200	2.0	3.8	NA NA			FILL: Red and brown, SAN fragments, asphalt fragmen moist.  FILL: Red and brown, SANI fragments, asphalt fragments, asphalt fragments, asphalt fragments, asphalt fragments,	ts, and roc	crtee	V	Soil Sample SS-1 SB-6:S000020 submitted for laboratory analysis. Soil Sample SS-2 SB-6:S020040 submitted for laboratory analysis.
5— DF - 5.0/	F-1		3.2	NA			wet.  FILL: Brown, SAND, with co fragemnts, some gravel, we	oncrete and	i rock		
10-							Refusal at 10.0 feet bgs.				



Date Started : 8-30-22 Date Completed : 8-30-22

Logged By : G. Perau Reviewed By : J. Kennedy

Drilling Contractor : Precision Environmental

Drilling Method : Excavator
Sampling Method : Bucket
Total Depth : 17'
Lab Samples : 1

LOG OF TEST PIT TP-1

(Page 1 of 1)

PID Calibration : 100 ppm Isobutylene

epth in	Length Drive/ Sample Recovery (ft.)	Sample Number/ Sample Interval	PID	Blow Count (6"-12"-6")	Samples	GRAPHIC	Soil Samples  Sample Interval  Lab Sample	Water Levels _▼ Static _▼ During drilling	 Water Level	REMARKS
eet	San	San		Blo -"-)	San	GR.	DESCRI	IPTION	Wat	
0	E-1 2.0/2.0	SS-1 0.0-2.0	0.1	NA			FILL: CONCRETE, BRICK moist.	, FINES, and Cⅅ*,		TP-1 samples were composited with TP-2 samples into composite sample "CTP-1:D083022"
2-	E-2 2.0/2.0	SS-2 2.0-4.0	0.1	NA						and submitted for laboratory analysis.
4-	E-3 2.0/2.0	SS-3 4.0-6.0	0.1	NA						
6 7	E-4 2.0/2.0	SS-4 6.0-8.0	0.1	NA						
8   1   9   1	E-5 2.0/2.0	SS-5 8.0-10.0	0.1	NA						
10 - 1	E-6 2.0/2.0	SS-6 10.0-12.0	0.1	NA						
12- 13-	E-7 2.0/2.0	SS-7 12.0-14.0	0.1	NA						
14-	E-8 2.0/2.0	SS-8 14.0-16.0	0.1	NA			FILL: CONCRETE, BRICK wet.	, FINES, and Cⅅ*,	▽	
16	E-9 1.0/1.0	SS-9 16.0-17.0	0.1	NA						

<sup>\*</sup>C&DD may contain various carpeting, lumber, wiring, steel, plumbing fixtures, and plaster/drywall.

<sup>\*\*</sup>Test pit installed on the top of a rubble pile, depths are presented herein from the top of the rubble pile (pile approximately 3 feet above current ground surface).

<sup>\*\*\*</sup>Maximum Radiation Reading: 13uR/hr.



Date Started : 8-30-22 Date Completed : 8-30-22

Logged By : G. Perau Reviewed By : J. Kennedy

Drilling Contractor : Precision Environmental

Drilling Method : Excavator
Sampling Method : Bucket
Total Depth : 11'
Lab Samples : 1

PID Model : Mini RAE 3000

LOG OF TEST PIT TP-2

(Page 1 of 1)

PID Calibration

: 100 ppm Isobutylene

Depth in Feet	Length Drive/ Sample Recovery (ft.)	Sample Number/ Sample Interval	PID	Blow Count (6"-12"-6")	Samples	GRAPHIC	Soil Samples Sample Interval Lab Sample  DESCI	Water Levels _▼. Static _▽. During drilling	Water Level	REMARKS
0-	E-1 2.0/2.0	SS-1 0.0-2.0	0.4	NA NA			FILL: CONCRETE, BRIC moist.	CK, FINES, and Cⅅ*,		TP-2 samples were composited with TP-1 samples into composite sample "CTP-1:D083022" and submitted for laboratory analysis.
2- 3-	E-2 2.0/2.0	SS-2 2.0-4.0	0.4	NA						
4- 5-	E-3 2.0/2.0	SS-3 4.0-6.0	0.4	NA						
6- - - 7- -	E-4 2.0/2.0	SS-4 6.0-8.0	0.4	NA						
8- - - 9- -	E-5 2.0/2.0	SS-5 8.0-10.0	0.4	NA			FILL: CONCRETE, BRIC wet.	CK, FINES, and Cⅅ*,	▽	
10-	E-6 1.0/1.0	SS-6 10.0-11.0	0.4	NA						
							End of test pit at 11.0 fee	et.		

\*C&DD may contain various carpeting, lumber, wiring, steel , plumbing fixtures, and plaster/drywall.

<sup>\*\*</sup>Test pit installed in a void, depths are presented herein from the bottom of the void (void approximately 3 feet below current ground surface).

<sup>\*\*\*</sup> Maximum Radiation Reading: 11 uR/hr.



**Date Started** : 8-30-22 Date Completed : 8-30-22

Logged By : G. Perau Reviewed By : J. Kennedy

**Drilling Contractor** : Precision Environmental

: Excavator **Drilling Method** Sampling Method : Bucket **Total Depth** : 14' Lab Samples : 1

LOG OF TEST PIT TP-3

(Page 1 of 1)

PID Calibration

: 100 ppm Isobutylene

	F	Project #150	11		PID	Model	: Mini RAE 3000				
Depth in Feet	Length Drive/ Sample Recovery (ft.)	Sample Number/ Sample Interval	PID	Blow Count (6"-12"-6")	Samples	GRAPHIC	Soil Samples  Sample Interval  Lab Sample  DESCI	Water Le  _▼ Stati  _▽ Duri	С	Water Level	REMARKS
0-	E-1 2.0/2.0	SS-1 0.0-2.0	0.4	NA			FILL: CONCRETE, BRIC moist.	CK, FINES, &	and Cⅅ*,		TP-3 samples were composited with TP-4 and TP-7 samples into composi sample "CTP-2:D083022"
2-	E-2 2.0/2.0	SS-2 2.0-4.0	0.4	NA							and submitted for laboratory analysis.
4- 5-	E-3 2.0/2.0	SS-3 4.0-6.0	0.4	NA							
6-	E-4 2.0/2.0	SS-4 6.0-8.0	0.4	NA							
8-	E-5 2.0/2.0	SS-5 8.0-10.0	0.4	NA							
10-	E-6 2.0/2.0	SS-6 10.0-12.0	0.4	NA			FILL: CONCRETE, BRIC	CK, FINES, a	and Cⅅ*,	∇.	
12-	E-7 2.0/2.0	SS-7 12.0-14.0	0.4	NA			wet.				
14-							End of test pit at 14.0 fee	et.			

<sup>\*\*\*</sup> Maximum Radiation Reading: 13 uR/hr.



Date Started : 8-30-22 Date Completed : 8-30-22

Logged By : G. Perau Reviewed By : J. Kennedy

Drilling Contractor : Precision Environmental Drilling Method : Excavator

Sampling Method : Bucket
Total Depth : 14'
Lab Samples : 1

PID Model : Mini RAE 3000

#### LOG OF TEST PIT TP-4

(Page 1 of 1)

PID Calibration

: 100 ppm Isobutylene

	F	roject #150	11		PID	Model	: Mini RAE 3000				
Depth in Feet	Length Drive/ Sample Recovery (ft.)	Sample Number/ Sample Interval	PID	Blow Count (6"-12"-6")	Samples	GRAPHIC	Soil Samples  Sample Interval  Lab Sample  DESCE	Water L  ▼ Sta  ▼ Du	atic ring drilling	Water Level	REMARKS
0-							FILL CONODETE DDIO	K EINEO	1 00 DD#		
1-	E-1 2.0/2.0	SS-1 0.0-2.0	0.3	NA			FILL: CONCRETE, BRIC moist.	K, FINES,	, and Cⅅ*,		TP-4 samples were composited with TP-3 and TP-7 samples into composite sample "CTP-2:D083022" and submitted for laboratory
2- 3-	E-2 2.0/2.0	SS-2 2.0-4.0	0.3	NA							analysis.
4- 5-	E-3 2.0/2.0	SS-3 4.0-6.0	0.3	NA							
6- 7-	E-4 2.0/2.0	SS-4 6.0-8.0	0.3	NA							
8- 	E-5 2.0/2.0	SS-5 8.0-10.0	0.3	NA							
10	E-6 2.0/2.0	SS-6 10.0-12.0	0.3	NA			FILL: CONCRETE, BRIC wet.	K, FINES,	and Cⅅ*,	V	
12	E-7 2.0/2.0	SS-7 12.0-14.0	0.3	NA							
14							End of toot pit at 14 0 fa-	•			
4.							End of test pit at 14.0 fee	τ.			
15-											

<sup>\*</sup>C&DD may contain various carpeting, lumber, wiring, steel, plumbing fixtures, and plaster/drywall.

<sup>\*\*</sup>Test pit installed at current ground surface.

<sup>\*\*\*</sup> Maximum Radiation Reading: 12 uR/hr.



**Date Started** : 8-30-22 **Date Completed** : 8-30-22

Logged By : G. Perau Reviewed By : J. Kennedy

**Drilling Contractor** : Precision Environmental

**Drilling Method** : Excavator Sampling Method : Bucket **Total Depth** : 14' Lab Samples : 1

LOG OF TEST PIT TP-5

(Page 1 of 1)

PID Calibration

: 100 ppm Isobutylene

Dooth	very (ft.)	Sample Number/ Sample Interval		unt 5")		Model O	: Mini RAE 3000  Soil Samples  Sample Interval  Lab Sample	Water Le	С	evel	
Depth in Feet	Length Drive/ Sample Reco	Sample	PID	Blow Count (6"-12"-6")	Samples	GRAPHIC	DESCR	RIPTION		Water Level	REMARKS
0-	E-1 2.0/2.0	SS-1 0.0-2.0	0.0	NA			FILL: CONCRETE, BRIC moist.	K, FINES, ε	and Cⅅ*,		TP-5 samples were composited with TP-8 and TP-9 samples into composit sample "CTP-3:D083022" and submitted for laboratory
2-	E-2 2.0/2.0	SS-2 2.0-4.0	0.0	NA							analysis.
4- 5-	E-3 2.0/2.0	SS-3 4.0-6.0	0.0	NA							
6- 7-	E-4 2.0/2.0	SS-4 6.0-8.0	0.0	NA							
8   9	E-5 2.0/2.0	SS-5 8.0-10.0	0.0	NA							
10-	E-6 2.0/2.0	SS-6 10.0-12.0	0.0	NA			FILL: CONCRETE, BRIC	:Κ, FINES, ε	and Cⅅ*,	∇.	
12-	E-7 2.0/2.0	SS-7 12.0-14.0	0.0	NA							
14						$(\times)$	End of test pit at 14.0 fee	t.			
15											
* Cⅅ plaster/d **Test pi	rywall. t installed	in various car at current gro tion Reading:	und surfac	ce.	steel,	olumbin	g fixtures, and				

<sup>\*</sup> C&DD may contain various carpeting, lumber, wiring, steel, plumbing fixtures, and plaster/drywall.

<sup>\*\*</sup>Test pit installed at current ground surface.

<sup>\*\*\*</sup> Maximum Radiation Reading: 14 uR/hr.



Date Started : 8-31-22 Date Completed : 8-31-22

Logged By : G. Perau Reviewed By : J. Kennedy

Drilling Contractor : Precision Environmental

Drilling Method : Excavator Sampling Method : Bucket Total Depth : 10' Lab Samples : 1

PID Model : Mini RAE 3000

LOG OF TEST PIT TP-6

(Page 1 of 1)

PID Calibration

: 100 ppm Isobutylene

Sample Recovery (ft.) Sample Recovery (ft.) Sample Number/ 2.0.0.0-2.0 Sample Interval	PID 0.6	Blow Count (6"-12"-6")	Samples	GRAPHIC	Soil Samples  Sample Interval  Lab Sample  DESCRI  FILL: CONCRETE, BRICK, moist.		Water Level	REMARKS
2.0 0.0-2.0 2 SS-2		NA			FILL: CONCRETE, BRICK, moist.	FINES, and Cⅅ*,		
	0.6							TP-6 samples were composited with TP-10 and TP-11 samples into composite sample "CTP-4:D083122" and submitted for laboratory analysis.
		NA						anayoo.
3 SS-3 2.0 4.0-6.0	0.6	NA						
SS-4 2.0 6.0-8.0	0.6	NA			FILL: CONCRETE, BRICK, wet.	, FINES, and Cⅅ*,	∇.	
5 SS-5 2.0 8.0-10.0	0.6	NA						
					End of test pit at 10.0 feet			
5	SS-5	SS-5 0.6	SS-5 0.6 NA	SS-5 0.6 NA	SS-5 0.6 NA 0 8.0-10.0	FILL: CONCRETE, BRICK, wet.	SS-5 0.6 NA SS-5 0.6 NA	SS-5 0.6 NA 8.0-10.0

\*C&DD may contain various carpeting, lumber, wiring, steel, plumbing fixtures, and plaster/drywall.

\*\*Test pit installed on the top of a rubble pile, depths are presented herein from the top

of the rubble pile (pile approximately 4 feet above current ground surface).

\*\*\* Maximum Radiation Reading: 14 uR/hr.



Date Started : 8-31-22 Date Completed : 8-31-22

Logged By : G. Perau Reviewed By : J. Kennedy

Drilling Contractor : Precision Environmental

Drilling Method : Excavator
Sampling Method : Bucket
Total Depth : 8'
Lab Samples : 1

LOG OF TEST PIT TP-7

(Page 1 of 1)

PID Calibration : 100 ppm Isobutylene

Depth in	Length Drive/ Sample Recovery (ft.)	Sample Number/ Sample Interval	PID	Blow Count (6"-12"-6")	La La		Sample Interval Lab Sample	Water Levels _▼ Static _∇ During drilling	Water Level	REMARKS
Feet	Len	Sar		Blo - 9	Sar	R.	DESCR	RIPTION	× ×	
1-1-1-1	E-1 2.0/2.0	SS-1 0.0-2.0	0.4	NA			FILL: CONCRETE, BRIC moist.		TP-7 samples were composited with TP-3 and TP-4 samples into composite sample "CTP-2:D083022" and submitted for laboratory analysis.	
2-	E-2 2.0/2.0	SS-2 2.0-4.0	0.4	NA						
4-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	E-3 2.0/2.0		0.4				K, FINES, and Cⅅ*,	∇		
6	E-4 2.0/2.0	SS-4 6.0-8.0	0.4	NA						
8							End of test pit at 8.0 feet			

<sup>\*</sup>C&DD may contain various carpeting, lumber, wiring, steel, plumbing fixtures, and plaster/drywall.

<sup>\*\*</sup>Test pit installed in a void, depths are presented herein from the bottom of the void (void approximately 6 feet below current ground surface).

<sup>\*\*\*</sup> Maximum Radiation Reading: 13 uR/hr.



Date Started : 8-31-22 Date Completed : 8-31-22

Logged By : G. Perau Reviewed By : J. Kennedy

Drilling Contractor : Precision Environmental

Drilling Method : Excavator
Sampling Method : Bucket
Total Depth : 13'
Lab Samples : 1

**LOG OF TEST PIT TP-8** 

(Page 1 of 1)

PID Calibration

: 100 ppm Isobutylene

	F	Project #150	11		PID	Model	: Mini RAE 3000				
Depth in Feet	Length Drive/ Sample Recovery (ft.)	Sample Number/ Sample Interval	PID	Blow Count (6"-12"-6")	Samples	GRAPHIC	Soil Samples Sample Interval Lab Sample  DESCR	Water Le _▼ Statio _▽ Durin	c	Water Level	REMARKS
0-				1			FILL CONODETE DDIO	I FINE	LOADD+		
1-	E-1 2.0/2.0	SS-1 0.0-2.0	0.4	NA			FILL: CONCRETE, BRIC moist.	K, FINES, a	ind Cⅅ*,		TP-8 samples were composited with TP-5 and TP-9 samples into composit sample "CTP-3:D083022" and submitted for laboratory
2-	E-2	SS-2	0.4	NA		$\times$					analysis.
	2.0/2.0	2.0-4.0	•.,	770		$\times$					
3-											
4-	E-3	SS-3	0.4	NA		$\times$					
=	2.0/2.0	4.0-6.0		7.5							
5						$\times$					
-						$\times$					
6	E-4 2.0/2.0	SS-4 6.0-8.0	0.4	NA							
1						$\times$					
8-	E-5	SS-5	0.4	NA		$\times$					
	2.0/2.0	8.0-10.0				$\times$					
9											
10-	E-6	SS-6	0.4	NA		$\otimes$	FILL: CONCRETE, BRIC wet.	K, FINES, a	ind Cⅅ*,	$\nabla$	
3	2.0/2.0	10.0-12.0		100		$\times$					
11-						$\langle \times \rangle$					
=		3003		. (6.8		X					
12-	E-7	SS-7	0.4	NA		$\times$					
=	1.0/1.0	12.0-13.0		1		$\langle \rangle \langle \rangle$					
13-						LX.	End of test pit at 13.0 fee	t.			
=							and the second s				
14											

\*C&DD may contain various carpeting, lumber, wiring, steel, plumbing fixtures, and plaster/drywall.

<sup>\*\*</sup>Test pit installed in a void, depths are presented herein from the bottom of the void (void approximately 1 feet below current ground surface).

<sup>\*\*\*</sup> Maximum Radiation Reading: 14 uR/hr.



**Date Started** : 8-30-22 **Date Completed** : 8-30-22

Logged By : G. Perau Reviewed By : J. Kennedy

: Precision Environmental **Drilling Contractor** 

**Drilling Method** : Excavator Sampling Method : Bucket **Total Depth** : 14' Lab Samples : 1

LOG OF TEST PIT TP-9

(Page 1 of 1)

PID Calibration

: 100 ppm Isobutylene

	F	roject #150			PID Model	: Mini RAE 3000			
Depth in Feet	Length Drive/ Sample Recovery (ft.)	Sample Number/ Sample Interval	PID	Blow Count (6"-12"-6")	Samples GRAPHIC	Soil Samples Sample Interval Lab Sample  DESCI	Water Levels _▼. Static _▽. During drilling	 Water Level	REMARKS
0-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	E-1 2.0/2.0	SS-1 0.0-2.0	0.2	NA		FILL: CONCRETE, BRIC moist.	CK, FINES, and Cⅅ*,		TP-9 samples were composited with TP-5 and TP-8 samples into composit sample "CTP-3:D083022" and submitted for laboratory
2-	E-2 2.0/2.0	SS-2 2.0-4.0	0.2	NA					analysis.
4- 5-	E-3 2.0/2.0	SS-3 4.0-6.0	0.2	NA					
6- 7-	E-4 2.0/2.0	SS-4 6.0-8.0	0.2	NA					
8- - 9-	E-5 2.0/2.0	SS-5 8.0-10.0	0.2	NA					
10-	E-6 2.0/2.0	SS-6 10.0-12.0	0.2	NA		FILL: CONCRETE, BRIC wet.	CK, FINES, and Cⅅ*,	∇.	
12-	E-7 2.0/2.0	SS-7 12.0-14.0	0.2	NA					
14						End of test pit at 14.0 fee	et.		
15						End of test pit at 14.0 let			

\*C&DD may contain various carpeting, lumber, wiring, steel, plumbing fixtures, and plaster/drywall.

<sup>\*\*</sup>Test pit installed at current ground surface.

<sup>\*\*\*</sup>Maximum Radiation Reading: 14 uR/hr.



**Date Started** : 8-31-22 Date Completed : 8-31-22

Logged By : G. Perau Reviewed By : J. Kennedy

**Drilling Contractor** : Precision Environmental

**Drilling Method** : Excavator Sampling Method : Bucket **Total Depth** : 14' Lab Samples : 1

LOG OF TEST PIT TP-10

(Page 1 of 1)

PID Calibration

: 100 ppm Isobutylene

	F	Project #150			PID	Model	: Mini RAE 3000			
Depth in Feet	Length Drive/ Sample Recovery (ft.)	Sample Number/ Sample Interval	PID	Blow Count (6"-12"-6")	Samples	GRAPHIC	Soil Samples Sample Interval Lab Sample  DESCRI	Water Levels  ▼ Static  ✓ During drilling  PTION	Water Level	REMARKS
0-	E-1 2.0/2.0	SS-1 0.0-2.0	0.6	NA			FILL: CONCRETE, BRICK moist.	, FINES, and Cⅅ*,		TP-10 samples were composited with TP-6 and TP-11 samples into composite sample
2	E-2 2.0/2.0	SS-2 2.0-4.0	0.6	NA			2) 2) 3)			"CTP-4:D083122" and submitted for laboratory analysis.
4- 5-	E-3 2.0/2.0	SS-3 4.0-6.0	0.6	NA						
6-	E-4 2.0/2.0	SS-4 6.0-8.0	0.6	NA						
8   1   9   1	E-5 2.0/2.0	SS-5 8.0-10.0	0.6	NA						
10-	E-6 2.0/2.0	SS-6 10.0-12.0	0.6	NA			FILL: CONCRETE, BRICK wet.	, FINES, and Cⅅ*,	V	
12-	E-7 2.0/2.0	SS-7 12.0-14.0	0.6	NA						
14-							End of test pit at 14.0 feet.	<u> </u>		
15							Annual Section			

\*C&DD may contain various carpeting, lumber, wiring, steel, plumbing fixtures, and plaster/drywall.

<sup>\*\*</sup>Test pit installed at current ground surface.

<sup>\*\*\*</sup>Maximum Radiation Reading: 15 uR/hr.



Date Started : 8-31-22 Date Completed : 8-31-22

Logged By : G. Perau Reviewed By : J. Kennedy

Drilling Contractor : Precision Environmental

Drilling Method : Excavator
Sampling Method : Bucket
Total Depth : 14'
Lab Samples : 1

PID Model : Mini RAE 3000

LOG OF TEST PIT TP-11

(Page 1 of 1)

PID Calibration

: 100 ppm Isobutylene

	F	roject #150	11		PID	Model	: Mini RAE 3000				
epth in Feet	Length Drive/ Sample Recovery (ft.)	Sample Number/ Sample Interval	PID	Blow Count (6"-12"-6")	Samples	GRAPHIC	Soil Samples Sample Interval Lab Sample  DESCR	Water  _▼ St  _▽ Dt	atic uring drilling	Water Level	REMARKS
0-						1					
1-	E-1 2.0/2.0	SS-1 0.0-2.0	0.4	NA			FILL: CONCRETE, BRIC moist.	K, FINES	, and Cⅅ*,		TP-11 samples were composited with TP-6 and TP-10 samples into composite sample "CTP-4:D083122" and
2-	E-2	SS-2	0.4	NA		$\times$					submitted for laboratory
-	2.0/2.0	2.0-4.0	0.4	l MA		$\langle \times \rangle$					analysis.
3-	2.0/2.0	2.0 1.0									
4-	E-3	SS-3	0.4	NA		XX					
*3	2.0/2.0	4.0-6.0	0.4	I NA		$\langle \times \rangle$					
=	2.0/2.0	4.0-0.0				$\langle \times \rangle$					
5						$\times$					
=		13° A 1		0.7		$\times$					
6-	E-4	SS-4	0.4	NA		$\times \times$					
=	2.0/2.0	6.0-8.0				$\times\!$					
7						$\times$					
3				8-9		$\times$					
8-	E-5	SS-5	0.4	NA							
-	2.0/2.0	8.0-10.0		1897.5		$\times$					
9-						$\times \times$					
" <u>-</u>				V		$\times$					
,, =	F 0	000	0.4	N/A		$\times \times$					
10-	E-6 2.0/2.0	SS-6 10.0-12.0	0.4	NA		XX					
=	2.0/2.0	10.0-12.0				$\langle \times \rangle$					
11-						$\times$	FILL: CONCRETE, BRIC	K, FINES	, and Cⅅ*,	$\nabla$	Y
3				A.		$\times \times$	wet.				
12-	E-7	SS-7	0.4	NA		$\times\!$					
=	2.0/2.0	12.0-14.0		100		$\times$					
13-						$\times$	,				
=						$\times$					-
14							<b>7</b> 1 (1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				1
=							End of test pit at 14.0 fee	t.			
15											

\*C&DD may contain various carpeting, lumber, wiring, steel, plumbing fixtures, and plaster/drywall.

<sup>\*\*</sup>Test pit installed at current ground surface.

<sup>\*\*\*</sup> Maximum Radiation Reading: 16 uR/hr.



Date Started : 8-29-22 Date Completed : 8-29-22

Logged By : G. Perau Reviewed By : J. Kennedy

Drilling Contractor : Precision Environmental

Drilling Method : Excavator Sampling Method : Bucket Total Depth : 15' Lab Samples : 1

PID Model : Mini RAE 3000

LOG OF TEST PIT TP-12-1

(Page 1 of 1)

PID Calibration

: 100 ppm Isobutylene

	F	Project #150	)11		PID	Model	: Mini RAE 3000			
Depth in Feet	Length Drive/ Sample Recovery (ft.)	Sample Number/ Sample Interval	PID	Blow Count (6"-12"-6")	Samples	GRAPHIC	Soil Samples Sample Interval Lab Sample  DESC	Water Levels  ▼ Static  During drilling	Water Level	REMARKS
0-	E-1	SS-1	0.0	NA			FILL: CONCRETE, BRIG	CK, FINES, and Cⅅ*,		Sample "TP-12-1:D082922"
1-	2.0/2.0	0.0-2.0	0.0	NA			moist.			collected from 0 to 5 feet and submitted for laboratory analysis.
2-	E-2	SS-2	0.0	NA		$\otimes$				
3-	2.0/2.0	2.0-4.0								
4	E-3	SS-3	0.0	NA		$\otimes$				
_ =	2.0/2.0	4.0-5.0	2.2							
5 <u>-</u>		SS-4 5.0-6.0	0.0	NA		$\times$				
6	E-4	SS-5	0.0	NA						
7-	2.0/2.0	6.0-8.0								
8   1   1   9   1	E-5 2.0/2.0	SS-6 8.0-10.0	0.0	NA						
10-	E-6 2.0/2.0	SS-7 10.0-12.0	0.0	NA						
12- 13-	E-7 2.0/2.0	SS-8 12.0-14.0	0.0	NA						
14-	E-8 1.0/1.0	SS-9 14.0-15.0	0.0	NA						
15							End of test pit at 15.0 fe	et.		
16										

<sup>\*</sup> C&DD may contain various carpeting, lumber, wiring, steel, plumbing fixtures, and plaster/drywall.

<sup>\*\*</sup>Test pit installed on the top of a rubble pile, depths are presented herein from the top of the rubble pile (pile approximately 15 feet above current ground surface).

<sup>\*\*\*</sup> Maximum Radiation Reading: 12 uR/hr.



Date Started : 8-29-22 Date Completed : 8-29-22

Logged By : G. Perau Reviewed By : J. Kennedy

Drilling Contractor : Precision Environmental

: 1

Drilling Method : Excavator Sampling Method : Bucket Total Depth : 6'

Lab Samples

PID Model : Mini RAE 3000

LOG OF TEST PIT TP-12-2

(Page 1 of 1)

PID Calibration : 100 ppm Isobutylene

	Project #150	011		PID	Model	: Mini RAE 3000				
Length Drive/	Sample Number/ Sample Interval	PID	Blow Count (6"-12"-6")	Samples	GRAPHIC	Soil Samples Sample Interval Lab Sample  DESCE	Water I  ▼ Sta  ▼ Du	ntic	Water Level	REMARKS
0 E-1 2.0/2.	SS-1 0.0-2.0 SS-2	0.0	NA NA			FILL: CONCRETE, BRIC moist.	K, FINES,	and Cⅅ*,		Sample "TP-12-2:D082922" collected from 0 to 5 feet and submitted for laboratory analysis.
4— E-3 2.0/2.	SS-3 4.0-5.0 SS-4 5.0-6.0	0.0	NA NA							
6						End of test pit at 6.0 feet.				

\*C&DD may contain various carpeting, lumber, wiring, steel, plumbing fixtures, and plaster/drywall.

<sup>\*\*</sup>Test pit installed on the top of a rubble pile, depths are presented herein from the top of the rubble pile (pile approximately 6 feet above current ground surface).

<sup>\*\*\*</sup> Maximum Radiation Reading: 13 uR/hr.



Date Started : 8-29-22 Date Completed : 8-29-22

Logged By : G. Perau Reviewed By : J. Kennedy

Drilling Contractor : Precision Environmental

Drilling Method : Excavator
Sampling Method : Bucket
Total Depth : 10'
Lab Samples : 1

PID Model : Mini RAE 3000

LOG OF TEST PIT TP-12-3

(Page 1 of 1)

PID Calibration

: 100 ppm Isobutylene

	F	roject #150	JTT		PID	Model	: Mini RAE 3000				
Depth in Feet	Length Drive/ Sample Recovery (ft.)	Sample Number/ Sample Interval	PID	Blow Count (6"-12"-6")	Samples	GRAPHIC	Soil Samples Sample Interval Lab Sample  DESCE	Water L  ▼ Sta  ▼ Dui	itic ring drilling	Water Level	REMARKS
0-	E-1 2.0/2.0	SS-1 0.0-2.0	0.0	NA			FILL: CONCRETE, BRIC moist.	K, FINES,	and Cⅅ*,		Sample "TP-12-3:D082922" collected from 0 to 5 feet and submitted for laboratory analysis.
2-3-	E-2 2.0/2.0	SS-2 2.0-4.0	0.0	NA							
4-	E-3 2.0/2.0	SS-3 4.0-5.0	0.0	NA							
5- - -		SS-4 5.0-6.0	0.0	NA	X						
6— - 7—	E-4 2.0/2.0	SS-5 6.0-8.0	0.0	NA							
8— 8— 9—	E-5 2.0/2.0	SS-6 8.0-10.0	0.0	NA							
10-					1 <b>/</b> \	(X)	End of test pit at 10.0 fee	t.			

\*C&DD may contain various carpeting, lumber, wiring, steel, plumbing fixtures, and plaster/drywall.

<sup>\*\*</sup>Test pit installed on the top of a rubble pile, depths are presented herein from the top of the rubble pile (pile approximately 10 feet above current ground surface).

<sup>\*\*\*</sup> Maximum Radiation Reading: 13 uR/hr.



Date Started : 8-29-22 Date Completed : 8-29-22

Logged By : G. Perau Reviewed By : J. Kennedy

Drilling Contractor : Precision Environmental

Drilling Method : Excavator
Sampling Method : Bucket
Total Depth : 12'
Lab Samples : 1

LOG OF TEST PIT TP-13

(Page 1 of 1)

PID Calibration : 100 ppm Isobutylene

Depth in	Length Drive/ Sample Recovery (ft.)	Sample Number/ Sample Interval	PID	Blow Count (6"-12"-6")	Samples	GRAPHIC	Soil Samples Sample Interval Lab Sample	Water Levels _▼ Static _▽ During drilling	 Water Level	REMARKS
Feet	Len	Sar		Blo	Sar	용	DESCI	RIPTION	Wa	
0 <del></del>	E-1 2.0/2.0	SS-1 0.0-2.0	0.3	NA			FILL: CONCRETE, BRIC moist.	CK, FINES, and Cⅅ*,		Sample "TP-13:D082922" collected from 0 to 12 feet and submitted for laboratory analysis.
3-	E-2 2.0/2.0	SS-2 2.0-4.0	0.3	NA						
4- 5-	E-3 2.0/2.0	SS-3 4.0-5.0	0.3	NA						
6- 7-	E-4 2.0/2.0	SS-4 6.0-8.0	0.3	NA						
8 - 9 -	E-5 2.0/2.0	SS-5 8.0-10.0	0.3	NA			FILL: CONCRETE, BRIC wet.	CK, FINES, and Cⅅ*,	\\ \nabla_{\text{.}}	
10-	E-6 2.0/2.0	SS-6 10.0-12.0	0.3	NA						
=							End of test pit at 12.0 fee			

 ${}^{\star}\text{C\&DD may contain various carpeting, lumber, wiring, steel, plumbing fixtures, and plaster/drywall.}$ 

<sup>\*\*</sup>Test pit installed at current ground surface.

<sup>\*\*\*</sup>Maximum Radiation Reading: 12 uR/hr.



Date Started : 8-29-22 Date Completed : 8-29-22

Logged By : G. Perau Reviewed By : J. Kennedy

Drilling Contractor : Precision Environmental Drilling Method : Excavator

Sampling Method : Bucket
Total Depth : 5'
Lab Samples : 1

PID Model : Mini RAE 3000

LOG OF TEST PIT TP-14

(Page 1 of 1)

PID Calibration

: 100 ppm Isobutylene

	Pr	oject #150	111		PID	Model	: Mini RAE 3000				
Depth in Feet	Sample Recovery (ft.)	Sample Number/ Sample Interval	PID	Blow Count (6"-12"-6")	Samples	GRAPHIC	Soil Samples Sample Interval Lab Sample  DESCE	Water L _▼ Sta _▽ Dur	tic ing drilling	Water Level	REMARKS
-	E-1 0/2.0	SS-1 0.0-2.0	0.2	NA			FILL: CONCRETE, BRIC moist.	K, FINES,	and Cⅅ*,		Sample "TP-14:D082922" collected from 0 to 5 feet and submitted for laboratory analysis.
-	E-2 0/2.0	SS-2 2.0-4.0	0.2	NA							
-	≣-3 D/1.0	SS-3 4.0-5.0	0.2	NA							
3							End of test pit at 5.0 feet.				

\*C&DD may contain various carpeting, lumber, wiring, steel, plumbing fixtures, and plaster/drywall.

\*\*Test pit installed on the top of a rubble pile, depths are presented herein from the top

of the rubble pile (pile approximately 5 feet above current ground surface).

\*\*\* Maximum Radiation Reading: 13 uR/hr.



**Date Started** : 8-29-22 **Date Completed** : 8-29-22

Logged By : G. Perau Reviewed By : J. Kennedy

**Drilling Contractor** : Precision Environmental

**Drilling Method** : Excavator Sampling Method : Bucket **Total Depth** : 13' Lab Samples : 1

PID Model : Mini RAE 3000 LOG OF TEST PIT TP-15-1

(Page 1 of 1)

**PID Calibration** 

: 100 ppm Isobutylene

		Project #150	711		FID	Model	: Mini RAE 3000	1		_	
Depth in Feet	Length Drive/ Sample Recovery (ft.)	Sample Number/ Sample Interval	PID	Blow Count (6"-12"-6")	Samples	GRAPHIC	Soil Samples Sample Interval Lab Sample  DESCR	Water L _▼ Sta _▽ Dui	ring drilling	Water Level	REMARKS
0-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	E-1 2.0/2.0	SS-1 0.0-2.0	0.2	NA			FILL: CONCRETE, BRIC moist.	K, FINES,	and Cⅅ*,		TP-15-1 samples were composited with TP-15-2 samples into composite sample "CTP-5:D083022" and submitted for laboratory
2- 3-	E-2 2.0/2.0	SS-2 2.0-4.0	0.2	NA							analysis.
4— 5—	E-3 2.0/2.0	SS-3 4.0-6.0	0.2	NA							
6-	E-4 2.0/2.0	SS-4 6.0-8.0	0.2	NA							
8- 	E-5 2.0/2.0	SS-5 8.0-10.0	0.2	NA							
10-	E-6 2.0/2.0	SS-6 10.0-12.0	0.2	NA							
12-	E-7 1.0/1.0	SS-7 12.0-13.0	0.2	NA							

<sup>\*</sup>C&DD may contain various carpeting, lumber, wiring, steel, plumbing fixtures, and plaster/drywall.

<sup>\*\*</sup>Test pit installed in a void, depths are presented herein from the bottom of the void (void approximately 2 feet below current ground surface).

<sup>\*\*\*</sup> Maximum Radiation Reading: 13 uR/hr.



Date Started : 8-30-22 Date Completed : 8-30-22

Logged By : G. Perau Reviewed By : J. Kennedy

Drilling Contractor : Precision Environmental

Drilling Method : Excavator Sampling Method : Bucket Total Depth : 19' Lab Samples : 1

PID Model : Mini RAE 3000

LOG OF TEST PIT TP-15-2

(Page 1 of 1)

PID Calibration : 100 ppm Isobutylene

	F	Project #150	11		PID	Model	: Mini RAE 3000			
Depth in Feet	Length Drive/ Sample Recovery (ft.)	Sample Number/ Sample Interval	PID	Blow Count (6"-12"-6")	Samples	GRAPHIC	Soil Samples Sample Interval Lab Sample  DESC	Water Levels  ▼ Static  ✓ During drilling	Water Level	REMARKS
0-	E-1	SS-1	0.1	NA			FILL: CONCRETE, BRIG	CK. FINES, and Cⅅ*.		TP-15-2 samples were
1- 2-	2.0/2.0 E-2 2.0/2.0	0.0-2.0 SS-2 2.0-4.0	0.1	NA			moist.	,		composited with TP-15-1 samples into composite sample "CTP-5:D083022" and submitted for laboratory analysis.
3 4 5 6	E-3 2.0/2.0	SS-3 4.0-6.0	0.1	NA						
6 7 8	E-4 2.0/2.0	SS-4 6.0-8.0	0.1	NA						
9-	E-5 2.0/2.0	SS-5 8.0-10.0	0.1	NA						
10	E-6 2.0/2.0	SS-6 10.0-12.0	0.1	NA						
12	E-7 2.0/2.0	SS-7 12.0-14.0	0.1	NA						
14 15	E-8 2.0/2.0	SS-8 14.0-16.0	0.1	NA						
16 17	E-9 2.0/2.0	SS-9 16.0-18.0	0.1	NA						
18 - 19 -	E-10 1.0/1.0	SS-10 18.0-19.0	0.1	NA						
3							End of test pit at 19.0 fee	et.		
20-										

<sup>\*</sup>C&DD may contain various carpeting, lumber, wiring, steel, plumbing fixtures, and plaster/drywall.

<sup>\*\*</sup>Test pit installed on top of a rubble pile, depths are presented herein from the top of the rubble pile (pile approximately 4 feet above current ground surface).

<sup>\*\*\*</sup> Maximum Radiation Reading: 13 uR/hr.

**APPENDIX C** 

FIELD DATA SHEETS

APPENDIX C-1

MONITORING WELL DEVELOPMENT FIELD DATA SHEETS



### RECORD OF GROUNDWATER MONITORING WELL DEVELOPMENT SHEET

Job No: / RN	oos Oos Perau		•	Date: Well No:	10/26/22 VMW-5	Sheet of
Date of Installaton: Well Type: Screen Interval:	October 2022 2" PVC Flack	Borehole Size: Well Diameters		(	Initial Total Depth °: Final Total Depth:	8.72
Development Method: Water Quality Meter Used:	Monsoon Hotiba US2	Gallons/Foot of Depth <sup>c</sup>	Feet of Standing Water	1 Well Volume (gailons)	Initial Depth to Water: Final Depth To Water: Depth to NAPL b;	5.68
	Well Volume Calculation:	0.163 ×	3.04 =	0.50		

Tíme:	Pumping Rate	Val. Purged (cumulative gallons)	DTW ₽4.	Temp. (°C) (0.5)	pH (S.U.)	Specific Cond. (US/cm) (3%)	ORP (Mv or ml/g)) (20)	Turbidity (NTU)	DO (mg/l)	Comments
12:59	400	initial		16.65	6.97	3.08	-61	>1000	5.91	possession of the sense of the
13:0G	100	6.5	6.59	17.54	6.67	3.06	62	483	5.27	770.4%.
13:14	200	0.75	7.02	17,48	5.67	3.09	60	>1000	5.15	
13:21	250	1.25	7,58	17.81	5.50	3.11	134	361	5.11	3 <sup>14</sup> 5 <sup>1</sup> 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
13.33	100	1.75	7.77	18.07	5-62	3.14	123	648	3.56	
13:39	6	2.0	8.01	18.02	5.65	3.13	84	7/000	2.77	End Pry
14		THE PARTY OF THE P								
	178000-J. I			747/444			union-use.			40.0
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		3 3346		<u> </u>		***************************************				
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-		<b>a.</b> in .	· · · · · · · · · · · · · · · · · · ·			*********		******		
Manufacture of the Control of the Co	oolin.			Same 1994 - Angele Company and Company and Company			and the state of t		and the second s	22.2.2.2.10.2.2.10.10.2.2.10.10.2.2.10.2.10.10.10.10.10.10.10.10.10.10.10.10.10.

a. Depths in Feet

c. 1" well = 0.041, 1.5" well = 0.091, 2" well = 0.163, 4" well = 0.653, 6" well = 1.468

### RECORD OF GROUNDWATER MONITORING WELL DEVELOPMENT SHEET

	ner St Joes NOUS Perau			Date: _ Well No	18/26122 VMW-3	Sheet of
Date of Installaton: Well Type: Screen Interval:	October 2022 2" PVC Flush	Borehole Size: Well Diameter:			Initia! Total Depth <sup>a</sup> : Final Total Depth: Initial Depth to Waters	8.53
Development Method: Water Quality Meter Used:	Monsoon	Gallons/Foot of	Feet of Standing	1 Well Volume	Final Depth To Water:	grade-market-andreament ( )
maior douling moior oscur	Well Yolume Calculation:	0.16'3 x	Water 1, 87 =	(gallons)	Depth to NAPL <sup>5</sup> :	

Tíme:	Pumping Rate	Vol. Purged (cumulative gallons)	DTW	Temp. (*C) (0.5)	рН (S.U.) (0.2)	Specific Cond. (uS/cm) (3%)	ORP (My or ml/g)) (20)	Turbidity (NTU)	DO (mg/l) (10%)	Comments
14:16	366	initial		16,65	6.48	2.20	-22	21000	23.29	
14:22	300	0.25	7.26	16.90	7.04	2.24	48	309	5.23	**************************************
14:28	, 10	0.5	7.66	16.53	6.98	2.28	93	322	6.36	adjusted pump
14:31	400	0.75	8.02	18.01	6.91	2.32	16.7	346	5.87	Jack g p
14:37	0	0.85	8.48	17.69	6,96	2.33	113	167	5.36	adjusted puno
14:35	500	1.0	in the second second	17.76	6.99	2.32	106	412	4.43	10 27
14:38	0	1.25	S	17.66	7.22	2.31	96	928	3,03	Dry/Done
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	ry milet.					TTO DATE:	· · · · · · · · · · · · · · · · · · ·			
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### RECORD OF GROUNDWATER MONITORING WELL DEVELOPMENT SHEET

Facility: Form  Job No: LRN  Developers: Cr. (	*			Date: //	126/22 MW-4	Sheet of
Date of Installaton: Well Type: Screen Interval:	October 2022 2" PVC Flush	Borehole Size: Well Diameter:	811 211		Initial Total Depth <sup>a</sup> : Final Total Depth:  Initial Depth to Water:	12.68
Development Method: Water Quality Meter Used:	Mansoun Horiba U52 Well Volume Calculation:	Depth <sup>c</sup>		Well Volume (gallons)	Final Depth To Water:  Depth to NAPL b:	

Time:	Pumping Rate	Vol. Purged (cumulative gallons)	Wĭd	Temp. (*C) (0.5)	pH (S.U.) (0,2)	Specific Cond. (uS/cm) (3%)	ORP (Mv or ml/g)) (20)	Turbidity (NTU)	DO (mg/l) (10%)	Comments
11-23	500	initial	And the second s	16.12	7,15	3.98	-93	1000+	5.31	- Negotianing of the State of t
11:29	550	0.5	9.56	17.83	6.71	4.27	-42	745	1.85	11111
11:34	320	1.0	9.60	17.68	6.70	4.15	-43	233	1.96	
11:41	320	1.5	9.54	17.70	6.75	4.10	-64	190	1.06	31, 1044
11:46	320	2.0	9.57	17.78	6.84	4.06	-81	107	0.61	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
11:52	320	2.75	9.62	17.79	642	4.04	-94	73.6	0.61	
11:54	320	3.0	9,63	17,76	6.44	4.04	47	74.1	0.60	
-	***									+ outstand A-A-A
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		THE STREET				-				
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	Out Transmission				andreas a section		miles de cest de		- reclamments	***

### RECORD OF GROUNDWATER MONITORING WELL DEVELOPMENT SHEET

	ner st. Jues	7 %		Date;	10/26/22	Sheet of
Developers:	Peray			Well No:	VMW-2	
Date of Installaton:	October 2022	Borehole Size:	811		Initial Total Depth ":	12:14
Well Type:	Z' PUC Flash	Well Diameter:	2"		Final Total Depths	
Screen Interval:	2-12'	-			Initial Depth to Water:	3.86
Development Method:	Monsoon				Final Depth To Water:	- 4
Water Quality Meter Used:	Horiba USZ	Depth <sup>c</sup>	Feet of Standing Water	1 Well Yolume (gallons)	Depth to NAPL b:	5944994 (
	Well Volume Calcu	ulation: 0.163 x	8.28 =	1.35		

Timeı	Pumping Rate	Vol. Purged (cumulative gallons)	DTW	Temp. (°C) (0.5)	рН (S.U.) (0.2)	Specific Cond. (uS/cm) (3%)	ORP (My or ml/g)) (20)	Turbidity (NTU)	DO (mg/l)	Comments
09:56	760	initial	E commence of the control of the con	17.14	G. 63	1.65	278	75.9	29,49	
10:02	450	6.75	4.02	18.05	7.23	1.52	237	55.4	8.01	
10:09	450	1.25	5.08	18-06	7.33	1.54	124	37.7	7.22	summer than
10:15	450	2.0	5.87	18.56	7.27	1.55	54	64.0	7.51	,
16:24		3.25	6.72	18.55	7.39	1.46	\$	53.0	6.90	
10:30	450	4.0		18.62	7,22	1.62	80	340	7.45	***************************************
10:37	450	4.5		18.93	7,29	1.51	85	106	7.48	
10:43	450	5.0		18.80	7.31	1.50	96	87.5	7.72	war an annual contract to
					- Authorities			· · · · · · · · · · · · · · · · · · ·		
	mmp. eq. st			., <u></u>					-	
***										and the second of the second o
				****		11 100 WIG.		42.000		101748
TAGE TO THE TAGE T				QLAIRLA			1000000			



### RECORD OF GROUNDWATER MONITORING WELL DEVELOPMENT SHEET

Davalanava C 10	ner St. Joes 1005 crau	, , , , , , , , , , , , , , , , , , ,	•	Date: Well No:	10/27/22 1w-1	Sheet of
Date of Installaton: Well Type: Screen Interval: Development Method:	October 2022, 2" PVC Flush	Borehole Size: Well Diameter:			initial Total Depth <sup>a</sup> :	12.73
Water Quality Meter Used:	Horiba U52 Well Volume Calculation:	Gallons/Foot of Depth <sup>c</sup>	Feet of Standing Water	1 Well Volume (gallons)	Depth to NAPL b.	and the second s

Time:	Pumping Rate	Vol. Purged (cumulative gallons)	DTW	Temp. (°C) (0.5)	рН (S.U.) (0.2)	Specific Cond. (uS/cm) (3%)	ORP (Mv or mi/g)) (20)	Turbidity (NTU)	DO (mg/l)	Comments
13:26	300	ini fia		15.88	7.29	423	189	71000	36.48	amentana kata a sa
13:30	_ 0	0.25		17.70	7.20	4.05	186	773	5 00	adjust pump
13:34		0.3		17.74	7.19	4.64	185	798	5.27	Drx
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		1		700.12						

**APPENDIX C-2** 

**GROUNDWATER GAUGING FIELD DATA SHEETS** 

#### **VERDANTAS**

#### GROUNDWATER/ MONITORING WELL GAUGING SHEET

Facility: Address: Hull Personnel:	Locain	20th 104	٤١, .	- Baromet	Job No.: Weather: ric Pressure:	Partly	t_l of [ Cloudy 6 in
Date	Well#	Time	Depth of Hold hof LENAPLOF Water (feet)	Depth of Water (feet)	Total Depth	Well Size/Condition	Comments
10/28/22	VMW-1	9:15	1.29	11.44	12.73	2"/new	
10/28/22	VMW-2	9:11	8.14	4.60	12.14	2"/new	
10/28/22	VMW-3	9:08	2.07	6.46	8.53	2"/new	
10/28/22	VMW-4	9:05	3.31	9.37	12.68	zi'/new	
10/28/22	VMW-5	9:00	3.31	5.41	8.72	2"/new	
THE PROPERTY OF THE PROPERTY O				,			
						MANAGEMENT OF THE PROPERTY OF	
THE STREET STREET, STR							
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						-1011	and the second
SIMILO I ISTANDAMINIS							1 1 01 2 101000000
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ype of Instrumen	t: [		Interface pro Water level i				

NOTE: Measuring point should be the north side of the top of the casing unless different survey

#### **VERDANTAS**

### GROUNDWATER/ MONITORING WELL GAUGING SHEET

			Sheet <u></u> of
	Facility:	St Joe's	Job No.: LRNOGS
	Address:	W. 26th St.	Weather: Light Roin/58°F
	-	Lorain, 6H	Barometric Pressure: 29.65 in
tull Pe	ersonnel.	C Parau	

Date	Well#	Time	Height of Water Geeth	Depth of Water (feet)	Total Depth	Well Size/Condition	Comments
10/26/22	VMW-1	9:02	0.23	12.50	12.73	211	
10/26/22	VMW-2	9:68	8,28	3.86	12.14	2"	
16/26/22	VMW-3	9:15	1.87	6-65	8.53	211	
10/26/22	VMW-4	9:22	3.29	9.39	12.68	2''	
10/26/22	VMW-S	9:30	3.04	5.68	8.72	211	
10/27/22	VMW-1		1.08	11.65	12.73	140.	- 446 <del>V)</del>
7				- Allendary			
Marie of Towns						1 a distance of the second of	
MA ME OFFICE CO.			- Water			. 10.000	
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- 10 Miles							
THE R. L.						onego.,	
1.0034144.006.00 <del>6.0</del>			AAAA PAAA (SAA (IIII)				Wife and
				į		CALIFORNIA (III)	MAIL ASSAULT
					V.		

Type of Instrument:	Interface probe
	Water level indicator

NOTE: Measuring point should be the north side of the top of the casing unless different survey

**APPENDIX C-3** 

							Well ID:	VMW-	1		
Facility:	Former	St. Jo	eş				Date:	10/28	122		
Address;	W. 2014	St. Lor	en. 0H				Weather:	Partly	Gloudy	,	***************************************
Job No:	LRNOOS	5	es en, OH	1000000			Temp/Wind:	43%	F/Gmoh	1000	3
Hull Personnel:	G. Per	acr					Barometric P:	30.	46		
A STATE OF THE STA	THE PARTY OF THE P			The second secon	MONITORIN	G WELL DATA	300,000 (Apply 1997)				
W. C.	Well Type	2" PUC	Flish	Depth of Water (fi	°):	44			WELL VOLUME	CALCULATION:	
	Well Condition			Total Depth (ft°):	12-	73		Gallons/Foo Depth <sup>c</sup>		Standing 1 \ ater	Well Volume (gallons)
	Purge / Sample Method:		AAAAAAAAAAAAAAAA	Height of Water (f		q					
	Type & Depth of Pump:	- 1		Well Screen Interve	al (ft°):			0.163	x 1.2	<u> </u>	. 21
Water Qua	lity Monitoring Equip Used:										
- XIII XIII XIII	AND MANAGEMENT OF THE PROPERTY			L.,	PURGIN	IG DATA	majoriti,		meaning a contract of the cont		
Tîme:	Pumping Rate (ml/min)	Cumulative Volume	Depth to water (ft) <sup>a</sup> (0.3 max) <sup>b</sup>	Temp. (*C) (0.5)	рН (S.U.) (0.2)	Specific Cond. (US/cm)	ORP (My or ml/g)) (20)	Turbidity (NTU) (10%)	DO (mg/l) (10%)	Сол	nments
						(3%)			icanina and the second		a water and the second of the
					<u> </u>	-10015-10010			*** Инитеорије		
<del>(Sannes)</del>				WWW.							
										7-3-1-0	
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EXPLOSIVE GA O STATIC WE	, AS READING PRIOR ELL LEVEL:		SAMPLE ID		DATE	TIME	ANAL		PRESERVED?	FIELD FILTERED? Y / N	FILTER SIZE
	PID Wellhead	LRNOUS:	WMW-1=G	101822	10/28/22	10:45	VOC, SVOC/	PAH, Mctals	Y	N	
	_ %LEL:						,				
Measurement from			- woweness	Adams							
depending on Sta			NOTES:								
1" wefi = 0.041, 1	1.5" well = 0.091, 2" well = 0.	.163,	7.550								

											Sheet _ of
							Well ID:	UMW-	3		
sility:	Former	- 51, 3	Socs				Datei	10128/	22	6.	
dressi	W. 20	,+h S.J.	Lorain,	514			Weather;	101	Cloudy	mar sychologica complete and an analysis	
No:	LRNOO	5				•	Temp/Wind:	560 F/	6 m 6h		*
Personnel:		can				-	Barometric Pt	30.45			
					MONITORING	WELL DATA	· · · · · · · · · · · · · · · · · · ·	,		3,000	
	Well Type:	2" PVC	Flush	Depth of Water (ft	1: 6.4	6		With the state of	MELL AOTOWE	CALCULATION:	
	Well Conditions		1.62	Total Depth (ft°):	8.5			Gallons/Foo	N. 20		Well Volume
	Purge / Sample Methods		Flan	Height of Water (fi				Depth	Wo	iter	(gallons)
	Type & Depth of Pump:			Well Screen Intervo				0.163	x 2.0	7 =	0.34
Water Quali	ty Monitoring Equip Used:		<u> </u>			in the same of the					
					PURGIN	G DATA	r-marting and a second	EOLISSISSISSISSISSISSISSISSISSISSISSISSISS			
Time:	Pumping Rate (mi/min)	Cumulative Volume	Depth to water (ft) <sup>a</sup> (0.3 max) <sup>b</sup>	Temp. (*C) (0.5)	рН (S.U.) {0.2)	Specific Cond. (uS/cm) (3%)	ORP (Mv or ml/g)) (20)	Turbidity (NTU) (10%)	DO (mg/l) (10%)	Со	mments
3:26	80	initsal	A CONTRACTOR OF THE CONTRACTOR	17.16	7.43	2.17	100	517	4,06	***************************************	
3:31		0.1	6.61	17.35	7,30	2.12	95	340	2.42		
3:35		0.2	6.66	17.54	7.48	2.11	97	219	2.62		
3:38		0.3	6.69	17.69	7.44	2.10	108	193	3.41		
3:41		0.4	6.74	17.88	7.37	2.10	119	164	3.63		
3:44		0.5	6,77	18.09	7.37	2.10	12/	140	3.70		
									1		
							SAMPLING DAT	A	(20) had		
LOSIVE GA STATIC WE			SAMPLE ID		DATE	TIME	ANAE	<b>75IS</b>	PRESERVED?	FIELD FILTERED? Y/N	FILTER SIZE
	PID Wellhead -			THE STATE OF THE S	10/	10:45					
	%LEL:	LRN005	: VMW-3:	6-162822	10/24/22	13:50	VOC, SVOC	PAH, Metals	У	Y	5M
usurement from	top of casing	LRNOO	5: 5B: W	V102822	10/28/22	14:00	VOC, SVOC	PAH Motels	Y	W	The same of the sa
ending on State		,	NOTES:								
	.5" well = 0.091, 2" well = 0 5" well = 1.468	1.163,						31000			

							116.11.15				Sheet 1 of
Facility:	r	· ()	A				Well ID:	VMW-4			
Address:	- Forme	<u> </u>	1025	c 11		-	Date:	10/28			
Job No:	W. 20		Cocain,	)   -		4	Weather:	Parti	y Cloud	Y	
	- 11/0 0 0 0			wents.	Temp/Wind:				130.44	5 mpl	1
Hull Personnel:	_ G. P.	crau		- manuscript - man			Barometric P:	30.4	4	amous .	
					MONITORING	G WELL DATA	A COMMENCE TO THE COMMENCE OF THE COMMENT	The state of the s			
	Well Type	2" PU	Flush	Depth of Water (ft	% 12.	9.37			MELT AOTOWE	CALCULATION:	
	Well Condition	New	-	Total Depth (ft°):	1:	2.68		Gallons/Fo Depth		Standing 1 ater	Well Volume (gallons)
	Purge / Sample Method	Low	Flow	Height of Water (f	t):	3.31					(gations)
	Type & Depth of Pump:		11.5	Well Screen Intervo	al (ft°):		***************************************	0.163	x 3.7	31 = 0	3.54
Water Quali	ity Monitoring Equip Used:		U52		Processing	**************************************					
7,190,600			- Wpo-AW//		PURGIN	G DATA		سسيبيس خارجة الخالف و المارية		eren germannen g	
Time:	Pumping Rate (mi/min)	Cumulative Yolume	Depth to water (ft) <sup>a</sup> (0.3 max) <sup>b</sup>	Temp. (°C) (0.5)	pH (S.U.) (0.2)	Specific Cond. (uS/cm) (3%)	ORP (Mv or ml/g)) (20)	Turbidity (NTU) (10%)	DO (mg/l) (10%)	Со	mments
12:27	120	initial		16.21	6.62	4.55	34	>1000	3,46		
12:32		1.0	9,39	16.81	6,77	4.48	15	454	0.76		
12:36		1.25	9,38	16.89	6.80	4.46	13	185	0.44		
12:40		1.5	9.38	16.97	C.80	4,45	11	84.8	635		" Tribleman
12:44		2.0	9.38	17,02	6.80	4.43	8	76.5	0.35	-	
12:47	4	2,25	9.38	17,02	6-80	4.40	-2	55.6	0.30		жи ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
									0.00		(0.044
<del></del>		7.W.							****		A THE PARTY OF
						TOTAL TOTAL MANAGEMENT OF THE	SAMPLING DAT	A	one of the second		THE TRANSPORT
EXPLOSIVE GAS O STATIC WEL	S READING PRIOR LL LEVEL:		SAMPLE ID		DATE	TIME	ANAL	YSIS	PRESERVED?	FIELD FILTERED? Y / N	FILTER SIZE
- con-		LRN005: V	MW-4:61	02822	10/28/22	13:50	VOC, 5 VOG	PAH, Metals	. Y	γ.	5u
	%LEL:	***************************************			11 70-10-1	Way	,				
Measurement from	top of casing									1	
	per OhloEPA TEGD 5/2012, adjust				1.30.00			TO A THEORY OF			
depending on State			NOTES:		****					an an ale	
4" well = 0.041, 1,	.5" well = 0.091, 2" well = 0.	.103,									

Facility: Address: Job No: Hull Personnel:	Well Type Well Condition Purge / Sample Method: Type & Depth of Pumpi	2" PVC Vew low f	- 7.5	Depth of Water (f Total Depth (ff <sup>c</sup> ): Height of Water (I Well Screen Interv	8.72	<u></u>	Well ID: Date: Weather: Temp/Wind: Barometric P:	30.	Cloudy Chaph 45 WELL VOLUME	ater	Well Volume (gallons)
Water Quali	ty Monitoring Equip Used	Horiba	<u> 1052</u>								
		2000	,		PURGIN	G DATA	anno cining a constant				
Timeı	Pumping Rate (ml/min)	Cumulative Volume (I)	Depth to water (ft) <sup>a</sup> (0.3 max) <sup>b</sup>	Temp, (*C) (0.5)	pH (S.U.) (0.2)	Specific Cond. (uS/cm) (3%)	ORP (Mv or ml/g)) (20)	Turbidity (NTU) (10%)	DO (mg/l) (10%)	Co	mments
11:26	80	initial		14.15	7.03	3.63	-67	>1000	3.05		
11:31		0.75	5.70	14.98	6.60	3.08	-29	756	1.49		
11:36	-	1.25	5.78	15.08	6.50	3.08	-12	384	1.56		max
11:41		1.75	5.87	15.33	6.41	3.06	16	187	2.45		
11:46		2.0	5.92	15.39	6.21	3.03	72	88.3	3.63		
11:50		2.25	5.99	15.43	G.16	3.03	80	78.0	3.72		CONTRACTOR OF THE CONTRACTOR O
11:54		2.5	G.09	15.48	6.10	3.02	90	70.9	3.74	414 - 44 - 44 - 44	La L
ounce), a table of the control of th									Mate-announcement		- Anna
			Approximation and the second s	THE TO SHITTEN SHITTEN ST. MATERIAL ST.			SAMPLING DAT	A		PIP D	
EXPLOSIVE GAS TO STATIC WEL	S READING PRIOR LL LEVEL:	***************************************	SAMPLE ID	10-5-0-2	DATE	TIME	ANAL	YSIS	PRESERVED?	FIELD FILTERED? Y / N	FILTER SIZE
	PID Wellhead - %LEL:	LRNODS:	VMW-5: G1	102822	10/24/22	11:58	voc, svoc/	PAH, Metals	Y	Y	5,
a. Measurement from	ton of rasina		-Anthro-ca-							0/2/19/4///	
b. Stabilization Criferia, p depending on State	per OhloEPA TEGD 5/2012, adjust Program. 5" well = 0.091, 2" well = 0		NOTES:				I www.			- Publing of the second	I control of the second

											Sheet of _
21600	T						Well ID:	VMW-3			
Facility:	tormer	· St. 3	Joes Lorain,			····•	Date:	10/2	28/22		
Address:	_ W. 20	3+4 SK	Lorain,	04		****	Weather:	Partl	y Cloud. / Zmph	<b>~</b>	
Job No:	_ LKNOO:	5		Temp/Wind:		4105	1 zmeh				
Hull Personnel:					<u>-</u>	Barometric P:	30.4	t6 in			
				######################################	MONITORIN	G WELL DATA					- Marie Marie Anna Marie
	Well Type	2"PU	C flush	Depth of Water (ft	): 4. (	00			WELL VOLUME	CALCULATION:	A
	Well Condition	" Nen		Total Depth (ft <sup>a</sup> ):	12.1	4		Gallons/Fo Depth			Well Volume (gallons)
	Purge / Sample Method	low &	low	Height of Water (ft							
	Type & Depth of Pump			Well Screen Interva				0.163	3_x 8.1	14 =	.33
Water Quali	ity Monitoring Equip Used	· Horiba	1 052			······································	- Stand				
**************************************	2				PURGIN	G DATA			**************************************	110 - 110 - 120 -	- Semenny
Time:	Pumping Rate (ml/mln)	Cumulative Volume (I)	Depth to water (ft) <sup>a</sup> (0.3 max) <sup>b</sup>	Temp. (°C) (0.5)	pH (S.U.) (0.2)	Specific Cond. (⊎S/cm) (3%)	ORP (My or ml/g)) (20)	Turbidity (NTU) (10%)	DO (mg/l) (10%)	Co	mments
09:32	130	initial		13.62	7,44	2.10	204	622	7,79	- Michaelto	President and the second
09:37		1.0	4.26	15.12	7.12	2.06	205	417	7.16		
09:42		1.5	4.32	15,69	7.11	1.97	203	303	6.75		
09:48		2.0	4.40	15.97	7.21	1.67	198	171	6.85		
09:53		2.75	4.47	16.06	7.32	1.50	196	112	6.71		
09:58		3.0	4.51	16.17	7.37	1.45	196	94.7	6.79		
10:02		3.5	4.53	16.29	7.37	1.43	197	84,0			
10:06	A	4.0	4.56	16.33	7.39	1.42	196	77.6	6.74		
annum and a second	1									30.000	and the second s
					Mining the second		SAMPLING DAT	A		TWMCHK C.	
EXPLOSIVE GAS TO STATIC WEL	S READING PRIOR LL LEVEL:	and the second s	SAMPLE ID		DATE	TIME	ANAL	rsis	PRESERVED?	FIELD FILTERED? Y/N	FILTER SIZE
	PID Wellhead	L.RNOOS.	VMW-Z:	-102822	10/28/22	10:10	VOL, 5VOC	/PAH, Mc.	ds Y	Y	5 y
——————————————————————————————————————	%LEL:						, ,				0.1
a. Measurement from	top of casing		Wings and the second se								
	one OhloEPA TEGD 5/2012, adjust					70. 75. 70. 70.					
depending on State a. 1" well = 0.04). 1.	• Program, .5" well = 0.091, 2" well = 0		NOTES:								
4" well = 0.653, 6											

**APPENDIX D** 

**DAILY FIELD REPORTS** 



#### **Daily Field Report**

Project #:	15011	Daily Field Report No:	001
Project Name:	Former St. Joseph Hospital	Date:	8/29/2022
			Scattered
Location:	205 West 20th Street	Weather:	Showers
			69/87F
City, State, Zip	Lorain, OH, 44052	Time on Site:	08:00
Contractor (Prime):	Precision Environmental	<u> </u>	16:30
Subcontractor:	Pardee Environmental		
Visitors on Site:	Ohio EPA- Doug Dobransky		
Contractor (Prime): Subcontractor:	Precision Environmental  Pardee Environmental	Ilme on site:	

#### **Description of Work:**

Building Debris test pit investigation activities, radiation screening, and asbestos containing materials (ACM) investigation survey.

Verdantas (Garrett Perau) arrived on site at 08:00 to meet contractors (Precision Environmental and Pardee Environmental), filled out JSA, and discussed HASP.

Crew (Verdantas and contractors) walked the site and discussed a daily work plan. Starting with former radiology film storage room basement (test pit location TP-13) then rubble mound pile (test pit locations TP-12-1, TP-12-2, TP-12-3).

Verdantas collected a residual liquid sample "W-1" from radiology film room basement area. Pardee Environmental observed suspect regulated ACM (RACM) black fiber board on surface and collected samples. Crew sampled TP-13 (Precision Environmental excavated; Pardee Environmental screened for RACM; Verdantas scanned for radiation, collected composite materials for test pit sample, and screened for volatile organic compounds (VOCs)). Pardee Environmental collected suspect RACM samples from pit. While digging TP-13, water was observed rising to the surface of the standing water in the bottom 4 feet of the pit. Precision contacted the proper utilities authority to re-confirm there were no active underground utilities. Precision had previously confirmed there were no active utilities.

Ohio EPA representative Doug Dobransky arrived onsite to observe the work being done. He had concerns about potential air pollution from the excavation work. Precision had pump sprayers ready to mitigate airborne particles, if necessary. The light rain helped minimized any release. After making observations, there was no concern for air pollution, and work was able to continue.

Crew sampled TP-12-1, TP-12-2, and TP-12-3 within the large rubble mound piles. Lead sheeting was observed near TP-12-2, and Verdantas collected samples of sediment/debris surrounding the lead sheeting (Lead Sample "VL-1"). Pardee Environmental collected suspect RACM samples from TP-12-1 and TP-12-3.

Service technicians from Spectrum cable company visited the site after receiving notice there was excavation occurring. The technicians located some of the company's underground cable lines to

ensure there was no damage. Due to the nature of the excavation, there is no concern for damage as there is no groundbreaking occurring.

Crew sampled TP-14 located to the north of W 20<sup>th</sup> Street adjacent to the partially demolished former radiation room areas; no suspect RACM. Crew sampled TP-15-1, the former mechanical room basement area. Pardee Environmental sampled suspect RACM from basement pit.

Crew began equipment clean up, departed site at 16:30.

Contractor's Work Force					
Trade / Title	Company	#			
Operators	Precision Environmental	2			
ACM Inspectors	Pardee Environmental	2			

Contractor's Equipment						
Type / Model	In Use	Not In Use				
Komatsu Excavator	$\boxtimes$					

**Problems Encountered Today**: Potential release of water from underground structure in TP-13 (former radiology film room basement area) temporarily paused test pit activities but determined to be safe and work continued.

**Instruction To Contractor (relative to above problem):** Contact the proper authorities to re-confirm the absence of underground utilities.

**Progress Photos:** 



Photo 1: Test pit TP-12-1 (large rubble mound pile south of W. 20th Street) being excavated for sampling.



Photo 2: Radiation screening in TP-13 (former radiology film room basement area).



Photo 3: Residual liquid sample "W-1" in TP-13.



Photo 4: Excavation of test pit TP-12-3 (large rubble mound pile south of W. 20th Street).



Photo 5: Excavation of test pit TP-12-2. Ohio EPA on site for air quality control check.



**Photo 6:** Lead sheeting near TP-12-2. Lead sample "VL-1" was collected of building debris surrounding sheeting for analysis of total lead and for toxicity characteristic leaching procedure (TCLP) analysis.

#### **List of Attachments:**

Work Observed By: Garrett Perau
Reported By: Garrett Perau

Date Report Prepared: 9/8/2022



#### **Daily Field Report**

Project #:	15011	Daily Field Report No:	002
Project Name:	Former St. Joseph Hospital	Date:	8/30/2022
			Scattered
Location:	205 West 20th Street.	Weather:	showers
			65/78F
City, State, Zip	Lorain, OH, 44052	Time on Site:	07:00
Contractor (Prime):	Precision Environmental		16:00
Subcontractor:	Pardee Environmental		
Visitors on Site:			

#### **Description of Work:**

Continued Building Debris test pit investigation activities, radiation screening, and asbestos containing materials (ACM) investigation survey.

Verdantas (Garrett Perau) arrived on site at 07:00 to meet contractors (Precision Environmental and Pardee Environmental), reviewed JSA, and discussed work plan for the day.

Crew sampled TP-15-2, the former mechanical room basement area (Precision Environmental excavated; Pardee Environmental screened for Regulated ACM (RACM); Verdantas scanned for radiation, collected composite materials, and screened for volatile organic compounds (VOCs)). Pardee Environmental collected suspect RACM samples from pit.

Begin Main basement area (Former building E). Verdantas collected residual liquid sample "W-2" from basement area near test pit TP-2. Crew sampled test pits TP-1, TP-2, and TP-3. Pardee Environmental sampled suspect RACM from each pit and found Transite material at the bottom of TP-2. Light ballasts found in TP-3 (potential PCBs).

Lead sheeting was observed near test pit TP-4, Verdantas collected samples of sediment/debris surrounding the lead sheeting (Lead Sample "VL-2"). Pardee Environmental collected suspect RACM samples from TP-4.

Crew sampled test pits TP-5 and TP-9 in former basement area. Verdantas collected residual liquid sample ("W-3") from test pit TP-5. Pardee Environmental sampled suspect RACM from each pit.

Crew began equipment clean up, departed site at 16:00

Contractor's Work Force					
Trade / Title	Company	#			
Operators	Precision Environmental	2			
ACM Inspectors	Pardee Environmental	2			

Contractor's Equip	ment	
Type / Model	In Use	Not In Use
Komatsu Excavator	$\boxtimes$	

**Problems Encountered Today:** None

Instruction To Contractor (relative to above problem): NA

#### **Progress Photos:**



Photo 1: Excavation of test pit TP-1 (within former Building E basement area south of W 20th St).



Photo 2: Example of comingled construction & demolition debris (carpeting fragment) near TP-3.



**Photo 3:** Single isolated Light Ballast component observed in TP-3.



**Photo 4:** Excavation of TP-5 to depths.



Photo 5: Excavation of TP-3



**Photo 6:** Lead sheeting found near TP-4. Lead sample "VL-2" of building debris surrounding sheeting was collected for analysis of total lead and for toxicity characteristic leaching procedure (TCLP) analysis.

#### **List of Attachments:**

Work Observed By: Garrett Perau
Reported By: Garrett Perau

Date Report Prepared: 9/12/2022



#### **Daily Field Report**

Project #:	15011	Daily Field Report No:	003
Project Name:	Former St. Joseph Hospital	Date:	8/31/2022
Location:	205 West 20th Street	Weather:	Partly cloudy
			58/78F
City, State, Zip	Lorain, OH, 44052	Time on Site:	07:00
Contractor (Prime):	Precision Environmental		13:00
Subcontractor:	Pardee Environmental		
Visitors on Site:			

#### **Description of Work:**

Continued Building Debris test pit investigation activities, radiation screening, and asbestos containing materials (ACM) investigation survey.

Verdantas (Garrett Perau) arrived on site at 07:00 to meet contractors (Precision Environmental and Pardee Environmental), reviewed JSA, and discussed work plan for the day.

Crew sampled test pits TP-8 and TP-7 in Former Building E basement area (Precision Environmental excavated; Pardee Environmental screened for Regulated ACM (RACM); Verdantas scanned for radiation, collected composite materials, and screened for volatile organic compounds (VOCs)). Pardee Environmental collected suspect RACM samples from each pit. Light Ballasts found in test pit TP-8 (potential PCBs).

Crew sampled test pit TP-6 (Former Emergency Generator area). No Generator or other equipment found. Pardee Environmental sampled suspect RACM from pit.

Crew began sampling test pit TP-11 (Former Boiler Area). Verdantas encountered elevated radiation levels while scanning and called for a safety stand down. Verdantas consulted Health and Safety Officer (Mark Zakrzewski). After further investigation (detailed grid examination), it was determined that there was an error with the meter, as the results could not be replicated. Returned to work, finished sampling test pit TP-11. No Boiler found. Pardee Environmental collected suspect RACM samples.

Lead sheeting was observed at the surface of test pit TP-10, Verdantas collected samples of sediment/debris surrounding lead sheeting (Lead Sample "VL-3"). Crew sampled test pit TP-10. Pardee Environmental collected suspect RACM samples. Refractory brick found in pit.

Verdantas collected Lead sample "VL-4" from debris area connected to the parking garage. Verdantas collected residual liquid sample "W-4" from Northeast corner of Former Mechanical Room Basement Area.

Verdantas completed all proposed test pit installation and sampling activities. Based upon observations during test pit activities, the building debris is visually characteristic of construction & demolition debris,

Project Number: 15011.0010

such as various carpeting fragments, lumber, wiring, steel, plumbing fixtures and plaster/drywall. Additionally, there were no radiological levels observed above background during test pit installation and sampling activities. All samples were collected and submitted to Ohio VAP Certified Laboratory, Pace for analysis.

Crew began equipment clean up and demobilization; departed site at 13:00.

	Contractor's Work Force								
Trade / Title	Company	#							
Operators	Precision Environmental	2							
ACM Inspectors	Pardee Environmental	2							

Contractor's Equipment							
Type / Model	In Use	Not In Use					
Komatsu Excavator	$\boxtimes$						

**Problems Encountered Today**: Anomalous elevated radiation reading prompted stop work until it was determined there was an error with the meter, and work was safe to resume.

Instruction To Contractor (relative to above problem): Stand down. Return to work when deemed safe.

**Progress Photos:** 

Project Number: 15011.0010



Photo 1: Test pit TP-11 (Former Building B Basement/Boiler Area).

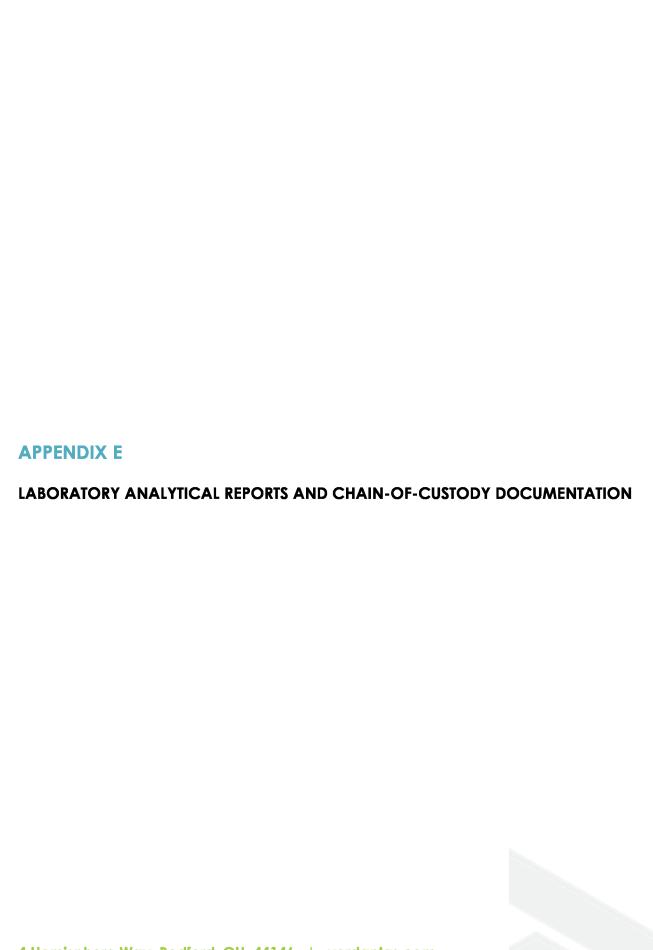


Photo 2: Single isolated Light Ballasts component observed in test pit TP-8.

# List of Attachments:

Work Observed By: Garrett Perau
Reported By: Garrett Perau

Date Report Prepared: 9/12/2022







November 04, 2022

Hien Pham Verdantas 4 Hemisphere Way Bedford, OH 44146

RE: Project: LRN005

Pace Project No.: 50329130

### Dear Hien Pham:

Enclosed are the analytical results for sample(s) received by the laboratory on October 25, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

• Pace Analytical Services - Indianapolis

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

Sincerely,

Tina Sayer

tina.sayer@pacelabs.com

Tina Sayer

(317)228-3100 Project Manager

Enclosures

cc: Verdantas Data/EDD Admin Ms. Sarah Ewing, Verdantas







## **CERTIFICATIONS**

Project: LRN005
Pace Project No.: 50329130

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: LRN005
Pace Project No.: 50329130

Lab ID	Sample ID	Matrix	Date Collected	<b>Date Received</b>
50329130001	LRN005:VSB-6:S000020	Solid	10/24/22 11:12	10/25/22 09:00
50329130002	LRN005:VSB-6:S020040	Solid	10/24/22 11:12	10/25/22 09:00
50329130003	LRN005:VMW-5:S000020	Solid	10/24/22 10:37	10/25/22 09:00
50329130004	LRN005:VMW-5:S050070	Solid	10/24/22 10:39	10/25/22 09:00
50329130005	LRN005:VMW-4:S000020	Solid	10/24/22 12:12	10/25/22 09:00
50329130006	LRN005:VMW-4:S050070	Solid	10/24/22 12:17	10/25/22 09:00
50329130007	LRN005:VMW-3:S000020	Solid	10/24/22 13:06	10/25/22 09:00
50329130008	LRN005:VMW-3:S040050	Solid	10/24/22 13:10	10/25/22 09:00
50329130009	LRN005:VMW-1:S000020	Solid	10/24/22 14:48	10/25/22 09:00
50329130010	LRN005:VMW-1:S070090	Solid	10/24/22 14:53	10/25/22 09:00
50329130011	LRN005:EB-1:W102422	Water	10/24/22 16:55	10/25/22 09:00
50329130012	LRN005:TB-1:W102422	Solid	10/24/22 08:00	10/25/22 09:00



# **SAMPLE ANALYTE COUNT**

Project:

LRN005

Pace Project No.:

50329130

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50329130001	LRN005:VSB-6:S000020	EPA 8015 Mod Ext	CPH	4	PASI-I
		EPA 8082	RID	8	PASI-I
		EPA 6010	DJS	14	PASI-I
		EPA 7471	EAE	1	PASI-I
		EPA 8270	JCM	51	PASI-I
		SM 2540G	IRH	1	PASI-I
0329130002	LRN005:VSB-6:S020040	EPA 8015 Mod Ext	СРН	4	PASI-I
		EPA 8082	RID	8	PASI-I
		EPA 6010	DJS	14	PASI-I
		EPA 7471	EAE	1	PASI-I
		EPA 8270	JCM	51	PASI-I
		SM 2540G	IRH	1	PASI-I
0329130003	LRN005:VMW-5:S000020	EPA 8015 Mod Ext	СРН	4	PASI-I
		EPA 8082	RID	8	PASI-I
		EPA 8015D	JRW	2	PASI-I
		EPA 6010	DJS	14	PASI-I
		EPA 7471	EAE	1	PASI-I
		EPA 8270	JCM	51	PASI-I
		EPA 8260	TLS1	53	PASI-I
		SM 2540G	IRH	1	PASI-I
0329130004	LRN005:VMW-5:S050070	EPA 8015 Mod Ext	СРН	4	PASI-I
		EPA 8082	RID	8	PASI-I
		EPA 8015D	JRW	2	PASI-I
		EPA 6010	DJS	14	PASI-I
		EPA 7471	EAE	1	PASI-I
		EPA 8270	JCM	51	PASI-I
		EPA 8260	TLS1	53	PASI-I
		SM 2540G	IRH	1	PASI-I
0329130005	LRN005:VMW-4:S000020	EPA 8015 Mod Ext	СРН	4	PASI-I
		EPA 8082	RID	8	PASI-I
		EPA 8015D	JRW	2	PASI-I
		EPA 6010	DJS	14	PASI-I
		EPA 7471	EAE	1	PASI-I
		EPA 8270	JCM	51	PASI-I
		EPA 8260	TLS1	53	PASI-I
		SM 2540G	IRH	1	PASI-I
0329130006	LRN005:VMW-4:S050070	EPA 8015 Mod Ext	СРН	4	PASI-I

# **REPORT OF LABORATORY ANALYSIS**



# **SAMPLE ANALYTE COUNT**

Project: LRN005
Pace Project No.: 50329130

ab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 8082	RID	8	PASI-I
		EPA 8015D	JRW	2	PASI-I
		EPA 6010	DJS	14	PASI-I
		EPA 7471	EAE	1	PASI-I
		EPA 8270	JCM	51	PASI-I
		EPA 8260	TLS1	53	PASI-I
		SM 2540G	IRH	1	PASI-I
0329130007	LRN005:VMW-3:S000020	EPA 8015 Mod Ext	СРН	4	PASI-I
		EPA 8082	RID	8	PASI-I
		EPA 8015D	JRW	2	PASI-I
		EPA 6010	DJS	14	PASI-I
		EPA 7471	EAE	1	PASI-I
		EPA 8270	JCM	51	PASI-I
		EPA 8260	TLS1	53	PASI-I
		SM 2540G	IRH	1	PASI-I
329130008	LRN005:VMW-3:S040050	EPA 8015 Mod Ext	СРН	4	PASI-I
		EPA 8082	RID	8	PASI-I
		EPA 8015D	JRW	2	PASI-I
		EPA 6010	DJS	14	PASI-I
		EPA 7471	EAE	1	PASI-I
		EPA 8270	JCM	51	PASI-I
		EPA 8260	TLS1	53	PASI-I
		SM 2540G	IRH	1	PASI-I
329130009	LRN005:VMW-1:S000020	EPA 8015 Mod Ext	СРН	4	PASI-I
		EPA 8082	RID	8	PASI-I
		EPA 8015D	JRW	2	PASI-I
		EPA 6010	DJS	14	PASI-I
		EPA 7471	EAE	1	PASI-I
		EPA 8270	JCM	51	PASI-I
		EPA 8260	TLS1	53	PASI-I
		SM 2540G	IRH	1	PASI-I
329130010	LRN005:VMW-1:S070090	EPA 8015 Mod Ext	СРН	4	PASI-I
		EPA 8082	RID	8	PASI-I
		EPA 8015D	JRW	2	PASI-I
		EPA 6010	DJS	14	PASI-I
		EPA 7471	EAE	1	PASI-I
		EPA 8270	JCM	51	PASI-I

# **REPORT OF LABORATORY ANALYSIS**



# **SAMPLE ANALYTE COUNT**

Project:

LRN005

Pace Project No.:

50329130

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 8260	TLS1	53	PASI-I
		SM 2540G	IRH	1	PASI-I
50329130011	LRN005:EB-1:W102422	EPA 8082	KAV	8	PASI-I
		EPA 6010	DJS	13	PASI-I
		EPA 6020	CAW	1	PASI-I
		EPA 7470	ILP	1	PASI-I
		EPA 8270 by SIM	GRM	19	PASI-I
		EPA 8270	GRM	32	PASI-I
		EPA 8260	SLB, TMW	53	PASI-I
50329130012	LRN005:TB-1:W102422	EPA 8260	TLS1	53	PASI-I

PASI-I = Pace Analytical Services - Indianapolis



# **SUMMARY OF DETECTION**

Project: LRN005
Pace Project No.: 50329130

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50329130001	LRN005:VSB-6:S000020					
EPA 8015 Mod Ext	Total Petroleum Hydrocarbons	24.3	mg/kg	22.1	10/26/22 17:50	
EPA 8015 Mod Ext	TPH (C20-C34)	14.1	mg/kg	11.1	10/26/22 17:50	
EPA 6010	Arsenic	5.0	mg/kg	1.1	11/02/22 09:48	
PA 6010	Barium	43.0	mg/kg	1.1	11/02/22 09:48	
PA 6010	Beryllium	0.80	mg/kg	0.56	11/02/22 09:48	
PA 6010	Chromium	5.2	mg/kg	1.1	11/02/22 09:48	
PA 6010	Cobalt	3.8	mg/kg	1.1	11/02/22 09:48	
PA 6010	Lead	11.1	mg/kg	1.1	11/02/22 09:48	
PA 6010	Nickel	8.4	mg/kg	1.1	11/02/22 09:48	
PA 6010	Vanadium	10	mg/kg	1.1	11/02/22 09:48	
PA 6010	Zinc	23.3	mg/kg	1.1	11/02/22 09:48	
M 2540G	Percent Moisture	10.5	%	0.10	10/26/22 19:16	N2
0329130002	LRN005:VSB-6:S020040					
PA 8015 Mod Ext	Total Petroleum Hydrocarbons	91.1	mg/kg	21.6	10/26/22 17:57	
PA 8015 Mod Ext	TPH (C10-C20)	24.2	mg/kg	10.8	10/26/22 17:57	
PA 8015 Mod Ext	TPH (C20-C34)	66.9	mg/kg	10.8	10/26/22 17:57	
PA 6010	Arsenic	5.2	mg/kg	0.99	11/02/22 09:50	
PA 6010	Barium	33.4	mg/kg	0.99	11/02/22 09:50	
PA 6010	Beryllium	0.67	mg/kg	0.49	11/02/22 09:50	
PA 6010	Chromium	14.9	mg/kg	0.99	11/02/22 09:50	
PA 6010	Cobalt	3.8	mg/kg	0.99		
PA 6010	Lead	11.0	mg/kg	0.99	11/02/22 09:50	
PA 6010	Nickel	8.8	mg/kg	0.99	11/02/22 09:50	
PA 6010	Vanadium	9.0	mg/kg	0.99	11/02/22 09:50	
PA 6010	Zinc	15.7	mg/kg	0.99	11/02/22 09:50	
PA 8270	Benzo(a)anthracene	0.54	mg/kg	0.35		
PA 8270	Benzo(a)pyrene	0.43	mg/kg	0.35	10/27/22 21:56	
PA 8270	Benzo(b)fluoranthene	0.58	mg/kg	0.35	10/27/22 21:56	
PA 8270	Chrysene	0.54	mg/kg	0.35	10/27/22 21:56	
PA 8270	bis(2-Ethylhexyl)phthalate	0.60	mg/kg	0.35		
PA 8270	Fluoranthene	1.3	mg/kg		10/27/22 21:56	
PA 8270	2-Methylnaphthalene	0.44	mg/kg	0.35	10/27/22 21:56	
PA 8270	Naphthalene	0.36	mg/kg	0.35	10/27/22 21:56	
PA 8270	Phenanthrene	1.1	mg/kg	0.35	10/27/22 21:56	
PA 8270	Pyrene	1.0	mg/kg		10/27/22 21:56	
SM 2540G	Percent Moisture	9.2	g/kg %		10/26/22 19:17	N2
0329130003	LRN005:VMW-5:S000020					
PA 6010	Antimony	1.1	mg/kg	1.1	11/02/22 09:58	
PA 6010	Arsenic	17.2	mg/kg	1.1	11/02/22 09:58	
PA 6010	Barium	70.2	mg/kg	1.1	11/02/22 09:58	
PA 6010	Beryllium	0.92	mg/kg	0.56	11/02/22 09:58	
PA 6010	Cadmium	2.3	mg/kg		11/02/22 09:58	
PA 6010	Chromium	17.6	mg/kg	1.1		
PA 6010	Cobalt	24.3	mg/kg	1.1	11/02/22 09:58	
PA 6010	Lead	26.0	mg/kg	1.1	11/02/22 09:58	
PA 6010	Nickel	46.8	mg/kg	1.1		

# **REPORT OF LABORATORY ANALYSIS**



# **SUMMARY OF DETECTION**

Project: LRN005
Pace Project No.: 50329130

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
60329130003	LRN005:VMW-5:S000020					
EPA 6010	Thallium	2.5	mg/kg	1.1	11/02/22 09:58	
EPA 6010	Vanadium	56.7	mg/kg	1.1	11/02/22 09:58	
EPA 6010	Zinc	284	mg/kg	1.1	11/02/22 09:58	
SM 2540G	Percent Moisture	18.9	%	0.10	10/26/22 19:17	N2
60329130004	LRN005:VMW-5:S050070					
EPA 8015 Mod Ext	TPH (C10-C20)	16.0	mg/kg	12.3	10/26/22 18:11	
EPA 6010	Arsenic	18.0	mg/kg	1.1	11/02/22 10:01	
EPA 6010	Barium	21.7	mg/kg	1.1	11/02/22 10:01	
EPA 6010	Cadmium	0.70	mg/kg	0.54	11/02/22 10:01	
EPA 6010	Chromium	16.6	mg/kg	1.1	11/02/22 10:01	
PA 6010	Cobalt	9.8	mg/kg	1.1	11/02/22 10:01	
EPA 6010	Lead	10.4	mg/kg	1.1	11/02/22 10:01	
PA 6010	Nickel	31.3	mg/kg	1.1	11/02/22 10:01	
PA 6010	Selenium	1.5	mg/kg	1.1	11/02/22 10:01	
PA 6010	Thallium	1.8	mg/kg	1.1	11/02/22 10:01	
PA 6010	Vanadium	27.5	mg/kg	1.1	11/02/22 10:01	
EPA 6010	Zinc	90.7	mg/kg	1.1	11/02/22 10:01	
SM 2540G	Percent Moisture	20.1	g/g	0.10	10/26/22 19:17	N2
0329130005	LRN005:VMW-4:S000020					
PA 6010	Arsenic	6.5	mg/kg	0.94	11/02/22 10:03	
PA 6010	Barium	15.1	mg/kg	0.94	11/02/22 10:03	
PA 6010	Chromium	10.2	mg/kg	0.94	11/02/22 10:03	
PA 6010	Cobalt	4.3	mg/kg	0.94		
PA 6010	Lead	5.7	mg/kg	0.94	11/02/22 10:03	
PA 6010	Nickel	14.7	mg/kg	0.94	11/02/22 10:03	
PA 6010	Vanadium	16.2	mg/kg	0.94	11/02/22 10:03	
EPA 6010	Zinc	41.1	mg/kg	0.94	11/02/22 10:03	
SM 2540G	Percent Moisture	6.0	%	0.10	10/26/22 19:17	N2
0329130006	LRN005:VMW-4:S050070					
PA 6010	Arsenic	5.3	mg/kg	0.97	11/02/22 10:06	
PA 6010	Barium	13.2	mg/kg	0.97	11/02/22 10:06	
PA 6010	Chromium	6.6	mg/kg	0.97	11/02/22 10:06	
PA 6010	Cobalt	3.8	mg/kg	0.97	11/02/22 10:06	
PA 6010	Lead	7.6	mg/kg		11/02/22 10:06	
EPA 6010	Nickel	9.6	mg/kg	0.97		
EPA 6010	Vanadium	11.7	mg/kg		11/02/22 10:06	
PA 6010	Zinc	29.6	mg/kg		11/02/22 10:06	
SM 2540G	Percent Moisture	6.8	111g/kg %	0.10	10/26/22 19:17	N2
0329130007	LRN005:VMW-3:S000020					
PA 6010	Arsenic	4.5	mg/kg	11	11/02/22 10:08	
EPA 6010	Barium	55.9	mg/kg	1.1	11/02/22 10:08	
EPA 6010	Beryllium	0.92	mg/kg		11/02/22 10:08	
EPA 6010	Cadmium	0.92	mg/kg		11/02/22 10:08	
PA 6010	Chromium	13.2	mg/kg mg/kg	1.1	11/02/22 10:08	

# **REPORT OF LABORATORY ANALYSIS**



# **SUMMARY OF DETECTION**

Project: LRN005
Pace Project No.: 50329130

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
0329130007	LRN005:VMW-3:S000020					
EPA 6010	Lead	8.0	mg/kg	1.1	11/02/22 10:08	
PA 6010	Nickel	44.0	mg/kg	1.1	11/02/22 10:08	
PA 6010	Vanadium	32.0	mg/kg	1.1	11/02/22 10:08	
PA 6010	Zinc	232	mg/kg	1.1	11/02/22 10:08	
SM 2540G	Percent Moisture	19.1	%	0.10	10/26/22 19:17	N2
0329130008	LRN005:VMW-3:S040050					
PA 6010	Arsenic	10.7	mg/kg	1.2	11/02/22 10:11	
PA 6010	Barium	38.4	mg/kg	1.2	11/02/22 10:11	
PA 6010	Beryllium	0.89	mg/kg	0.60	11/02/22 10:11	
EPA 6010	Cadmium	2.2	mg/kg	0.60	11/02/22 10:11	
EPA 6010	Chromium	17.2	mg/kg	1.2	11/02/22 10:11	
PA 6010	Cobalt	11.6	mg/kg		11/02/22 10:11	
PA 6010	Lead	9.8	mg/kg	1.2	11/02/22 10:11	
PA 6010	Nickel	80.1	mg/kg		11/02/22 10:11	
PA 6010	Thallium	1.3	mg/kg		11/02/22 10:11	
PA 6010	Vanadium	54.2	mg/kg		11/02/22 10:11	
PA 6010	Zinc	346	mg/kg		11/02/22 10:11	
SM 2540G	Percent Moisture	19.9	%			N2
0329130009	LRN005:VMW-1:S000020					
PA 6010	Arsenic	6.9	mg/kg	1.2	11/02/22 10:13	
PA 6010	Barium	77.3	mg/kg	1.2	11/02/22 10:13	
PA 6010	Beryllium	0.80	mg/kg	0.61	11/02/22 10:13	
PA 6010	Chromium	18.0	mg/kg	1.2	11/02/22 10:13	
PA 6010	Cobalt	6.1	mg/kg	1.2	11/02/22 10:13	
PA 6010	Lead	10.7	mg/kg	1.2	11/02/22 10:13	
PA 6010	Nickel	33.4	mg/kg	1.2	11/02/22 10:13	
PA 6010	Vanadium	36.0	mg/kg		11/02/22 10:13	
PA 6010	Zinc	131	mg/kg		11/02/22 10:13	
SM 2540G	Percent Moisture	20.4	%	0.10	10/26/22 20:21	N2
0329130010	LRN005:VMW-1:S070090					
EPA 8015 Mod Ext	Total Petroleum Hydrocarbons	66.6	mg/kg	22.6	10/26/22 18:55	
PA 8015 Mod Ext	TPH (C10-C20)	32.2	mg/kg	11.3	10/26/22 18:55	
EPA 8015 Mod Ext	TPH (C20-C34)	34.4	mg/kg	11.3	10/26/22 18:55	
PA 6010	Arsenic	5.9	mg/kg	1.1	11/02/22 10:16	
PA 6010	Barium	50.2	mg/kg	1.1	11/02/22 10:16	
PA 6010	Chromium	17.5	mg/kg		11/02/22 10:16	
PA 6010	Cobalt	10.3	mg/kg		11/02/22 10:16	
PA 6010	Lead	10	mg/kg		11/02/22 10:16	
PA 6010	Nickel	27.3	mg/kg		11/02/22 10:16	
PA 6010	Vanadium	23.6	mg/kg		11/02/22 10:16	
PA 6010	Zinc	53.8	mg/kg		11/02/22 10:16	
SM 2540G	Percent Moisture	12.5	g.n.g		10/26/22 20:22	N2





Project: LRN005
Pace Project No.: 50329130

Method: EPA 8015 Mod Ext
Description: 8015 TPH Ohio Microwave

Client: Verdantas Bedford

Date: November 04, 2022

#### **General Information:**

10 samples were analyzed for EPA 8015 Mod Ext by Pace Analytical Services Indianapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### **Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Sample Preparation:

The samples were prepared in accordance with EPA 3546 with any exceptions noted below.

#### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

## **Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

### Surrogates:

All surrogates were within QC limits with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### **Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

## **Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.



Project: LRN005
Pace Project No.: 50329130

Method: EPA 8082
Description: 8082 PCB Solids
Client: Verdantas Bedford
Date: November 04, 2022

#### **General Information:**

10 samples were analyzed for EPA 8082 by Pace Analytical Services Indianapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### **Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Sample Preparation:

The samples were prepared in accordance with EPA 3546 with any exceptions noted below.

#### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### **Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

### Surrogates:

All surrogates were within QC limits with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### **Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### **Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 702986

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 50329388019

R1: RPD value was outside control limits.

- MSD (Lab ID: 3231654)
  - PCB-1260 (Aroclor 1260)

### **Additional Comments:**





Project: LRN005
Pace Project No.: 50329130

Method: EPA 8082

Description: 8082 GCS PCB RV Waters

Client: Verdantas Bedford

Date: November 04, 2022

#### **General Information:**

1 sample was analyzed for EPA 8082 by Pace Analytical Services Indianapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### **Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Sample Preparation:

The samples were prepared in accordance with EPA 3510 with any exceptions noted below.

#### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

## **Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

### Surrogates:

All surrogates were within QC limits with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### **Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

## **Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.



Project: LRN005
Pace Project No.: 50329130

Method: EPA 8015D

**Description: 8015D Gasoline Range Organics** 

Client: Verdantas Bedford

Date: November 04, 2022

#### **General Information:**

8 samples were analyzed for EPA 8015D by Pace Analytical Services Indianapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### **Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### **Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

#### Surrogates:

All surrogates were within QC limits with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

## **Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

## **Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 703053

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 50329130005

R1: RPD value was outside control limits.

- MSD (Lab ID: 3232045)
  - TPH (C06-C12)



Project: LRN005
Pace Project No.: 50329130

Method: EPA 6010

Description: 6010 MET ICP

Client: Verdantas Bedford

Date: November 04, 2022

#### **General Information:**

11 samples were analyzed for EPA 6010 by Pace Analytical Services Indianapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### **Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

The samples were prepared in accordance with EPA 3050 with any exceptions noted below.

#### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### **Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### **Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### **Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 703226

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 50329130010

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

- · MS (Lab ID: 3232815)
  - Barium

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

- MS (Lab ID: 3232815)
  - Antimony
  - Cobalt
  - Lead
  - Nickel
  - ThalliumZinc
- · MSD (Lab ID: 3232816)
  - Antimony
  - Cobalt
  - Lead





Project: LRN005
Pace Project No.: 50329130

Method: EPA 6010
Description: 6010 MET ICP
Client: Verdantas Bedford
Date: November 04, 2022

QC Batch: 703226

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 50329130010

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

Nickel

Thallium

• Zinc





Project: LRN005
Pace Project No.: 50329130

Method: EPA 6020

Description: 6020 MET ICPMS
Client: Verdantas Bedford
Date: November 04, 2022

#### **General Information:**

1 sample was analyzed for EPA 6020 by Pace Analytical Services Indianapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### **Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Sample Preparation:

The samples were prepared in accordance with EPA 200.2 with any exceptions noted below.

#### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### **Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

## Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### **Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

## **Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.





Project: LRN005
Pace Project No.: 50329130

Method: EPA 7470
Description: 7470 Mercury
Client: Verdantas Bedford
Date: November 04, 2022

#### **General Information:**

1 sample was analyzed for EPA 7470 by Pace Analytical Services Indianapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### **Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Sample Preparation:

The samples were prepared in accordance with EPA 7470 with any exceptions noted below.

#### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

## **Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

## Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### **Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### **Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.



Project: LRN005
Pace Project No.: 50329130

Method: EPA 7471
Description: 7471 Mercury
Client: Verdantas Bedford
Date: November 04, 2022

#### **General Information:**

10 samples were analyzed for EPA 7471 by Pace Analytical Services Indianapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### **Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Sample Preparation:

The samples were prepared in accordance with EPA 7471 with any exceptions noted below.

#### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### **Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

## Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

# **Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### **Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 702653

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 50329130002

R1: RPD value was outside control limits.

- MSD (Lab ID: 3230030)
  - Mercury



Project: LRN005
Pace Project No.: 50329130

Method: EPA 8270

Description: 8270 SVOC SS Soil
Client: Verdantas Bedford
Date: November 04, 2022

#### **General Information:**

10 samples were analyzed for EPA 8270 by Pace Analytical Services Indianapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### **Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Sample Preparation:

The samples were prepared in accordance with EPA 3546 with any exceptions noted below.

#### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### **Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

## Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

#### Surrogates:

All surrogates were within QC limits with any exceptions noted below.

QC Batch: 704284

S8: Surrogate recovery outside laboratory control limits due to matrix interferences (confirmed by similar results from sample re-extraction and/or re-analysis)

- · LRN005:VMW-1:S000020 (Lab ID: 50329130009)
  - · 2-Fluorobiphenyl (S)
  - · Nitrobenzene-d5 (S)

## Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### **Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### **Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 704284

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 50329250002

R1: RPD value was outside control limits.

- · MSD (Lab ID: 3237683)
  - Acenaphthylene





Project: LRN005
Pace Project No.: 50329130

Method: EPA 8270

Description:8270 SVOC SS SoilClient:Verdantas BedfordDate:November 04, 2022

QC Batch: 704284

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 50329250002

R1: RPD value was outside control limits.

· Benzo(b)fluoranthene

## **Additional Comments:**





Project: LRN005
Pace Project No.: 50329130

Method: EPA 8270 by SIM

Description: 8270 100mL Combo RV

Client: Verdantas Bedford

Date: November 04, 2022

#### **General Information:**

1 sample was analyzed for EPA 8270 by SIM by Pace Analytical Services Indianapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### **Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Sample Preparation:

The samples were prepared in accordance with EPA 3510 with any exceptions noted below.

#### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### **Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

## Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

#### Surrogates:

All surrogates were within QC limits with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### **Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### **Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

# Additional Comments:

# **Analyte Comments:**

QC Batch: 703118

2d: A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

- BLANK (Lab ID: 3232375)
  - · 2-Fluorobiphenyl (S)





Project: LRN005
Pace Project No.: 50329130

Method: EPA 8270

Description: 8270 SVOC Combo Water
Client: Verdantas Bedford
Date: November 04, 2022

#### **General Information:**

1 sample was analyzed for EPA 8270 by Pace Analytical Services Indianapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### **Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Sample Preparation:

The samples were prepared in accordance with EPA 3510 with any exceptions noted below.

#### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### **Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

## Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

#### Surrogates:

All surrogates were within QC limits with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### **Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### **Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### **Additional Comments:**

## **Analyte Comments:**

QC Batch: 703116

2d: A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

- BLANK (Lab ID: 3232367)
  - Nitrobenzene-d5 (S)



Project: LRN005
Pace Project No.: 50329130

Method: EPA 8260
Description: 8260/5030 MSV
Client: Verdantas Bedford
Date: November 04, 2022

#### **General Information:**

1 sample was analyzed for EPA 8260 by Pace Analytical Services Indianapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### **Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### **Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

#### Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

#### Surrogates:

All surrogates were within QC limits with any exceptions noted below.

## Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

## **Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### **Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 703498

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 50328969001

R1: RPD value was outside control limits.

MSD (Lab ID: 3234326)Bromomethane

Additional Comments:





Project: LRN005
Pace Project No.: 50329130

Method: EPA 8260

Description: 8260 MSV 5035A VOA
Client: Verdantas Bedford
Date: November 04, 2022

#### **General Information:**

9 samples were analyzed for EPA 8260 by Pace Analytical Services Indianapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### **Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### **Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

#### Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

#### Surrogates:

All surrogates were within QC limits with any exceptions noted below.

## Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

## **Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

## **Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

#### **Additional Comments:**

# **Analyte Comments:**

QC Batch: 703261

1d: A matrix spike/matrix spike duplicate could not be performed for this batch due to insufficient sample volume.

BLANK (Lab ID: 3233054)
Dibromofluoromethane (S)

This data package has been reviewed for quality and completeness and is approved for release.



Project: LRN005
Pace Project No.: 50329130

Date: 11/04/2022 03:17 PM

Sample: LRN005:VSB-6:S000020 Collected: 10/24/22 11:12 Received: 10/25/22 09:00 Lab ID: 50329130001 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 Prepared Analyzed CAS No. Qual 8015 TPH Ohio Microwave Analytical Method: EPA 8015 Mod Ext Preparation Method: EPA 3546 Pace Analytical Services - Indianapolis 24.3 22.1 10/26/22 12:34 10/26/22 17:50 Total Petroleum Hydrocarbons mg/kg TPH (C10-C20) ND mg/kg 11.1 1 10/26/22 12:34 10/26/22 17:50 TPH (C20-C34) 14.1 mg/kg 11.1 10/26/22 12:34 10/26/22 17:50 Surrogates 121 %. 10-157 10/26/22 12:34 10/26/22 17:50 629-99-2 n-Pentacosane (S) Analytical Method: EPA 8082 Preparation Method: EPA 3546 8082 PCB Solids Pace Analytical Services - Indianapolis PCB-1016 (Aroclor 1016) ND 0.11 10/25/22 19:35 10/26/22 17:24 12674-11-2 mg/kg 1 PCB-1221 (Aroclor 1221) ND mg/kg 0.11 10/25/22 19:35 10/26/22 17:24 11104-28-2 1 PCB-1232 (Aroclor 1232) ND mg/kg 0.11 1 10/25/22 19:35 10/26/22 17:24 11141-16-5 10/25/22 19:35 10/26/22 17:24 53469-21-9 PCB-1242 (Aroclor 1242) ND mg/kg 0.111 PCB-1248 (Aroclor 1248) ND mg/kg 0.11 10/25/22 19:35 10/26/22 17:24 12672-29-6 PCB-1254 (Aroclor 1254) ND mg/kg 0.11 10/25/22 19:35 10/26/22 17:24 11097-69-1 PCB-1260 (Aroclor 1260) ND mg/kg 0.11 1 10/25/22 19:35 10/26/22 17:24 11096-82-5 Surrogates 75 %. 36-112 10/25/22 19:35 10/26/22 17:24 877-09-8 Tetrachloro-m-xylene (S) Analytical Method: EPA 6010 Preparation Method: EPA 3050 6010 MET ICP Pace Analytical Services - Indianapolis ND Antimony mg/kg 1.1 11/01/22 09:29 11/02/22 09:48 7440-36-0 1 5.0 Arsenic mg/kg 1.1 1 11/01/22 09:29 11/02/22 09:48 7440-38-2 Barium 43.0 11/01/22 09:29 11/02/22 09:48 7440-39-3 mg/kg 1.1 1 0.56 Beryllium 0.80 mg/kg 11/01/22 09:29 11/02/22 09:48 7440-41-7 Cadmium ND mg/kg 0.56 11/01/22 09:29 11/02/22 09:48 7440-43-9 Chromium 5.2 mg/kg 1.1 11/01/22 09:29 11/02/22 09:48 7440-47-3 Cobalt 3.8 mg/kg 1.1 1 11/01/22 09:29 11/02/22 09:48 7440-48-4 11.1 Lead mg/kg 1.1 1 11/01/22 09:29 11/02/22 09:48 7439-92-1 Nickel 8.4 mg/kg 1.1 11/01/22 09:29 11/02/22 09:48 7440-02-0 1 mg/kg Selenium ND 1.1 11/01/22 09:29 11/02/22 09:48 7782-49-2 1 Silver ND 0.56 11/01/22 09:29 11/02/22 09:48 7440-22-4 mg/kg 1 ND Thallium 1.1 11/01/22 09:29 11/02/22 09:48 7440-28-0 mg/kg 1 Vanadium 10 1.1 1 11/01/22 09:29 11/02/22 09:48 7440-62-2 mg/kg Zinc 11/01/22 09:29 11/02/22 09:48 7440-66-6 23.3 mg/kg 1.1 1 Analytical Method: EPA 7471 Preparation Method: EPA 7471 7471 Mercury Pace Analytical Services - Indianapolis ND 0.22 1 10/26/22 10:53 10/26/22 17:42 7439-97-6 Mercury mg/kg Analytical Method: EPA 8270 Preparation Method: EPA 3546 8270 SVOC SS Soil Pace Analytical Services - Indianapolis Acenaphthene ND mg/kg 0.36 1 10/25/22 20:13 10/27/22 00:15 83-32-9 ND 0.36 Acenaphthylene mg/kg 1 10/25/22 20:13 10/27/22 00:15 208-96-8 0.36 10/25/22 20:13 10/27/22 00:15 120-12-7 Anthracene ND mg/kg 1 Benzo(a)anthracene ND mg/kg 0.36 10/25/22 20:13 10/27/22 00:15 56-55-3

### **REPORT OF LABORATORY ANALYSIS**



Project:

LRN005

Pace Project No.:

50329130

Sample: LRN005:VSB-6:S000020

Date: 11/04/2022 03:17 PM

Lab ID: 50329130001

Collected: 10/24/22 11:12 Received: 10/25/22 09:00 Matrix: Solid

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
8270 SVOC SS Soil	Analytical Meti	nod: EPA 827(	Preparation Meth	nod: EP	A 3546			
	Pace Analytica							
Benzo(a)pyrene	ND	mg/kg	0.36	1	10/25/22 20:13	10/27/22 00:15	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.36	1	10/25/22 20:13	10/27/22 00:15	205-99-2	
Benzo(g,h,i)perylene	ND	mg/kg	0.36	1	10/25/22 20:13	10/27/22 00:15	191-24-2	
Benzo(k)fluoranthene	ND	mg/kg	0.36	1	10/25/22 20:13	10/27/22 00:15	207-08-9	
Butylbenzylphthalate	ND	mg/kg	0.36	1		10/27/22 00:15		
I-Chloro-3-methylphenol	ND	mg/kg	0.72	1		10/27/22 00:15		
l-Chloroaniline	ND	mg/kg	0.72	1		10/27/22 00:15		
ois(2-Chloroethoxy)methane	ND	mg/kg	0.36	1		10/27/22 00:15		
ois(2-Chloroethyl) ether	ND	mg/kg	0.36	1		10/27/22 00:15		
is(2chloro1methylethyl) ether	ND	mg/kg	0.36	1		10/27/22 00:15		
P-Chloronaphthalene	ND	mg/kg	0.36	1		10/27/22 00:15		
!-Chlorophenol	ND	mg/kg	0.36	1		10/27/22 00:15		
Chrysene	ND	mg/kg	0.36	1		10/27/22 00:15		
Dibenz(a,h)anthracene	ND	mg/kg	0.36	1		10/27/22 00:15		
2,4-Dichlorophenol	ND		0.36	1		10/27/22 00:15		
		mg/kg		1				
Diethylphthalate	ND	mg/kg	0.36			10/27/22 00:15 10/27/22 00:15		
,4-Dimethylphenol	ND	mg/kg	0.36	1				
0i-n-butylphthalate	ND	mg/kg	0.36	1		10/27/22 00:15		
,4-Dinitrophenol	ND	mg/kg	1.8	1		10/27/22 00:15		
,4-Dinitrotoluene	ND	mg/kg	0.36	1		10/27/22 00:15		
,6-Dinitrotoluene	ND	mg/kg	0.36	1		10/27/22 00:15		
i-n-octylphthalate	ND	mg/kg	0.36	1		10/27/22 00:15		
is(2-Ethylhexyl)phthalate	ND	mg/kg	0.36	1		10/27/22 00:15		
luoranthene	ND	mg/kg	0.36	1		10/27/22 00:15		
luorene	ND	mg/kg	0.36	1	10/25/22 20:13	10/27/22 00:15	86-73-7	
lexachlorocyclopentadiene	ND	mg/kg	0.36	1		10/27/22 00:15		
lexachloroethane	ND	mg/kg	0.36	1	10/25/22 20:13	10/27/22 00:15	67-72-1	
ndeno(1,2,3-cd)pyrene	ND	mg/kg	0.36	1	10/25/22 20:13	10/27/22 00:15	193-39-5	
sophorone	ND	mg/kg	0.36	1	10/25/22 20:13	10/27/22 00:15	78-59-1	
-Methylnaphthalene	ND	mg/kg	0.36	1	10/25/22 20:13	10/27/22 00:15	91-57-6	
-Methylphenol(o-Cresol)	ND	mg/kg	0.36	1	10/25/22 20:13	10/27/22 00:15	95-48-7	
&4-Methylphenol(m&p Cresol)	ND	mg/kg	0.72	1	10/25/22 20:13	10/27/22 00:15		
laphthalene	ND	mg/kg	0.36	1	10/25/22 20:13	10/27/22 00:15	91-20-3	
litrobenzene	ND	mg/kg	0.36	1	10/25/22 20:13	10/27/22 00:15	98-95-3	
I-Nitroso-di-n-propylamine	ND	mg/kg	0.36	1	10/25/22 20:13	10/27/22 00:15	621-64-7	
I-Nitrosodiphenylamine	ND	mg/kg	0.36	1	10/25/22 20:13	10/27/22 00:15	86-30-6	
henanthrene	ND	mg/kg	0.36	1	10/25/22 20:13	10/27/22 00:15	85-01-8	
Phenol	ND	mg/kg	0.36	1		10/27/22 00:15		
Pyrene	ND	mg/kg	0.36	1		10/27/22 00:15		
4,4,5-Trichlorophenol	ND	mg/kg	0.36	1		10/27/22 00:15		
4.4.6-Trichlorophenol	ND	mg/kg	0.36	1		10/27/22 00:15		
Surrogates	110	9""9	0.00		. 0, 20, 22 20.10	. 3,2,,,22 00.10	20 00 2	
litrobenzene-d5 (S)	60	%.	35-110	1	10/25/22 20:13	10/27/22 00:15	4165-60-0	
Phenol-d5 (S)	72	%.	35-115	1		10/27/22 00:15		
P-Fluorophenol (S)	69	%.	22-114	1		10/27/22 00:15		



Project:

LRN005

Pace Project No.:

Date: 11/04/2022 03:17 PM

50329130

Sample: LRN005:VSB-6:S000020	Lab ID: 50329130001	Collected:	10/24/22 11:12	Receive
Results reported on a "dry weight" ba	asis and are adjusted for p	ercent mois	ture, sample siz	e and any

eived: 10/25/22 09:00 Matrix: Solid

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 SVOC SS Soil	Analytical Meth	od: EPA 827	0 Preparation Met	hod: EF	PA 3546			
	Pace Analytical	Services - In	ndianapolis					
Surrogates								
2,4,6-Tribromophenol (S)	67	%.	10-123	1	10/25/22 20:13	10/27/22 00:15	118-79-6	
2-Fluorobiphenyl (S)	67	%.	36-100	1	10/25/22 20:13	10/27/22 00:15	321-60-8	
p-Terphenyl-d14 (S)	68	%.	29-117	1	10/25/22 20:13	10/27/22 00:15	1718-51-0	
Percent Moisture	Analytical Meth	od: SM 2540	ıG					
	Pace Analytical	Services - In	ndianapolis					
Percent Moisture	10.5	%	0.10	1		10/26/22 19:16		N2



Project: LRN005
Pace Project No.: 50329130

Date: 11/04/2022 03:17 PM

Sample: LRN005:VSB-6:S020040 Lab ID: 50329130002 Collected: 10/24/22 11:12 Received: 10/25/22 09:00 Matrix: Solid Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions. **Parameters** Results Units Report Limit Prepared Analyzed CAS No. Qual 8015 TPH Ohio Microwave Analytical Method: EPA 8015 Mod Ext Preparation Method: EPA 3546 Pace Analytical Services - Indianapolis 91.1 21.6 10/26/22 12:34 10/26/22 17:57 Total Petroleum Hydrocarbons mg/kg TPH (C10-C20) 24.2 mg/kg 10.8 1 10/26/22 12:34 10/26/22 17:57 TPH (C20-C34) 66.9 mg/kg 10.8 10/26/22 12:34 10/26/22 17:57 Surrogates 147 %. 10-157 10/26/22 12:34 10/26/22 17:57 629-99-2 n-Pentacosane (S) Analytical Method: EPA 8082 Preparation Method: EPA 3546 8082 PCB Solids Pace Analytical Services - Indianapolis PCB-1016 (Aroclor 1016) ND 0.11 10/25/22 19:35 10/26/22 17:39 12674-11-2 mg/kg 1 PCB-1221 (Aroclor 1221) ND mg/kg 0.11 10/25/22 19:35 10/26/22 17:39 11104-28-2 1 PCB-1232 (Aroclor 1232) ND mg/kg 0.11 1 10/25/22 19:35 10/26/22 17:39 11141-16-5 PCB-1242 (Aroclor 1242) ND mg/kg 0.111 10/25/22 19:35 10/26/22 17:39 53469-21-9 PCB-1248 (Aroclor 1248) ND mg/kg 0.11 10/25/22 19:35 10/26/22 17:39 12672-29-6 PCB-1254 (Aroclor 1254) ND mg/kg 0.11 10/25/22 19:35 10/26/22 17:39 11097-69-1 PCB-1260 (Aroclor 1260) ND mg/kg 0.11 1 10/25/22 19:35 10/26/22 17:39 11096-82-5 Surrogates 67 %. 36-112 10/25/22 19:35 10/26/22 17:39 877-09-8 Tetrachloro-m-xylene (S) Analytical Method: EPA 6010 Preparation Method: EPA 3050 6010 MET ICP Pace Analytical Services - Indianapolis ND 0.99 Antimony mg/kg 1 11/01/22 09:29 11/02/22 09:50 7440-36-0 5.2 0.99 Arsenic mg/kg 11/01/22 09:29 11/02/22 09:50 7440-38-2 1 33.4 Barium 0.99 11/01/22 09:29 11/02/22 09:50 7440-39-3 mg/kg 1 Beryllium 0.67 mg/kg 0.49 11/01/22 09:29 11/02/22 09:50 7440-41-7 Cadmium ND mg/kg 0.49 11/01/22 09:29 11/02/22 09:50 7440-43-9 Chromium 14.9 mg/kg 0.99 11/01/22 09:29 11/02/22 09:50 7440-47-3 1 Cobalt 3.8 mg/kg 0.99 1 11/01/22 09:29 11/02/22 09:50 7440-48-4 11.0 0.99 Lead mg/kg 1 11/01/22 09:29 11/02/22 09:50 7439-92-1 Nickel 8.8 mg/kg 0.99 11/01/22 09:29 11/02/22 09:50 7440-02-0 1 mg/kg Selenium ND 0.99 11/01/22 09:29 11/02/22 09:50 7782-49-2 1 Silver ND 0.49 11/01/22 09:29 11/02/22 09:50 7440-22-4 mg/kg 1 ND 0.99 Thallium 11/01/22 09:29 11/02/22 09:50 7440-28-0 mg/kg 1 Vanadium 0.99 9.0 1 11/01/22 09:29 11/02/22 09:50 7440-62-2 mg/kg Zinc 0.99 11/01/22 09:29 11/02/22 09:50 7440-66-6 15.7 mg/kg 1 Analytical Method: EPA 7471 Preparation Method: EPA 7471 7471 Mercury Pace Analytical Services - Indianapolis ND 0.22 1 10/26/22 10:53 10/26/22 17:44 7439-97-6 Mercury mg/kg Analytical Method: EPA 8270 Preparation Method: EPA 3546 8270 SVOC SS Soil Pace Analytical Services - Indianapolis Acenaphthene ND mg/kg 0.35 1 10/25/22 20:13 10/27/22 21:56 83-32-9 ND 0.35 Acenaphthylene mg/kg 1 10/25/22 20:13 10/27/22 21:56 208-96-8 0.35 10/25/22 20:13 10/27/22 21:56 120-12-7 Anthracene ND mg/kg 1 Benzo(a)anthracene 0.54 mg/kg 0.35 10/25/22 20:13 10/27/22 21:56 56-55-3

### **REPORT OF LABORATORY ANALYSIS**



Project:

LRN005

Pace Project No.:

50329130

Sample: LRN005:VSB-6:S020040

Date: 11/04/2022 03:17 PM

Lab ID: 50329130002

Collected: 10/24/22 11:12 Received: 10/25/22 09:00 Matrix: Solid

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
8270 SVOC SS Soil	Analytical Meti	nod: EPA 8270	Preparation Meth	nod: EF	PA 3546			
	Pace Analytica							
Benzo(a)pyrene	0.43	mg/kg	0.35	1	10/25/22 20:13	10/27/22 21:56	50-32-8	
Benzo(b)fluoranthene	0.58	mg/kg	0.35	1		10/27/22 21:56		
Benzo(g,h,i)perylene	ND	mg/kg	0.35	1		10/27/22 21:56		
Benzo(k)fluoranthene	ND	mg/kg	0.35	1		10/27/22 21:56		
Butylbenzylphthalate	ND	mg/kg	0.35	1		10/27/22 21:56		
I-Chloro-3-methylphenol	ND	mg/kg	0.71	1		10/27/22 21:56		
-Chloroaniline	ND	mg/kg	0.71	1		10/27/22 21:56		
ois(2-Chloroethoxy)methane	ND	mg/kg	0.35	1		10/27/22 21:56		
ois(2-Chloroethyl) ether	ND	mg/kg	0.35	1		10/27/22 21:56		
is(2chloro1methylethyl) ether	ND		0.35	1		10/27/22 21:56		
. [1] [1] [1] [1] [1] [1] [1] [1] [1] [1]	ND	mg/kg	0.35	1		10/27/22 21:56		
-Chloronaphthalene	ND ND	mg/kg		1				
?-Chlorophenol	0.54	mg/kg	0.35			10/27/22 21:56 10/27/22 21:56		
Chrysene		mg/kg	0.35	1				
Dibenz(a,h)anthracene	ND	mg/kg	0.35	1		10/27/22 21:56		
2,4-Dichlorophenol	ND	mg/kg	0.35	1		10/27/22 21:56		
Diethylphthalate	ND	mg/kg	0.35	1		10/27/22 21:56		
,4-Dimethylphenol	ND	mg/kg	0.35	1		10/27/22 21:56		
i-n-butylphthalate	ND	mg/kg	0.35	1		10/27/22 21:56		
,4-Dinitrophenol	ND	mg/kg	1.7	1		10/27/22 21:56		
,4-Dinitrotoluene	ND	mg/kg	0.35	1		10/27/22 21:56		
,6-Dinitrotoluene	ND	mg/kg	0.35	1		10/27/22 21:56		
0i-n-octylphthalate	ND	mg/kg	0.35	1		10/27/22 21:56		
sis(2-Ethylhexyl)phthalate	0.60	mg/kg	0.35	1		10/27/22 21:56		
luoranthene	1.3	mg/kg	0.35	1		10/27/22 21:56		
luorene	ND	mg/kg	0.35	1	10/25/22 20:13	10/27/22 21:56	86-73-7	
lexachlorocyclopentadiene	ND	mg/kg	0.35	1	10/25/22 20:13	10/27/22 21:56	77-47-4	
lexachloroethane	ND	mg/kg	0.35	1	10/25/22 20:13	10/27/22 21:56	67-72-1	
ndeno(1,2,3-cd)pyrene	ND	mg/kg	0.35	1	10/25/22 20:13	10/27/22 21:56	193-39-5	
sophorone	ND	mg/kg	0.35	1	10/25/22 20:13	10/27/22 21:56	78-59-1	
?-Methylnaphthalene	0.44	mg/kg	0.35	1	10/25/22 20:13	10/27/22 21:56	91-57-6	
?-Methylphenol(o-Cresol)	ND	mg/kg	0.35	1	10/25/22 20:13	10/27/22 21:56	95-48-7	
&4-Methylphenol(m&p Cresol)	ND	mg/kg	0.71	1	10/25/22 20:13	10/27/22 21:56		
laphthalene	0.36	mg/kg	0.35	1	10/25/22 20:13	10/27/22 21:56	91-20-3	
litrobenzene	ND	mg/kg	0.35	1	10/25/22 20:13	10/27/22 21:56	98-95-3	
I-Nitroso-di-n-propylamine	ND	mg/kg	0.35	1	10/25/22 20:13	10/27/22 21:56	621-64-7	
I-Nitrosodiphenylamine	ND	mg/kg	0.35	1	10/25/22 20:13	10/27/22 21:56	86-30-6	
henanthrene	1.1	mg/kg	0.35	1		10/27/22 21:56		
Phenol	ND	mg/kg	0.35	1		10/27/22 21:56		
Pyrene	1.0	mg/kg	0.35	1		10/27/22 21:56	27.5 0.00	
4,4,5-Trichlorophenol	ND	mg/kg	0.35	1		10/27/22 21:56		
2,4,6-Trichlorophenol	ND	mg/kg	0.35	1		10/27/22 21:56		
Surrogates			5.56	•		2	x = 5 5 5 5	
Nitrobenzene-d5 (S)	58	%.	35-110	1	10/25/22 20:13	10/27/22 21:56	4165-60-0	
Phenol-d5 (S)	76	%.	35-115	1		10/27/22 21:56		
2-Fluorophenol (S)	58	%.	22-114	1		10/27/22 21:56		



Project:

LRN005

Pace Project No.:

Date: 11/04/2022 03:17 PM

50329130

Sample: LRN005:VSB-6:S020040

Lab ID: 50329130002

Collected: 10/24/22 11:12 Received: 10/25/22 09:00 Matrix: Solid

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8270 SVOC SS Soil	Analytical Method: EPA 8270 Preparation Method: EPA 3546								
	Pace Analytical Services - Indianapolis								
Surrogates									
2,4,6-Tribromophenol (S)	12	%.	10-123	1	10/25/22 20:13	10/27/22 21:56	118-79-6		
2-Fluorobiphenyl (S)	65	%.	36-100	1	10/25/22 20:13	10/27/22 21:56	321-60-8		
p-Terphenyl-d14 (S)	70	%.	29-117	1	10/25/22 20:13	10/27/22 21:56	1718-51-0		
Percent Moisture	Analytical Method: SM 2540G								
	Pace Analytical Services - Indianapolis								
Percent Moisture	9.2	%	0.10	1		10/26/22 19:17		N2	



Project: LRN005
Pace Project No.: 50329130

Date: 11/04/2022 03:17 PM

Sample: LRN005:VMW-5:S000020 Lab ID: 50329130003 Collected: 10/24/22 10:37 Received: 10/25/22 09:00 Matrix: Solid Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions. **Parameters** Results Units Report Limit Prepared Analyzed CAS No. Qual 8015 TPH Ohio Microwave Analytical Method: EPA 8015 Mod Ext Preparation Method: EPA 3546 Pace Analytical Services - Indianapolis ND 24.3 10/26/22 12:34 10/26/22 18:04 Total Petroleum Hydrocarbons mg/kg TPH (C10-C20) ND mg/kg 12.2 1 10/26/22 12:34 10/26/22 18:04 TPH (C20-C34) ND mg/kg 12.2 10/26/22 12:34 10/26/22 18:04 Surrogates 20 %. 10-157 10/26/22 12:34 10/26/22 18:04 629-99-2 n-Pentacosane (S) Analytical Method: EPA 8082 Preparation Method: EPA 3546 8082 PCB Solids Pace Analytical Services - Indianapolis PCB-1016 (Aroclor 1016) ND 0.12 10/25/22 19:35 10/26/22 17:54 12674-11-2 mg/kg 1 PCB-1221 (Aroclor 1221) ND mg/kg 0.12 10/25/22 19:35 10/26/22 17:54 11104-28-2 1 PCB-1232 (Aroclor 1232) ND mg/kg 0.12 1 10/25/22 19:35 10/26/22 17:54 11141-16-5 PCB-1242 (Aroclor 1242) ND mg/kg 0.12 1 10/25/22 19:35 10/26/22 17:54 53469-21-9 PCB-1248 (Aroclor 1248) ND mg/kg 0.12 10/25/22 19:35 10/26/22 17:54 12672-29-6 1 PCB-1254 (Aroclor 1254) ND 0.12 10/25/22 19:35 10/26/22 17:54 11097-69-1 mg/kg 1 PCB-1260 (Aroclor 1260) ND mg/kg 0.12 1 10/25/22 19:35 10/26/22 17:54 11096-82-5 Surrogates 36-112 10/25/22 19:35 10/26/22 17:54 877-09-8 Tetrachloro-m-xylene (S) 41 %. 1 Analytical Method: EPA 8015D 8015D Gasoline Range Organics Pace Analytical Services - Indianapolis TPH (C06-C12) ND 1.2 10/28/22 01:39 mg/kg 1 Surrogates 4-Bromofluorobenzene (S) 73 %. 17-148 10/28/22 01:39 460-00-4 Analytical Method: EPA 6010 Preparation Method: EPA 3050 **6010 MET ICP** Pace Analytical Services - Indianapolis Antimony 1.1 mg/kg 1.1 1 11/01/22 09:29 11/02/22 09:58 7440-36-0 17.2 Arsenic mg/kg 1.1 1 11/01/22 09:29 11/02/22 09:58 7440-38-2 Barium 70.2 mg/kg 1.1 11/01/22 09:29 11/02/22 09:58 7440-39-3 1 mg/kg Beryllium 0.92 0.56 11/01/22 09:29 11/02/22 09:58 7440-41-7 1 Cadmium 2.3 mg/kg 0.56 11/01/22 09:29 11/02/22 09:58 7440-43-9 1 Chromium 17.6 11/01/22 09:29 11/02/22 09:58 7440-47-3 mg/kg 1.1 1 Cobalt 24.3 1.1 11/01/22 09:29 11/02/22 09:58 7440-48-4 mg/kg 1 26.0 11/01/22 09:29 11/02/22 09:58 7439-92-1 Lead mg/kg 1.1 1 Nickel 46.8 mg/kg 1.1 11/01/22 09:29 11/02/22 09:58 7440-02-0 Selenium ND mg/kg 1.1 11/01/22 09:29 11/02/22 09:58 7782-49-2 Silver ND mg/kg 0.56 11/01/22 09:29 11/02/22 09:58 7440-22-4 Thallium 2.5 mg/kg 1.1 11/01/22 09:29 11/02/22 09:58 7440-28-0 Vanadium 56.7 mg/kg 1.1 1 11/01/22 09:29 11/02/22 09:58 7440-62-2 Zinc 284 mg/kg 1.1 1 11/01/22 09:29 11/02/22 09:58 7440-66-6 7471 Mercury Analytical Method: EPA 7471 Preparation Method: EPA 7471 Pace Analytical Services - Indianapolis ND Mercury mg/kg 0.26 10/26/22 10:53 10/26/22 17:52 7439-97-6

### REPORT OF LABORATORY ANALYSIS



Project: LRN005 Pace Project No.: 50329130

Date: 11/04/2022 03:17 PM

Sample: LRN005:VMW-5:S000020 Lab ID: 50329130003 Collected: 10/24/22 10:37 Received: 10/25/22 09:00 Matrix: Solid

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
8270 SVOC SS Soil	Analytical Meti	nod: EPA 8270	Preparation Meti	nod: EF	A 3546			
2.00000000	Pace Analytica							
Acenaphthene	ND	mg/kg	0.40	1	11/03/22 16:32	11/03/22 23:05	83-32-9	
Acenaphthylene	ND	mg/kg	0.40	1		11/03/22 23:05		
Anthracene	ND	mg/kg	0.40	1		11/03/22 23:05		
Benzo(a)anthracene	ND	mg/kg	0.40	1		11/03/22 23:05		
Benzo(a)pyrene	ND	mg/kg	0.40	1		11/03/22 23:05		
Benzo(b)fluoranthene	ND	mg/kg	0.40	1		11/03/22 23:05		
Benzo(g,h,i)perylene	ND	mg/kg	0.40	1		11/03/22 23:05		
Benzo(k)fluoranthene	ND	mg/kg	0.40	1		11/03/22 23:05		
Butylbenzylphthalate	ND	mg/kg	0.40	1		11/03/22 23:05		
-Chloro-3-methylphenol	ND	mg/kg	0.79	1		11/03/22 23:05		
-Chloroaniline	ND	mg/kg	0.79	1		11/03/22 23:05		
			0.40	1				
is(2-Chloroethoxy)methane	ND	mg/kg				11/03/22 23:05		
is(2-Chloroethyl) ether	ND	mg/kg	0.40	1		11/03/22 23:05		
is(2chloro1methylethyl) ether	ND	mg/kg	0.40	1		11/03/22 23:05		
-Chloronaphthalene	ND	mg/kg	0.40	1		11/03/22 23:05		
-Chlorophenol	ND	mg/kg	0.40	1		11/03/22 23:05		
Chrysene	ND	mg/kg	0.40	1		11/03/22 23:05		
ibenz(a,h)anthracene	ND	mg/kg	0.40	1		11/03/22 23:05		
,4-Dichlorophenol	ND	mg/kg	0.40	1		11/03/22 23:05		
Diethylphthalate	ND	mg/kg	0.40	1		11/03/22 23:05		
,4-Dimethylphenol	ND	mg/kg	0.40	1	11/03/22 16:32	11/03/22 23:05	105-67-9	
i-n-butylphthalate	ND	mg/kg	0.40	1	11/03/22 16:32	11/03/22 23:05	84-74-2	
,4-Dinitrophenol	ND	mg/kg	1.9	1	11/03/22 16:32	11/03/22 23:05	51-28-5	
,4-Dinitrotoluene	ND	mg/kg	0.40	1	11/03/22 16:32	11/03/22 23:05	121-14-2	
,6-Dinitrotoluene	ND	mg/kg	0.40	1	11/03/22 16:32	11/03/22 23:05	606-20-2	
i-n-octylphthalate	ND	mg/kg	0.40	1	11/03/22 16:32	11/03/22 23:05	117-84-0	
is(2-Ethylhexyl)phthalate	ND	mg/kg	0.40	1	11/03/22 16:32	11/03/22 23:05	117-81-7	
luoranthene	ND	mg/kg	0.40	1	11/03/22 16:32	11/03/22 23:05	206-44-0	
luorene	ND	mg/kg	0.40	1	11/03/22 16:32	11/03/22 23:05	86-73-7	
lexachlorocyclopentadiene	ND	mg/kg	0.40	1	11/03/22 16:32	11/03/22 23:05	77-47-4	
lexachloroethane	ND	mg/kg	0.40	1		11/03/22 23:05		
ndeno(1,2,3-cd)pyrene	ND	mg/kg	0.40	1		11/03/22 23:05		
sophorone	ND	mg/kg	0.40	1		11/03/22 23:05		
-Methylnaphthalene	ND	mg/kg	0.40	1		11/03/22 23:05		
-Methylphenol(o-Cresol)	ND	mg/kg	0.40	1		11/03/22 23:05		
&4-Methylphenol(m&p Cresol)	ND	mg/kg	0.79	1		11/03/22 23:05	00 10 1	
laphthalene	ND	mg/kg	0.40	1		11/03/22 23:05	91-20-3	
litrobenzene	ND	mg/kg	0.40	1		11/03/22 23:05		
I-Nitroso-di-n-propylamine	ND	mg/kg	0.40	1		11/03/22 23:05		
I-Nitrosodiphenylamine	ND ND	mg/kg	0.40	1		11/03/22 23:05		
Phenanthrene	ND		0.40	1		11/03/22 23:05		
		mg/kg						
Phenol	ND ND	mg/kg	0.40	1		11/03/22 23:05		
yrene	ND ND	mg/kg	0.40	1		11/03/22 23:05		
2,4,5-Trichlorophenol 2,4,6-Trichlorophenol	ND ND	mg/kg mg/kg	0.40 0.40	1		11/03/22 23:05 11/03/22 23:05		



Project: LRN005
Page Project No : 50329130

Naphthalene

Date: 11/04/2022 03:17 PM

Pace Project No.: 50329130 Sample: LRN005:VMW-5:S000020 Lab ID: 50329130003 Collected: 10/24/22 10:37 Received: 10/25/22 09:00 Matrix: Solid Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions. **Parameters** Results Units Report Limit DF Prepared Analyzed CAS No. Qual 8270 SVOC SS Soil Analytical Method: EPA 8270 Preparation Method: EPA 3546 Pace Analytical Services - Indianapolis Surrogates Nitrobenzene-d5 (S) 57 %. 35-110 1 11/03/22 16:32 11/03/22 23:05 4165-60-0 Phenol-d5 (S) 67 %. 35-115 11/03/22 16:32 11/03/22 23:05 4165-62-2 1 2-Fluorophenol (S) 58 %. 22-114 11/03/22 16:32 11/03/22 23:05 367-12-4 1 2,4,6-Tribromophenol (S) 51 0/6 10-123 11/03/22 16:32 11/03/22 23:05 118-79-6 1 2-Fluorobiphenyl (S) 58 %. 36-100 11/03/22 16:32 11/03/22 23:05 321-60-8 1 p-Terphenyl-d14 (S) 58 %. 29-117 1 11/03/22 16:32 11/03/22 23:05 1718-51-0 8260 MSV 5035A VOA Analytical Method: EPA 8260 Pace Analytical Services - Indianapolis Acetone ND mg/kg 0.13 1 10/31/22 18:26 67-64-1 Benzene ND mg/kg 0.0057 1 10/28/22 17:55 71-43-2 Bromodichloromethane ND mg/kg 0.0057 10/28/22 17:55 75-27-4 Bromoform ND mg/kg 0.0057 10/28/22 17:55 75-25-2 1 Bromomethane ND mg/kg 0.0057 1 10/28/22 17:55 74-83-9 2-Butanone (MEK) ND mg/kg 0.029 1 10/28/22 17:55 78-93-3 Carbon disulfide ND mg/kg 0.011 1 10/28/22 17:55 75-15-0 Carbon tetrachloride ND mg/kg 0.0057 10/28/22 17:55 56-23-5 1 Chlorobenzene ND mg/kg 0.0057 10/28/22 17:55 108-90-7 1 Chloroethane ND mg/kg 0.0057 1 10/28/22 17:55 75-00-3 ND Chloroform mg/kg 0.0057 1 10/28/22 17:55 67-66-3 10/28/22 17:55 74-87-3 Chloromethane ND mg/kg 0.0057 1 Dibromochloromethane ND mg/kg 0.0057 1 10/28/22 17:55 124-48-1 1,2-Dibromoethane (EDB) ND mg/kg 0.00086 10/28/22 17:55 106-93-4 Dibromomethane ND mg/kg 0.0057 10/28/22 17:55 74-95-3 1 1,2-Dichlorobenzene 0.0057 ND mg/kg 1 10/28/22 17:55 95-50-1 1,4-Dichlorobenzene ND mg/kg 0.0057 1 10/28/22 17:55 106-46-7 Dichlorodifluoromethane ND mg/kg 0.0057 1 10/28/22 17:55 75-71-8 1.1-Dichloroethane ND mg/kg 0.0057 10/28/22 17:55 75-34-3 1 ND mg/kg 0.0057 10/28/22 17:55 107-06-2 1,2-Dichloroethane 1 10/28/22 17:55 75-35-4 ND 0.0057 1,1-Dichloroethene mg/kg 1 ND 10/28/22 17:55 156-59-2 cis-1,2-Dichloroethene mg/kg 0.0057 1 ND 10/28/22 17:55 156-60-5 trans-1,2-Dichloroethene mg/kg 0.0057 1 1,2-Dichloropropane ND mg/kg 0.0057 1 10/28/22 17:55 78-87-5 1,3-Dichloropropane ND mg/kg 0.0057 10/28/22 17:55 142-28-9 cis-1,3-Dichloropropene ND mg/kg 0.0057 10/28/22 17:55 10061-01-5 ND 0.0057 10/28/22 17:55 10061-02-6 trans-1,3-Dichloropropene mg/kg 1 Ethylbenzene ND mg/kg 0.0057 1 10/28/22 17:55 100-41-4 Ethyl methacrylate ND mg/kg 0.11 10/28/22 17:55 97-63-2 1 n-Hexane ND mg/kg 0.0057 10/28/22 17:55 110-54-3 1 10/28/22 17:55 98-82-8 Isopropylbenzene (Cumene) ND mg/kg 0.0057 1 mg/kg Methylene Chloride ND 0.026 1 10/31/22 18:26 75-09-2 4-Methyl-2-pentanone (MIBK) ND mg/kg 0.029 10/28/22 17:55 108-10-1 1 Methyl-tert-butyl ether ND mg/kg 0.0057 1 10/28/22 17:55 1634-04-4

### REPORT OF LABORATORY ANALYSIS

0.0057

ND

mg/kg

10/28/22 17:55 91-20-3



Project:

LRN005

Pace Project No.:

Date: 11/04/2022 03:17 PM

50329130

Sample: LRN005:VMW-5:S000020

Lab ID: 50329130003 Collected: 10/24/22 10:37 Received: 10/25/22 09:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
8260 MSV 5035A VOA	Analytical Meth	nod: EPA 8260	)					
	Pace Analytica	l Services - In	idianapolis					
Styrene	ND	mg/kg	0.0057	1		10/28/22 17:55	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0057	1		10/28/22 17:55	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0057	1		10/28/22 17:55	79-34-5	
Tetrachloroethene	ND	mg/kg	0.0057	1		10/28/22 17:55	127-18-4	
Toluene	ND	mg/kg	0.0057	1		10/28/22 17:55	108-88-3	
1,2,4-Trichlorobenzene	ND	mg/kg	0.0057	1		10/28/22 17:55	120-82-1	
1,1,1-Trichloroethane	ND	mg/kg	0.0057	1		10/28/22 17:55	71-55-6	
1,1,2-Trichloroethane	ND	mg/kg	0.0057	1		10/28/22 17:55	79-00-5	
Trichloroethene	ND	mg/kg	0.0057	1		10/28/22 17:55	79-01-6	
Trichlorofluoromethane	ND	mg/kg	0.0057	1		10/28/22 17:55	75-69-4	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0057	1		10/28/22 17:55	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0057	1		10/28/22 17:55	108-67-8	
Vinyl acetate	ND	mg/kg	0.11	1		10/28/22 17:55	108-05-4	
Vinyl chloride	ND	mg/kg	0.0057	1		10/28/22 17:55	75-01-4	
Xylene (Total)	ND	mg/kg	0.011	1		10/28/22 17:55	1330-20-7	
Surrogates		0 0						
Dibromofluoromethane (S)	109	%.	62-146	1		10/28/22 17:55	1868-53-7	
Toluene-d8 (S)	96	%.	68-143	1		10/28/22 17:55	2037-26-5	
4-Bromofluorobenzene (S)	100	%.	63-129	1		10/28/22 17:55	460-00-4	
Percent Moisture	Analytical Meth	nod: SM 2540	G					
	Pace Analytica	l Services - Ir	idianapolis					
Percent Moisture	18.9	%	0.10	1		10/26/22 19:17		N2



Project: LRN005
Pace Project No.: 50329130

Date: 11/04/2022 03:17 PM

Sample: LRN005:VMW-5:S050070 Lab ID: 50329130004 Collected: 10/24/22 10:39 Received: 10/25/22 09:00 Matrix: Solid Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions. **Parameters** Results Units Report Limit Prepared Analyzed CAS No. Qual 8015 TPH Ohio Microwave Analytical Method: EPA 8015 Mod Ext Preparation Method: EPA 3546 Pace Analytical Services - Indianapolis ND 24.5 10/26/22 12:34 10/26/22 18:11 Total Petroleum Hydrocarbons mg/kg TPH (C10-C20) 16.0 mg/kg 12.3 1 10/26/22 12:34 10/26/22 18:11 TPH (C20-C34) ND mg/kg 12.3 10/26/22 12:34 10/26/22 18:11 Surrogates 19 %. 10-157 10/26/22 12:34 10/26/22 18:11 629-99-2 n-Pentacosane (S) Analytical Method: EPA 8082 Preparation Method: EPA 3546 8082 PCB Solids Pace Analytical Services - Indianapolis PCB-1016 (Aroclor 1016) ND 0.12 10/25/22 19:35 10/26/22 18:09 12674-11-2 mg/kg 1 PCB-1221 (Aroclor 1221) ND mg/kg 0.12 10/25/22 19:35 10/26/22 18:09 11104-28-2 1 PCB-1232 (Aroclor 1232) ND mg/kg 0.12 1 10/25/22 19:35 10/26/22 18:09 11141-16-5 PCB-1242 (Aroclor 1242) ND mg/kg 0.12 1 10/25/22 19:35 10/26/22 18:09 53469-21-9 PCB-1248 (Aroclor 1248) ND mg/kg 0.12 10/25/22 19:35 10/26/22 18:09 12672-29-6 1 PCB-1254 (Aroclor 1254) ND mg/kg 0.12 10/25/22 19:35 10/26/22 18:09 11097-69-1 1 PCB-1260 (Aroclor 1260) ND mg/kg 0.12 1 10/25/22 19:35 10/26/22 18:09 11096-82-5 Surrogates 36-112 39 10/25/22 19:35 10/26/22 18:09 877-09-8 Tetrachloro-m-xylene (S) %. 1 Analytical Method: EPA 8015D 8015D Gasoline Range Organics Pace Analytical Services - Indianapolis TPH (C06-C12) ND 1.2 10/28/22 02:02 mg/kg 1 Surrogates 4-Bromofluorobenzene (S) 91 %. 17-148 10/28/22 02:02 460-00-4 Analytical Method: EPA 6010 Preparation Method: EPA 3050 **6010 MET ICP** Pace Analytical Services - Indianapolis Antimony ND mg/kg 1.1 1 11/01/22 09:29 11/02/22 10:01 7440-36-0 18.0 Arsenic mg/kg 1.1 1 11/01/22 09:29 11/02/22 10:01 7440-38-2 Barium 21.7 mg/kg 1.1 11/01/22 09:29 11/02/22 10:01 7440-39-3 1 mg/kg Beryllium ND 0.54 11/01/22 09:29 11/02/22 10:01 7440-41-7 1 Cadmium 0.70 mg/kg 0.54 11/01/22 09:29 11/02/22 10:01 7440-43-9 1 Chromium 16.6 11/01/22 09:29 11/02/22 10:01 7440-47-3 mg/kg 1.1 1 Cobalt 9.8 1.1 11/01/22 09:29 11/02/22 10:01 7440-48-4 mg/kg 1 10.4 11/01/22 09:29 11/02/22 10:01 7439-92-1 Lead mg/kg 1.1 1 Nickel 31.3 mg/kg 1.1 11/01/22 09:29 11/02/22 10:01 7440-02-0 Selenium 1.5 mg/kg 1.1 11/01/22 09:29 11/02/22 10:01 7782-49-2 Silver ND mg/kg 0.54 11/01/22 09:29 11/02/22 10:01 7440-22-4 Thallium 1.8 mg/kg 1.1 11/01/22 09:29 11/02/22 10:01 7440-28-0 Vanadium 27.5 mg/kg 1.1 1 11/01/22 09:29 11/02/22 10:01 7440-62-2 Zinc 90.7 mg/kg 1.1 1 11/01/22 09:29 11/02/22 10:01 7440-66-6 7471 Mercury Analytical Method: EPA 7471 Preparation Method: EPA 7471 Pace Analytical Services - Indianapolis 0.25 Mercury ND mg/kg 10/26/22 10:53 10/26/22 17:54 7439-97-6



Project: LRN005 Pace Project No.: 50329130

Date: 11/04/2022 03:17 PM

Sample: LRN005:VMW-5:S050070 Lab ID: 50329130004 Collected: 10/24/22 10:39 Received: 10/25/22 09:00 Matrix: Solid

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
8270 SVOC SS Soil	Analytical Met	nod: EPA 8270	O Preparation Meth	nod: EP	A 3546			
	Pace Analytica							
Acenaphthene	ND	mg/kg	0.40	1	11/03/22 16:32	11/03/22 23:22	83-32-9	
Acenaphthylene	ND	mg/kg	0.40	1	11/03/22 16:32	11/03/22 23:22	208-96-8	
Anthracene	ND	mg/kg	0.40	1	11/03/22 16:32	11/03/22 23:22	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.40	1	11/03/22 16:32	11/03/22 23:22	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.40	1	11/03/22 16:32	11/03/22 23:22	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.40	1	11/03/22 16:32	11/03/22 23:22	205-99-2	
Benzo(g,h,i)perylene	ND	mg/kg	0.40	1	11/03/22 16:32	11/03/22 23:22	191-24-2	
Benzo(k)fluoranthene	ND	mg/kg	0.40	1		11/03/22 23:22		
Butylbenzylphthalate	ND	mg/kg	0.40	1		11/03/22 23:22		
-Chloro-3-methylphenol	ND	mg/kg	0.80	1		11/03/22 23:22		
-Chloroaniline	ND	mg/kg	0.80	1		11/03/22 23:22		
sis(2-Chloroethoxy)methane	ND	mg/kg	0.40	1		11/03/22 23:22		
is(2-Chloroethyl) ether	ND	mg/kg	0.40	1		11/03/22 23:22		
is(2chloro1methylethyl) ether	ND	mg/kg	0.40	1		11/03/22 23:22		
-Chloronaphthalene	ND	mg/kg	0.40	1		11/03/22 23:22		
-Chlorophenol	ND	mg/kg	0.40	1		11/03/22 23:22		
Chrysene	ND	mg/kg	0.40	1		11/03/22 23:22		
Dibenz(a,h)anthracene	ND	mg/kg	0.40	1		11/03/22 23:22		
,4-Dichlorophenol	ND	mg/kg	0.40	1		11/03/22 23:22		
Diethylphthalate	ND	mg/kg	0.40	1		11/03/22 23:22		
,4-Dimethylphenol	ND	mg/kg	0.40	1		11/03/22 23:22		
)i-n-butylphthalate	ND	mg/kg	0.40	1		11/03/22 23:22		
	ND		2.0	1		11/03/22 23:22		
,4-Dinitrophenol		mg/kg	0.40	1		11/03/22 23:22		
,4-Dinitrotoluene	ND ND	mg/kg						
,6-Dinitrotoluene	ND ND	mg/kg	0.40	1		11/03/22 23:22		
)i-n-octylphthalate	ND ND	mg/kg	0.40	1		11/03/22 23:22		
is(2-Ethylhexyl)phthalate	ND	mg/kg	0.40	1		11/03/22 23:22		
luoranthene	ND	mg/kg	0.40	1		11/03/22 23:22		
luorene	ND	mg/kg	0.40	1		11/03/22 23:22		
lexachlorocyclopentadiene	ND	mg/kg	0.40	1		11/03/22 23:22		
lexachloroethane	ND	mg/kg	0.40	1		11/03/22 23:22		
ndeno(1,2,3-cd)pyrene	ND	mg/kg	0.40	1		11/03/22 23:22		
sophorone	ND	mg/kg	0.40	1		11/03/22 23:22		
-Methylnaphthalene	ND	mg/kg	0.40	1		11/03/22 23:22		
-Methylphenol(o-Cresol)	ND	mg/kg	0.40	1		11/03/22 23:22	95-48-7	
&4-Methylphenol(m&p Cresol)	ND	mg/kg	0.80	1		11/03/22 23:22		
laphthalene	ND	mg/kg	0.40	1		11/03/22 23:22		
litrobenzene	ND	mg/kg	0.40	1		11/03/22 23:22		
I-Nitroso-di-n-propylamine	ND	mg/kg	0.40	1		11/03/22 23:22		
I-Nitrosodiphenylamine	ND	mg/kg	0.40	1		11/03/22 23:22		
Phenanthrene	ND	mg/kg	0.40	1		11/03/22 23:22		
Phenol	ND	mg/kg	0.40	1		11/03/22 23:22		
Pyrene	ND	mg/kg	0.40	1		11/03/22 23:22		
2,4,5-Trichlorophenol	ND	mg/kg	0.40	1		11/03/22 23:22		
2,4,6-Trichlorophenol	ND	mg/kg	0.40	1	11/03/22 16:32	11/03/22 23:22	88-06-2	

Matrix: Solid



#### **ANALYTICAL RESULTS**

Collected: 10/24/22 10:39 Received: 10/25/22 09:00

Lab ID: 50329130004

ND

ND

ND

ND

ND

ND

ND

ND

mg/kg

mg/kg

mg/kg

mg/kg

mg/kg

mg/kg

mg/kg

mg/kg

Project: LRN005
Pace Project No.: 50329130

Ethylbenzene

n-Hexane

Naphthalene

Ethyl methacrylate

Methylene Chloride

Methyl-tert-butyl ether

Date: 11/04/2022 03:17 PM

Isopropylbenzene (Cumene)

4-Methyl-2-pentanone (MIBK)

Sample: LRN005:VMW-5:S050070

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 8270 SVOC SS Soil Analytical Method: EPA 8270 Preparation Method: EPA 3546 Pace Analytical Services - Indianapolis Surrogates Nitrobenzene-d5 (S) 42 %. 35-110 1 11/03/22 16:32 11/03/22 23:22 4165-60-0 Phenol-d5 (S) 53 %. 35-115 11/03/22 16:32 11/03/22 23:22 4165-62-2 1 2-Fluorophenol (S) 50 %. 22-114 11/03/22 16:32 11/03/22 23:22 367-12-4 1 2,4,6-Tribromophenol (S) 39 0/6 10-123 11/03/22 16:32 11/03/22 23:22 118-79-6 1 2-Fluorobiphenyl (S) 45 %. 36-100 11/03/22 16:32 11/03/22 23:22 321-60-8 1 p-Terphenyl-d14 (S) 44 %. 29-117 1 11/03/22 16:32 11/03/22 23:22 1718-51-0 8260 MSV 5035A VOA Analytical Method: EPA 8260 Pace Analytical Services - Indianapolis Acetone ND mg/kg 0.25 1 10/31/22 19:00 67-64-1 0.0089 Benzene ND mg/kg 1 10/28/22 18:28 71-43-2 Bromodichloromethane ND mg/kg 0.0089 10/28/22 18:28 75-27-4 1 Bromoform ND mg/kg 0.0089 10/28/22 18:28 75-25-2 1 Bromomethane ND mg/kg 0.0089 1 10/28/22 18:28 74-83-9 2-Butanone (MEK) ND mg/kg 0.045 1 10/28/22 18:28 78-93-3 Carbon disulfide ND mg/kg 0.018 1 10/28/22 18:28 75-15-0 Carbon tetrachloride ND mg/kg 0.0089 10/28/22 18:28 56-23-5 1 Chlorobenzene ND mg/kg 0.0089 10/28/22 18:28 108-90-7 1 Chloroethane ND mg/kg 0.0089 1 10/28/22 18:28 75-00-3 ND Chloroform mg/kg 0.0089 1 10/28/22 18:28 67-66-3 10/28/22 18:28 74-87-3 Chloromethane ND mg/kg 0.0089 1 Dibromochloromethane ND mg/kg 0.0089 1 10/28/22 18:28 124-48-1 1,2-Dibromoethane (EDB) ND mg/kg 0.0013 10/28/22 18:28 106-93-4 1 Dibromomethane ND mg/kg 0.0089 10/28/22 18:28 74-95-3 1 1,2-Dichlorobenzene 0.0089 ND mg/kg 1 10/28/22 18:28 95-50-1 1,4-Dichlorobenzene ND mg/kg 0.0089 1 10/28/22 18:28 106-46-7 Dichlorodifluoromethane ND mg/kg 0.0089 1 10/28/22 18:28 75-71-8 1.1-Dichloroethane ND mg/kg 0.0089 10/28/22 18:28 75-34-3 1 ND mg/kg 0.0089 10/28/22 18:28 107-06-2 1,2-Dichloroethane 1 ND 0.0089 10/28/22 18:28 75-35-4 1,1-Dichloroethene mg/kg 1 ND 10/28/22 18:28 156-59-2 cis-1,2-Dichloroethene 0.0089 mg/kg 1 ND 0.0089 10/28/22 18:28 156-60-5 trans-1,2-Dichloroethene mg/kg 1 1,2-Dichloropropane ND mg/kg 0.0089 1 10/28/22 18:28 78-87-5 1,3-Dichloropropane ND mg/kg 0.0089 10/28/22 18:28 142-28-9 cis-1,3-Dichloropropene ND mg/kg 0.0089 10/28/22 18:28 10061-01-5 ND 0.0089 10/28/22 18:28 10061-02-6 trans-1,3-Dichloropropene mg/kg 1

#### REPORT OF LABORATORY ANALYSIS

0.0089

0.0089

0.0089

0.051

0.045

0.0089

0.0089

0.18

1

1

1

1

1

1

1

10/28/22 18:28 100-41-4

10/28/22 18:28 97-63-2

10/28/22 18:28 110-54-3

10/28/22 18:28 98-82-8

10/31/22 19:00 75-09-2

10/28/22 18:28 108-10-1

10/28/22 18:28 91-20-3

10/28/22 18:28 1634-04-4



Project:

LRN005

Pace Project No.:

Date: 11/04/2022 03:17 PM

50329130

Sample: LRN005:VMW-5:S050070

Lab ID: 50329130004 Collected: 10/24/22 10:39 Received: 10/25/22 09:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
8260 MSV 5035A VOA	Analytical Meti	nod: EPA 8260	j					
	Pace Analytica	l Services - Ir	idianapolis					
Styrene	ND	mg/kg	0.0089	1		10/28/22 18:28	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0089	1		10/28/22 18:28	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0089	1		10/28/22 18:28	79-34-5	
Tetrachloroethene	ND	mg/kg	0.0089	1		10/28/22 18:28	127-18-4	
Toluene	ND	mg/kg	0.0089	1		10/28/22 18:28	108-88-3	
1,2,4-Trichlorobenzene	ND	mg/kg	0.0089	1		10/28/22 18:28	120-82-1	
1,1,1-Trichloroethane	ND	mg/kg	0.0089	1		10/28/22 18:28	71-55-6	
1,1,2-Trichloroethane	ND	mg/kg	0.0089	1		10/28/22 18:28	79-00-5	
Trichloroethene	ND	mg/kg	0.0089	1		10/28/22 18:28	79-01-6	
Trichlorofluoromethane	ND	mg/kg	0.0089	1		10/28/22 18:28	75-69-4	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0089	1		10/28/22 18:28	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0089	1		10/28/22 18:28	108-67-8	
Vinyl acetate	ND	mg/kg	0.18	1		10/28/22 18:28	108-05-4	
Vinyl chloride	ND	mg/kg	0.0089	1		10/28/22 18:28	75-01-4	
Xylene (Total)	ND	mg/kg	0.018	1		10/28/22 18:28	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	104	%.	62-146	1		10/28/22 18:28	1868-53-7	
Toluene-d8 (S)	98	%.	68-143	1		10/28/22 18:28	2037-26-5	
4-Bromofluorobenzene (S)	98	%.	63-129	1		10/28/22 18:28	460-00-4	
Percent Moisture	Analytical Meti	nod: SM 2540	G					
	Pace Analytica	l Services - Ir	idianapolis					
Percent Moisture	20.1	%	0.10	1		10/26/22 19:17		N2



Project: LRN005
Pace Project No.: 50329130

Date: 11/04/2022 03:17 PM

Sample: LRN005:VMW-4:S000020 Lab ID: 50329130005 Collected: 10/24/22 12:12 Received: 10/25/22 09:00 Matrix: Solid Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions. **Parameters** Results Units Report Limit Prepared Analyzed CAS No. Qual 8015 TPH Ohio Microwave Analytical Method: EPA 8015 Mod Ext Preparation Method: EPA 3546 Pace Analytical Services - Indianapolis ND 20.9 10/26/22 12:34 10/26/22 18:19 Total Petroleum Hydrocarbons mg/kg TPH (C10-C20) ND mg/kg 10.5 1 10/26/22 12:34 10/26/22 18:19 TPH (C20-C34) ND mg/kg 10.5 10/26/22 12:34 10/26/22 18:19 Surrogates 85 %. 10-157 10/26/22 12:34 10/26/22 18:19 629-99-2 n-Pentacosane (S) Analytical Method: EPA 8082 Preparation Method: EPA 3546 8082 PCB Solids Pace Analytical Services - Indianapolis PCB-1016 (Aroclor 1016) ND 0.10 10/25/22 19:35 10/26/22 18:24 12674-11-2 mg/kg 1 PCB-1221 (Aroclor 1221) ND mg/kg 0.10 10/25/22 19:35 10/26/22 18:24 11104-28-2 1 PCB-1232 (Aroclor 1232) ND mg/kg 0.10 1 10/25/22 19:35 10/26/22 18:24 11141-16-5 PCB-1242 (Aroclor 1242) ND mg/kg 0.10 1 10/25/22 19:35 10/26/22 18:24 53469-21-9 PCB-1248 (Aroclor 1248) ND mg/kg 0.10 10/25/22 19:35 10/26/22 18:24 12672-29-6 PCB-1254 (Aroclor 1254) ND 0.10 10/25/22 19:35 10/26/22 18:24 11097-69-1 mg/kg 1 PCB-1260 (Aroclor 1260) ND mg/kg 0.10 1 10/25/22 19:35 10/26/22 18:24 11096-82-5 Surrogates 36-112 72 10/25/22 19:35 10/26/22 18:24 877-09-8 Tetrachloro-m-xylene (S) %. 1 Analytical Method: EPA 8015D 8015D Gasoline Range Organics Pace Analytical Services - Indianapolis TPH (C06-C12) R1 ND 1.0 10/28/22 02:25 mg/kg 1 Surrogates 4-Bromofluorobenzene (S) 87 %. 17-148 10/28/22 02:25 460-00-4 Analytical Method: EPA 6010 Preparation Method: EPA 3050 **6010 MET ICP** Pace Analytical Services - Indianapolis Antimony ND mg/kg 0.94 11/01/22 09:29 11/02/22 10:03 7440-36-0 0.94 Arsenic 6.5 mg/kg 1 11/01/22 09:29 11/02/22 10:03 7440-38-2 Barium 15.1 mg/kg 0.94 11/01/22 09:29 11/02/22 10:03 7440-39-3 1 mg/kg Beryllium ND 0.47 11/01/22 09:29 11/02/22 10:03 7440-41-7 1 Cadmium ND mg/kg 0.47 11/01/22 09:29 11/02/22 10:03 7440-43-9 1 10.2 Chromium 0.94 11/01/22 09:29 11/02/22 10:03 7440-47-3 mg/kg 1 0.94 Cobalt 4.3 11/01/22 09:29 11/02/22 10:03 7440-48-4 mg/kg 1 5.7 0.94 11/01/22 09:29 11/02/22 10:03 7439-92-1 Lead mg/kg 1 Nickel 14.7 mg/kg 0.94 1 11/01/22 09:29 11/02/22 10:03 7440-02-0 Selenium ND mg/kg 0.94 11/01/22 09:29 11/02/22 10:03 7782-49-2 Silver ND mg/kg 0.47 11/01/22 09:29 11/02/22 10:03 7440-22-4 Thallium ND mg/kg 0.94 11/01/22 09:29 11/02/22 10:03 7440-28-0 1 Vanadium 16.2 mg/kg 0.94 1 11/01/22 09:29 11/02/22 10:03 7440-62-2 Zinc 41.1 mg/kg 0.94 11/01/22 09:29 11/02/22 10:03 7440-66-6 7471 Mercury Analytical Method: EPA 7471 Preparation Method: EPA 7471 Pace Analytical Services - Indianapolis Mercury ND mg/kg 0.22 10/26/22 10:53 10/26/22 17:57 7439-97-6

#### REPORT OF LABORATORY ANALYSIS

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Project:

LRN005

Pace Project No.:

50329130

Sample: LRN005:VMW-4:S000020

Date: 11/04/2022 03:17 PM

Lab ID: 50329130005

Collected: 10/24/22 12:12 Received: 10/25/22 09:00 Matrix: Solid

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
8270 SVOC SS Soil	Analytical Meti	nod: EPA 8270	Preparation Meth	nod: EF	PA 3546			
	Pace Analytica							
Acenaphthene	ND	mg/kg	0.35	1	10/25/22 14:45	11/03/22 01:05	83-32-9	
Acenaphthylene	ND	mg/kg	0.35	1		11/03/22 01:05		
Anthracene	ND	mg/kg	0.35	1		11/03/22 01:05		
Benzo(a)anthracene	ND	mg/kg	0.35	1		11/03/22 01:05		
Benzo(a)pyrene	ND	mg/kg	0.35	1		11/03/22 01:05		
Benzo(b)fluoranthene	ND	mg/kg	0.35	1		11/03/22 01:05		
Benzo(g,h,i)perylene	ND	mg/kg	0.35	1		11/03/22 01:05		
Benzo(k)fluoranthene	ND	mg/kg	0.35	1		11/03/22 01:05		
Butylbenzylphthalate	ND	mg/kg	0.35	1		11/03/22 01:05		
I-Chloro-3-methylphenol	ND	mg/kg	0.69	1		11/03/22 01:05		
-Chloroaniline	ND		0.69	1		11/03/22 01:05		
	ND ND	mg/kg mg/kg	0.89	1		11/03/22 01:05		
ois(2-Chloroethoxy)methane ois(2-Chloroethyl) ether	ND ND	mg/kg	0.35	1		11/03/22 01:05		
		mg/kg						
ois(2chloro1methylethyl) ether	ND	mg/kg	0.35	1		11/03/22 01:05		
2-Chloronaphthalene	ND	mg/kg	0.35	1		11/03/22 01:05		
2-Chlorophenol	ND	mg/kg	0.35	1		11/03/22 01:05		
Chrysene	ND	mg/kg	0.35	1		11/03/22 01:05		
Dibenz(a,h)anthracene	ND	mg/kg	0.35	1		11/03/22 01:05		
2,4-Dichlorophenol	ND	mg/kg	0.35	1		11/03/22 01:05		
Diethylphthalate	ND	mg/kg	0.35	1		11/03/22 01:05		
2,4-Dimethylphenol	ND	mg/kg	0.35	1		11/03/22 01:05		
Di-n-butylphthalate	ND	mg/kg	0.35	1		11/03/22 01:05		
2,4-Dinitrophenol	ND	mg/kg	1.7	1		11/03/22 01:05		
2,4-Dinitrotoluene	ND	mg/kg	0.35	1		11/03/22 01:05		
2,6-Dinitrotoluene	ND	mg/kg	0.35	1		11/03/22 01:05		
Di-n-octylphthalate	ND	mg/kg	0.35	1		11/03/22 01:05		
ois(2-Ethylhexyl)phthalate	ND	mg/kg	0.35	1	10/25/22 14:45	11/03/22 01:05	117-81-7	
luoranthene	ND	mg/kg	0.35	1	10/25/22 14:45	11/03/22 01:05	206-44-0	
luorene	ND	mg/kg	0.35	1	10/25/22 14:45	11/03/22 01:05	86-73-7	
lexachlorocyclopentadiene	ND	mg/kg	0.35	1	10/25/22 14:45	11/03/22 01:05	77-47-4	
lexachloroethane	ND	mg/kg	0.35	1	10/25/22 14:45	11/03/22 01:05	67-72-1	
ndeno(1,2,3-cd)pyrene	ND	mg/kg	0.35	1	10/25/22 14:45	11/03/22 01:05	193-39-5	
sophorone	ND	mg/kg	0.35	1	10/25/22 14:45	11/03/22 01:05	78-59-1	
2-Methylnaphthalene	ND	mg/kg	0.35	1	10/25/22 14:45	11/03/22 01:05	91-57-6	
2-Methylphenol(o-Cresol)	ND	mg/kg	0.35	1		11/03/22 01:05	95-48-7	
8&4-Methylphenol(m&p Cresol)	ND	mg/kg	0.69	1	10/25/22 14:45	11/03/22 01:05		
Naphthalene	ND	mg/kg	0.35	1	10/25/22 14:45	11/03/22 01:05	91-20-3	
Vitrobenzene	ND	mg/kg	0.35	1	10/25/22 14:45	11/03/22 01:05	98-95-3	
N-Nitroso-di-n-propylamine	ND	mg/kg	0.35	1	10/25/22 14:45	11/03/22 01:05	621-64-7	
N-Nitrosodiphenylamine	ND	mg/kg	0.35	1	10/25/22 14:45	11/03/22 01:05	86-30-6	
Phenanthrene	ND	mg/kg	0.35	1	10/25/22 14:45	11/03/22 01:05	85-01-8	
Phenol	ND	mg/kg	0.35	1	10/25/22 14:45	11/03/22 01:05	108-95-2	
Pyrene	ND	mg/kg	0.35	1		11/03/22 01:05		
2,4,5-Trichlorophenol	ND	mg/kg	0.35	1		11/03/22 01:05		
2,4,6-Trichlorophenol	ND	mg/kg	0.35	1		11/03/22 01:05		



Project: LRN005
Pace Project No.: 50329130

Date: 11/04/2022 03:17 PM

Sample: LRN005:VMW-4:S000020 Lab ID: 50329130005 Collected: 10/24/22 12:12 Received: 10/25/22 09:00 Matrix: Solid

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
8270 SVOC SS Soil	Analytical Meti	nod: EPA 827	O Preparation Meth	nod: EP	A 3546			
	Pace Analytica	l Services - Ir	ndianapolis					
Surrogates								
Nitrobenzene-d5 (S)	66	%.	35-110	1	10/25/22 14:45	11/03/22 01:05	4165-60-0	
Phenol-d5 (S)	86	%.	35-115	1	10/25/22 14:45	11/03/22 01:05	4165-62-2	
2-Fluorophenol (S)	78	%.	22-114	1	10/25/22 14:45	11/03/22 01:05	367-12-4	
2,4,6-Tribromophenol (S)	85	%.	10-123	1	10/25/22 14:45	11/03/22 01:05	118-79-6	
2-Fluorobiphenyl (S)	69	%.	36-100	1	10/25/22 14:45	11/03/22 01:05	321-60-8	
p-Terphenyl-d14 (S)	79	%.	29-117	1	10/25/22 14:45	11/03/22 01:05	1718-51-0	
3260 MSV 5035A VOA	Analytical Meti	nod: EPA 826	0					
	Pace Analytica	l Services - Ir	ndianapolis					
Acetone	ND	mg/kg	0.12	1		10/31/22 19:34	67-64-1	
Benzene	ND	mg/kg	0.0082	1		10/28/22 19:02		
3romodichloromethane	ND	mg/kg	0.0082	1		10/28/22 19:02		
Bromoform	ND	mg/kg	0.0082	1		10/28/22 19:02		
3romomethane	ND	mg/kg	0.0082	1		10/28/22 19:02		
2-Butanone (MEK)	ND	mg/kg	0.041	1		10/28/22 19:02		
Carbon disulfide	ND	mg/kg	0.016	1		10/28/22 19:02		
Carbon tetrachloride	ND	mg/kg	0.0082	1		10/28/22 19:02		
Chlorobenzene	ND	mg/kg	0.0082	1		10/28/22 19:02		
Chloroethane	ND	mg/kg	0.0082	1		10/28/22 19:02		
Chloroform	ND	mg/kg	0.0082	1		10/28/22 19:02		
Chloromethane	ND		0.0082	1		10/28/22 19:02		
Dibromochloromethane	ND	mg/kg	0.0082	1		10/28/22 19:02		
1,2-Dibromoethane (EDB)	ND	mg/kg	0.0032	1		10/28/22 19:02		
Dibromomethane		mg/kg	0.0012	1		10/28/22 19:02		
	ND ND	mg/kg		1				
,2-Dichlorobenzene	ND ND	mg/kg	0.0082			10/28/22 19:02		
I,4-Dichlorobenzene	ND ND	mg/kg	0.0082	1		10/28/22 19:02		
Dichlorodifluoromethane	ND	mg/kg	0.0082	1		10/28/22 19:02		
I,1-Dichloroethane	ND	mg/kg	0.0082	1		10/28/22 19:02		
I,2-Dichloroethane	ND	mg/kg	0.0082	1		10/28/22 19:02		
I,1-Dichloroethene	ND	mg/kg	0.0082	1		10/28/22 19:02		
cis-1,2-Dichloroethene	ND	mg/kg	0.0082	1		10/28/22 19:02		
rans-1,2-Dichloroethene	ND	mg/kg	0.0082	1		10/28/22 19:02		
1,2-Dichloropropane	ND	mg/kg	0.0082	1		10/28/22 19:02		
1,3-Dichloropropane	ND	mg/kg	0.0082	1		10/28/22 19:02		
cis-1,3-Dichloropropene	ND	mg/kg	0.0082	1		10/28/22 19:02		
rans-1,3-Dichloropropene	ND	mg/kg	0.0082	1		10/28/22 19:02		
Ethylbenzene	ND	mg/kg	0.0082	1		10/28/22 19:02		
Ethyl methacrylate	ND	mg/kg	0.16	1		10/28/22 19:02		
n-Hexane	ND	mg/kg	0.0082	1		10/28/22 19:02		
sopropylbenzene (Cumene)	ND	mg/kg	0.0082	1		10/28/22 19:02		
Methylene Chloride	ND	mg/kg	0.023	1		10/31/22 19:34	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	mg/kg	0.041	1		10/28/22 19:02		
Methyl-tert-butyl ether	ND	mg/kg	0.0082	1		10/28/22 19:02	1634-04-4	
Naphthalene	ND	mg/kg	0.0082	1		10/28/22 19:02	91-20-3	



Project:

LRN005

Pace Project No.:

50329130

Sample: LRN005:VMW-4:S000020

Date: 11/04/2022 03:17 PM

Lab ID: 50329130005 Collected: 10/24/22 12:12 Received: 10/25/22 09:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA	Analytical Met	hod: EPA 826	0					
	Pace Analytica	al Services - Ir	ndianapolis					
Styrene	ND	mg/kg	0.0082	1		10/28/22 19:02	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0082	1		10/28/22 19:02	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0082	1		10/28/22 19:02	79-34-5	
Tetrachloroethene	ND	mg/kg	0.0082	1		10/28/22 19:02	127-18-4	
Toluene	ND	mg/kg	0.0082	1		10/28/22 19:02	108-88-3	
1,2,4-Trichlorobenzene	ND	mg/kg	0.0082	1		10/28/22 19:02	120-82-1	
1,1,1-Trichloroethane	ND	mg/kg	0.0082	1		10/28/22 19:02	71-55-6	
1,1,2-Trichloroethane	ND	mg/kg	0.0082	1		10/28/22 19:02	79-00-5	
Trichloroethene	ND	mg/kg	0.0082	1		10/28/22 19:02	79-01-6	
Trichlorofluoromethane	ND	mg/kg	0.0082	1		10/28/22 19:02	75-69-4	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0082	1		10/28/22 19:02	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0082	1		10/28/22 19:02	108-67-8	
Vinyl acetate	ND	mg/kg	0.16	1		10/28/22 19:02	108-05-4	
Vinyl chloride	ND	mg/kg	0.0082	1		10/28/22 19:02	75-01-4	
Xylene (Total)	ND	mg/kg	0.016	1		10/28/22 19:02	1330-20-7	
Surrogates		0.02020						
Dibromofluoromethane (S)	111	%.	62-146	1		10/28/22 19:02	1868-53-7	
Toluene-d8 (S)	93	%.	68-143	1		10/28/22 19:02	2037-26-5	
4-Bromofluorobenzene (S)	100	%.	63-129	1		10/28/22 19:02	460-00-4	
Percent Moisture	Analytical Met	hod: SM 2540	G					
	Pace Analytica	al Services - Ir	ndianapolis					
Percent Moisture	6.0	%	0.10	1		10/26/22 19:17		N2



Project: LRN005
Pace Project No.: 50329130

Date: 11/04/2022 03:17 PM

Sample: LRN005:VMW-4:S050070 Collected: 10/24/22 12:17 Received: 10/25/22 09:00 Lab ID: 50329130006 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 Prepared Analyzed CAS No. Qual 8015 TPH Ohio Microwave Analytical Method: EPA 8015 Mod Ext Preparation Method: EPA 3546 Pace Analytical Services - Indianapolis ND 21.0 10/26/22 12:34 10/26/22 18:26 Total Petroleum Hydrocarbons mg/kg TPH (C10-C20) ND mg/kg 10.5 1 10/26/22 12:34 10/26/22 18:26 TPH (C20-C34) ND mg/kg 10.5 10/26/22 12:34 10/26/22 18:26 Surrogates 122 %. 10-157 10/26/22 12:34 10/26/22 18:26 629-99-2 n-Pentacosane (S) Analytical Method: EPA 8082 Preparation Method: EPA 3546 8082 PCB Solids Pace Analytical Services - Indianapolis PCB-1016 (Aroclor 1016) ND 0.11 10/25/22 19:35 10/26/22 18:39 12674-11-2 mg/kg 1 PCB-1221 (Aroclor 1221) ND mg/kg 0.11 10/25/22 19:35 10/26/22 18:39 11104-28-2 1 PCB-1232 (Aroclor 1232) ND mg/kg 0.11 1 10/25/22 19:35 10/26/22 18:39 11141-16-5 PCB-1242 (Aroclor 1242) ND mg/kg 0.111 10/25/22 19:35 10/26/22 18:39 53469-21-9 PCB-1248 (Aroclor 1248) ND mg/kg 0.11 10/25/22 19:35 10/26/22 18:39 12672-29-6 PCB-1254 (Aroclor 1254) ND mg/kg 0.11 10/25/22 19:35 10/26/22 18:39 11097-69-1 1 PCB-1260 (Aroclor 1260) ND mg/kg 0.111 10/25/22 19:35 10/26/22 18:39 11096-82-5 Surrogates 80 36-112 10/25/22 19:35 10/26/22 18:39 877-09-8 Tetrachloro-m-xylene (S) %. 1 Analytical Method: EPA 8015D 8015D Gasoline Range Organics Pace Analytical Services - Indianapolis TPH (C06-C12) ND 1.0 10/28/22 03:34 mg/kg 1 Surrogates 4-Bromofluorobenzene (S) 88 %. 17-148 10/28/22 03:34 460-00-4 Analytical Method: EPA 6010 Preparation Method: EPA 3050 **6010 MET ICP** Pace Analytical Services - Indianapolis Antimony ND mg/kg 0.97 1 11/01/22 09:29 11/02/22 10:06 7440-36-0 5.3 0.97 Arsenic mg/kg 1 11/01/22 09:29 11/02/22 10:06 7440-38-2 Barium 13.2 mg/kg 0.97 11/01/22 09:29 11/02/22 10:06 7440-39-3 1 mg/kg Beryllium ND 0.49 11/01/22 09:29 11/02/22 10:06 7440-41-7 1 Cadmium ND mg/kg 0.49 11/01/22 09:29 11/02/22 10:06 7440-43-9 1 Chromium 6.6 0.97 11/01/22 09:29 11/02/22 10:06 7440-47-3 mg/kg 1 0.97 Cobalt 3.8 11/01/22 09:29 11/02/22 10:06 7440-48-4 mg/kg 1 7.6 11/01/22 09:29 11/02/22 10:06 7439-92-1 Lead mg/kg 0.97 1 Nickel 9.6 mg/kg 0.97 1 11/01/22 09:29 11/02/22 10:06 7440-02-0 Selenium ND mg/kg 0.97 11/01/22 09:29 11/02/22 10:06 7782-49-2 Silver ND mg/kg 0.49 11/01/22 09:29 11/02/22 10:06 7440-22-4 Thallium ND mg/kg 0.97 11/01/22 09:29 11/02/22 10:06 7440-28-0 1 Vanadium 11.7 mg/kg 0.97 1 11/01/22 09:29 11/02/22 10:06 7440-62-2 Zinc 29.6 mg/kg 0.97 11/01/22 09:29 11/02/22 10:06 7440-66-6 7471 Mercury Analytical Method: EPA 7471 Preparation Method: EPA 7471 Pace Analytical Services - Indianapolis Mercury ND mg/kg 0.22 10/26/22 10:53 10/26/22 17:59 7439-97-6

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# **ANALYTICAL RESULTS**

Project:

LRN005

Pace Project No.:

50329130

Sample: LRN005:VMW-4:S050070

Date: 11/04/2022 03:17 PM

Lab ID: 50329130006 Collected: 10/24/22 12:17 Received: 10/25/22 09:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qu
8270 SVOC SS Soil	Analytical Met	nod: EPA 8270	O Preparation Met	hod: EF	A 3546			
	Pace Analytica							
Acenaphthene	ND	mg/kg	0.34	1	10/25/22 14:45	11/03/22 14:19	83-32-9	
Acenaphthylene	ND	mg/kg	0.34	1		11/03/22 14:19		
Anthracene	ND	mg/kg	0.34	1		11/03/22 14:19		
Benzo(a)anthracene	ND	mg/kg	0.34	1		11/03/22 14:19		
Benzo(a)pyrene	ND	mg/kg	0.34	1		11/03/22 14:19		
Benzo(b)fluoranthene	ND	mg/kg	0.34	1		11/03/22 14:19		
Benzo(g,h,i)perylene	ND	mg/kg	0.34	1		11/03/22 14:19		
Benzo(k)fluoranthene	ND	mg/kg	0.34	1		11/03/22 14:19		
Butylbenzylphthalate	ND	mg/kg	0.34	1		11/03/22 14:19		
-Chloro-3-methylphenol	ND	mg/kg	0.69	1		11/03/22 14:19		
-Chloroaniline	ND	mg/kg	0.69	1		11/03/22 14:19		
ois(2-Chloroethoxy)methane	ND	mg/kg	0.34	1				
ois(2-Chloroethyl) ether	ND	mg/kg	0.34	1		11/03/22 14:19		
ois(2chloro1methylethyl) ether	ND	mg/kg	0.34	1		11/03/22 14:19		
P-Chloronaphthalene	ND	mg/kg	0.34	1		11/03/22 14:19		
-Chlorophenol	ND	mg/kg	0.34	1		11/03/22 14:19		
Chrysene	ND	mg/kg	0.34	1		11/03/22 14:19		
	ND		0.34	1		11/03/22 14:19		
ibenz(a,h)anthracene		mg/kg	0.34			11/03/22 14:19		
,4-Dichlorophenol	ND ND	mg/kg		1				
Diethylphthalate	ND	mg/kg	0.34			11/03/22 14:19		
,4-Dimethylphenol	ND	mg/kg	0.34	1		11/03/22 14:19		
i-n-butylphthalate	ND	mg/kg	0.34	1		11/03/22 14:19		
,4-Dinitrophenol	ND	mg/kg	1.7	1		11/03/22 14:19		
,4-Dinitrotoluene	ND	mg/kg	0.34	1		11/03/22 14:19		
,6-Dinitrotoluene	ND	mg/kg	0.34	1		11/03/22 14:19		
0i-n-octylphthalate	ND	mg/kg	0.34	1		11/03/22 14:19		
is(2-Ethylhexyl)phthalate	ND	mg/kg	0.34	1		11/03/22 14:19		
luoranthene	ND	mg/kg	0.34	1		11/03/22 14:19		
luorene	ND	mg/kg	0.34	1		11/03/22 14:19		
lexachlorocyclopentadiene	ND	mg/kg	0.34	1		11/03/22 14:19		
lexachloroethane	ND	mg/kg	0.34	1		11/03/22 14:19		
ndeno(1,2,3-cd)pyrene	ND	mg/kg	0.34	1		11/03/22 14:19		
sophorone	ND	mg/kg	0.34	1		11/03/22 14:19		
?-Methylnaphthalene	ND	mg/kg	0.34	1		11/03/22 14:19		
!-Methylphenol(o-Cresol)	ND	mg/kg	0.34	1		11/03/22 14:19	95-48-7	
&4-Methylphenol(m&p Cresol)	ND	mg/kg	0.69	1		11/03/22 14:19		
laphthalene	ND	mg/kg	0.34	1		11/03/22 14:19		
litrobenzene	ND	mg/kg	0.34	1		11/03/22 14:19		
I-Nitroso-di-n-propylamine	ND	mg/kg	0.34	1		11/03/22 14:19		
I-Nitrosodiphenylamine	ND	mg/kg	0.34	1		11/03/22 14:19		
Phenanthrene	ND	mg/kg	0.34	1	10/25/22 14:45	11/03/22 14:19	85-01-8	
Phenol	ND	mg/kg	0.34	1	10/25/22 14:45	11/03/22 14:19	108-95-2	
Pyrene	ND	mg/kg	0.34	1	10/25/22 14:45	11/03/22 14:19	129-00-0	
2,4,5-Trichlorophenol	ND	mg/kg	0.34	1	10/25/22 14:45	11/03/22 14:19	95-95-4	
2,4,6-Trichlorophenol	ND	mg/kg	0.34	1	10/25/22 14:45	11/03/22 14:19	88-06-2	

# **REPORT OF LABORATORY ANALYSIS**

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Project: LRN005
Pace Project No.: 50329130

Date: 11/04/2022 03:17 PM

Sample: LRN005:VMW-4:S050070 Lab ID: 50329130006 Collected: 10/24/22 12:17 Received: 10/25/22 09:00 Matrix: Solid

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
3270 SVOC SS Soil	Analytical Meth	nod: EPA 827	0 Preparation Meth	nod: EF	A 3546			
	Pace Analytica	l Services - Ir	ndianapolis					
Surrogates								
Nitrobenzene-d5 (S)	60	%.	35-110	1	10/25/22 14:45	11/03/22 14:19	4165-60-0	
Phenol-d5 (S)	75	%.	35-115	1		11/03/22 14:19		
2-Fluorophenol (S)	68	%.	22-114	1		11/03/22 14:19		
2,4,6-Tribromophenol (S)	47	%.	10-123	1		11/03/22 14:19		
2-Fluorobiphenyl (S)	58	%.	36-100	1		11/03/22 14:19		
o-Terphenyl-d14 (S)	81	%.	29-117	1		11/03/22 14:19		
260 MSV 5035A VOA	Analytical Meth	nod: EPA 826	0					
200 mot occur to A	Pace Analytica							
Acetone	ND	mg/kg	0.13	1		10/31/22 20:08	67-64-1	
Benzene	ND	mg/kg	0.0065	1		10/28/22 19:36		
Bromodichloromethane	ND	mg/kg	0.0065	1		10/28/22 19:36		
Bromoform	ND	mg/kg	0.0065	1		10/28/22 19:36		
Bromomethane	ND	mg/kg	0.0065	1		10/28/22 19:36		
2-Butanone (MEK)	ND	mg/kg	0.032	1		10/28/22 19:36		
Carbon disulfide	ND	mg/kg	0.013	1		10/28/22 19:36		
Carbon tetrachloride	ND	mg/kg	0.0065	1		10/28/22 19:36		
Chlorobenzene	ND	mg/kg	0.0065	1		10/28/22 19:36		
Chloroethane	ND	mg/kg	0.0065	1		10/28/22 19:36		
Chloroform	ND	mg/kg	0.0065	1		10/28/22 19:36		
Chloromethane	ND	mg/kg	0.0065	1		10/28/22 19:36		
Dibromochloromethane	ND	mg/kg	0.0065	1		10/28/22 19:36		
1,2-Dibromoethane (EDB)	ND	mg/kg	0.00097	1		10/28/22 19:36		
Dibromomethane	ND	mg/kg	0.0065	1		10/28/22 19:36		
1,2-Dichlorobenzene	ND	mg/kg	0.0065	1		10/28/22 19:36		
	ND		0.0065	1		10/28/22 19:36		
l ,4-Dichlorobenzene Dichlorodifluoromethane	ND	mg/kg	0.0065	1		10/28/22 19:36		
		mg/kg						
I,1-Dichloroethane	ND	mg/kg	0.0065 0.0065	1		10/28/22 19:36 10/28/22 19:36		
I,2-Dichloroethane	ND	mg/kg						
1,1-Dichloroethene	ND	mg/kg	0.0065	1		10/28/22 19:36		
cis-1,2-Dichloroethene	ND	mg/kg	0.0065	1		10/28/22 19:36		
rans-1,2-Dichloroethene	ND	mg/kg	0.0065	1		10/28/22 19:36		
1,2-Dichloropropane	ND	mg/kg	0.0065	1		10/28/22 19:36		
I,3-Dichloropropane	ND	mg/kg	0.0065	1		10/28/22 19:36		
cis-1,3-Dichloropropene	ND	mg/kg	0.0065	1		10/28/22 19:36		
rans-1,3-Dichloropropene	ND	mg/kg	0.0065	1		10/28/22 19:36		
Ethylbenzene	ND	mg/kg	0.0065	1		10/28/22 19:36		
Ethyl methacrylate	ND	mg/kg	0.13	1		10/28/22 19:36		
n-Hexane	ND	mg/kg	0.0065	1		10/28/22 19:36		
sopropylbenzene (Cumene)	ND	mg/kg	0.0065	1		10/28/22 19:36		
Methylene Chloride	ND	mg/kg	0.027	1		10/31/22 20:08		
1-Methyl-2-pentanone (MIBK)	ND	mg/kg	0.032	1		10/28/22 19:36		
Methyl-tert-butyl ether	ND	mg/kg	0.0065	1		10/28/22 19:36	1634-04-4	



Project:

LRN005

Pace Project No.:

50329130

Sample: LRN005:VMW-4:S050070

Date: 11/04/2022 03:17 PM

Lab ID: 50329130006

Collected: 10/24/22 12:17 Received: 10/25/22 09:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA	Analytical Meti	hod: EPA 826	)					
	Pace Analytica	al Services - Ir	idianapolis					
Styrene	ND	mg/kg	0.0065	1		10/28/22 19:36	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0065	1		10/28/22 19:36	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0065	1		10/28/22 19:36	79-34-5	
Tetrachloroethene	ND	mg/kg	0.0065	1		10/28/22 19:36	127-18-4	
Toluene	ND	mg/kg	0.0065	1		10/28/22 19:36	108-88-3	
1,2,4-Trichlorobenzene	ND	mg/kg	0.0065	1		10/28/22 19:36	120-82-1	
1,1,1-Trichloroethane	ND	mg/kg	0.0065	1		10/28/22 19:36	71-55-6	
1,1,2-Trichloroethane	ND	mg/kg	0.0065	1		10/28/22 19:36	79-00-5	
Frichloroethene	ND	mg/kg	0.0065	1		10/28/22 19:36	79-01-6	
Frichlorofluoromethane	ND	mg/kg	0.0065	1		10/28/22 19:36	75-69-4	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0065	1		10/28/22 19:36	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0065	1		10/28/22 19:36	108-67-8	
/inyl acetate	ND	mg/kg	0.13	1		10/28/22 19:36	108-05-4	
/inyl chloride	ND	mg/kg	0.0065	1		10/28/22 19:36	75-01-4	
Kylene (Total)	ND	mg/kg	0.013	1		10/28/22 19:36	1330-20-7	
Surrogates		0.0202						
Dibromofluoromethane (S)	63	%.	62-146	1		10/28/22 19:36	1868-53-7	
Toluene-d8 (S)	97	%.	68-143	1		10/28/22 19:36	2037-26-5	
1-Bromofluorobenzene (S)	98	%.	63-129	1		10/28/22 19:36	460-00-4	
Percent Moisture	Analytical Metl	hod: SM 2540	G					
	Pace Analytica	al Services - Ir	idianapolis					
Percent Moisture	6.8	%	0.10	1		10/26/22 19:17		N2



Project: LRN005
Pace Project No.: 50329130

Date: 11/04/2022 03:17 PM

Sample: LRN005:VMW-3:S000020 Lab ID: 50329130007 Collected: 10/24/22 13:06 Received: 10/25/22 09:00 Matrix: Solid Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions. **Parameters** Results Units Report Limit Prepared Analyzed CAS No. Qual 8015 TPH Ohio Microwave Analytical Method: EPA 8015 Mod Ext Preparation Method: EPA 3546 Pace Analytical Services - Indianapolis ND 24.3 10/26/22 12:34 10/26/22 18:33 Total Petroleum Hydrocarbons mg/kg TPH (C10-C20) ND mg/kg 12.2 1 10/26/22 12:34 10/26/22 18:33 TPH (C20-C34) ND mg/kg 12.2 10/26/22 12:34 10/26/22 18:33 Surrogates 21 %. 10-157 10/26/22 12:34 10/26/22 18:33 629-99-2 n-Pentacosane (S) Analytical Method: EPA 8082 Preparation Method: EPA 3546 8082 PCB Solids Pace Analytical Services - Indianapolis PCB-1016 (Aroclor 1016) ND 0.12 10/27/22 14:30 10/28/22 14:08 12674-11-2 mg/kg 1 PCB-1221 (Aroclor 1221) ND mg/kg 0.12 10/27/22 14:30 10/28/22 14:08 11104-28-2 1 PCB-1232 (Aroclor 1232) ND mg/kg 0.12 1 10/27/22 14:30 10/28/22 14:08 11141-16-5 PCB-1242 (Aroclor 1242) 10/27/22 14:30 10/28/22 14:08 53469-21-9 ND mg/kg 0.12 1 PCB-1248 (Aroclor 1248) ND mg/kg 0.12 10/27/22 14:30 10/28/22 14:08 12672-29-6 1 PCB-1254 (Aroclor 1254) ND mg/kg 0.12 10/27/22 14:30 10/28/22 14:08 11097-69-1 1 PCB-1260 (Aroclor 1260) ND mg/kg 0.12 1 10/27/22 14:30 10/28/22 14:08 11096-82-5 Surrogates 36-112 57 10/27/22 14:30 10/28/22 14:08 877-09-8 Tetrachloro-m-xylene (S) %. 1 Analytical Method: EPA 8015D 8015D Gasoline Range Organics Pace Analytical Services - Indianapolis TPH (C06-C12) ND 1.2 10/28/22 03:57 mg/kg 1 Surrogates 4-Bromofluorobenzene (S) 96 %. 17-148 10/28/22 03:57 460-00-4 Analytical Method: EPA 6010 Preparation Method: EPA 3050 **6010 MET ICP** Pace Analytical Services - Indianapolis Antimony ND mg/kg 1.1 1 11/01/22 09:29 11/02/22 10:08 7440-36-0 Arsenic 4.5 mg/kg 1.1 1 11/01/22 09:29 11/02/22 10:08 7440-38-2 Barium 55.9 mg/kg 1.1 11/01/22 09:29 11/02/22 10:08 7440-39-3 1 mg/kg Beryllium 0.92 0.56 11/01/22 09:29 11/02/22 10:08 7440-41-7 1 Cadmium 0.88 mg/kg 0.56 11/01/22 09:29 11/02/22 10:08 7440-43-9 1 Chromium 13.2 11/01/22 09:29 11/02/22 10:08 7440-47-3 mg/kg 1.1 1 Cobalt 7.4 mg/kg 1.1 11/01/22 09:29 11/02/22 10:08 7440-48-4 1 11/01/22 09:29 11/02/22 10:08 7439-92-1 Lead 8.0 mg/kg 1.1 1 Nickel 44.0 mg/kg 1.1 11/01/22 09:29 11/02/22 10:08 7440-02-0 Selenium ND mg/kg 1.1 11/01/22 09:29 11/02/22 10:08 7782-49-2 Silver ND mg/kg 0.56 11/01/22 09:29 11/02/22 10:08 7440-22-4 Thallium ND mg/kg 1.1 11/01/22 09:29 11/02/22 10:08 7440-28-0 Vanadium 32.0 mg/kg 1.1 1 11/01/22 09:29 11/02/22 10:08 7440-62-2 Zinc 232 mg/kg 1.1 1 11/01/22 09:29 11/02/22 10:08 7440-66-6 7471 Mercury Analytical Method: EPA 7471 Preparation Method: EPA 7471 Pace Analytical Services - Indianapolis ND 0.25 Mercury mg/kg 10/26/22 10:53 10/26/22 18:15 7439-97-6



Project: LRN005
Pace Project No.: 50329130

Date: 11/04/2022 03:17 PM

Sample: LRN005:VMW-3:S000020 Lab ID: 50329130007 Collected: 10/24/22 13:06 Received: 10/25/22 09:00 Matrix: Solid

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
8270 SVOC SS Soil	Analytical Meti	nod: EPA 8270	O Preparation Meth	nod: EP	A 3546			
	Pace Analytica							
Acenaphthene	ND	mg/kg	0.40	1	11/03/22 16:32	11/03/22 23:38	83-32-9	
Acenaphthylene	ND	mg/kg	0.40	1		11/03/22 23:38		
Anthracene	ND	mg/kg	0.40	1		11/03/22 23:38		
Benzo(a)anthracene	ND	mg/kg	0.40	1		11/03/22 23:38		
Benzo(a)pyrene	ND	mg/kg	0.40	1		11/03/22 23:38		
Benzo(b)fluoranthene	ND	mg/kg	0.40	1		11/03/22 23:38		
Benzo(g,h,i)perylene	ND	mg/kg	0.40	1		11/03/22 23:38		
Benzo(k)fluoranthene	ND	mg/kg	0.40	1		11/03/22 23:38		
Butylbenzylphthalate	ND	mg/kg	0.40	1		11/03/22 23:38		
-Chloro-3-methylphenol	ND	mg/kg	0.80	1		11/03/22 23:38		
-Chloroaniline	ND	mg/kg	0.80	1		11/03/22 23:38		
is(2-Chloroethoxy)methane	ND	mg/kg	0.40	1		11/03/22 23:38		
is(2-Chloroethyl) ether	ND	mg/kg	0.40	1		11/03/22 23:38		
is(2chloro1methylethyl) ether	ND	mg/kg	0.40	1		11/03/22 23:38		
-Chloronaphthalene	ND	mg/kg	0.40	1		11/03/22 23:38		
-Chlorophenol	ND	mg/kg	0.40	1		11/03/22 23:38		
Chrysene	ND		0.40	1		11/03/22 23:38		
		mg/kg		1		11/03/22 23:38		
Dibenz(a,h)anthracene	ND ND	mg/kg	0.40 0.40	1		11/03/22 23:38		
,4-Dichlorophenol	ND ND	mg/kg						
Diethylphthalate	ND	mg/kg	0.40	1		11/03/22 23:38		
,4-Dimethylphenol	ND	mg/kg	0.40	1		11/03/22 23:38		
i-n-butylphthalate	ND	mg/kg	0.40	1		11/03/22 23:38		
,4-Dinitrophenol	ND	mg/kg	1.9	1		11/03/22 23:38		
,4-Dinitrotoluene	ND	mg/kg	0.40	1		11/03/22 23:38		
,6-Dinitrotoluene	ND	mg/kg	0.40	1		11/03/22 23:38		
0i-n-octylphthalate	ND	mg/kg	0.40	1		11/03/22 23:38		
is(2-Ethylhexyl)phthalate	ND	mg/kg	0.40	1		11/03/22 23:38		
luoranthene	ND	mg/kg	0.40	1		11/03/22 23:38		
luorene	ND	mg/kg	0.40	1		11/03/22 23:38		
lexachlorocyclopentadiene	ND	mg/kg	0.40	1		11/03/22 23:38		
lexachloroethane	ND	mg/kg	0.40	1		11/03/22 23:38		
ndeno(1,2,3-cd)pyrene	ND	mg/kg	0.40	1	11/03/22 16:32	11/03/22 23:38	193-39-5	
sophorone	ND	mg/kg	0.40	1		11/03/22 23:38		
-Methylnaphthalene	ND	mg/kg	0.40	1	11/03/22 16:32	11/03/22 23:38	91-57-6	
-Methylphenol(o-Cresol)	ND	mg/kg	0.40	1	11/03/22 16:32	11/03/22 23:38	95-48-7	
&4-Methylphenol(m&p Cresol)	ND	mg/kg	0.80	1	11/03/22 16:32	11/03/22 23:38		
laphthalene	ND	mg/kg	0.40	1		11/03/22 23:38		
litrobenzene	ND	mg/kg	0.40	1	11/03/22 16:32	11/03/22 23:38	98-95-3	
I-Nitroso-di-n-propylamine	ND	mg/kg	0.40	1	11/03/22 16:32	11/03/22 23:38	621-64-7	
I-Nitrosodiphenylamine	ND	mg/kg	0.40	1	11/03/22 16:32	11/03/22 23:38	86-30-6	
Phenanthrene	ND	mg/kg	0.40	1	11/03/22 16:32	11/03/22 23:38	85-01-8	
Phenol	ND	mg/kg	0.40	1	11/03/22 16:32	11/03/22 23:38	108-95-2	
Pyrene	ND	mg/kg	0.40	1	11/03/22 16:32	11/03/22 23:38	129-00-0	
2,4,5-Trichlorophenol	ND	mg/kg	0.40	1	11/03/22 16:32	11/03/22 23:38	95-95-4	
2.4.6-Trichlorophenol	ND	mg/kg	0.40	1	11/03/22 16:32	11/03/22 23:38	88-06-2	



Project: LRN005
Pace Project No.: 50329130

Date: 11/04/2022 03:17 PM

Sample: LRN005:VMW-3:S000020 Lab ID: 50329130007 Collected: 10/24/22 13:06 Received: 10/25/22 09:00 Matrix: Solid Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
8270 SVOC SS Soil	Analytical Meti	nod: EPA 827	0 Preparation Meth	nod: EF	A 3546			
	Pace Analytica							
Surrogates	, , , , , , , , , , , , , , , , , , ,							
Nitrobenzene-d5 (S)	47	%.	35-110	1	11/03/22 16:32	11/03/22 23:38	4165-60-0	
Phenol-d5 (S)	68	%.	35-115	1		11/03/22 23:38		
2-Fluorophenol (S)	62	%.	22-114	1		11/03/22 23:38		
2,4,6-Tribromophenol (S)	53	%.	10-123	1		11/03/22 23:38		
2-Fluorobiphenyl (S)	51	%.	36-100	1		11/03/22 23:38		
o-Terphenyl-d14 (S)	49	%.	29-117	1		11/03/22 23:38		
					,			
2260 MSV 5035A VOA	Analytical Meti							
	Pace Analytica	I Services - Ir	ndianapolis					
Acetone	ND	mg/kg	0.13	1		10/31/22 20:42	67-64-1	
Benzene	ND	mg/kg	0.0059	1		10/28/22 20:09	71-43-2	
Bromodichloromethane	ND	mg/kg	0.0059	1		10/28/22 20:09	75-27-4	
Bromoform	ND	mg/kg	0.0059	1		10/28/22 20:09	75-25-2	
Bromomethane	ND	mg/kg	0.0059	1		10/28/22 20:09	74-83-9	
-Butanone (MEK)	ND	mg/kg	0.030	1		10/28/22 20:09	78-93-3	
Carbon disulfide	ND	mg/kg	0.012	1		10/28/22 20:09	75-15-0	
Carbon tetrachloride	ND	mg/kg	0.0059	1		10/28/22 20:09	56-23-5	
Chlorobenzene	ND	mg/kg	0.0059	1		10/28/22 20:09	108-90-7	
Chloroethane	ND	mg/kg	0.0059	1		10/28/22 20:09		
Chloroform	ND	mg/kg	0.0059	1		10/28/22 20:09		
Chloromethane	ND	mg/kg	0.0059	1		10/28/22 20:09		
Dibromochloromethane	ND	mg/kg	0.0059	1		10/28/22 20:09		
,2-Dibromoethane (EDB)	ND	mg/kg	0.00089	1		10/28/22 20:09		
Dibromomethane	ND	mg/kg	0.0059	1		10/28/22 20:09		
,2-Dichlorobenzene	ND	mg/kg	0.0059	1		10/28/22 20:09		
,4-Dichlorobenzene	ND	mg/kg	0.0059	1		10/28/22 20:09		
Dichlorodifluoromethane	ND	mg/kg	0.0059	1		10/28/22 20:09		
,1-Dichloroethane	ND	mg/kg	0.0059	1		10/28/22 20:09		
,2-Dichloroethane	ND	mg/kg	0.0059	1		10/28/22 20:09		
,1-Dichloroethene	ND	mg/kg	0.0059	1		10/28/22 20:09		
is-1,2-Dichloroethene	ND	mg/kg	0.0059	1		10/28/22 20:09		
rans-1,2-Dichloroethene	ND	mg/kg	0.0059	1		10/28/22 20:09		
,2-Dichloropropane	ND	mg/kg	0.0059	1		10/28/22 20:09		
,3-Dichloropropane	ND	mg/kg	0.0059	1		10/28/22 20:09		
	ND			1		10/28/22 20:09		
rans-1,3-Dichloropropene	ND	mg/kg mg/kg	0.0059 0.0059	1		10/28/22 20:09		
thylbenzene	ND		0.0059	1		10/28/22 20:09		
thyl methacrylate	ND ND	mg/kg	0.0059	1		10/28/22 20:09		
:Inyi meinacryiate i-Hexane	ND ND	mg/kg	0.0059			10/28/22 20:09		
		mg/kg		1		10/28/22 20:09		
sopropylbenzene (Cumene)	ND ND	mg/kg	0.0059	1				
Methylene Chloride	ND ND	mg/kg	0.027	1		10/31/22 20:42		
-Methyl-2-pentanone (MIBK)	ND ND	mg/kg	0.030	1		10/28/22 20:09		
Methyl-tert-butyl ether Naphthalene	ND ND	mg/kg mg/kg	0.0059 0.0059	1		10/28/22 20:09 10/28/22 20:09		



Project:

LRN005

Pace Project No.:

50329130

Sample: LRN005:VMW-3:S000020

Date: 11/04/2022 03:17 PM

Lab ID: 50329130007

Collected: 10/24/22 13:06 Received: 10/25/22 09:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
8260 MSV 5035A VOA	Analytical Meth	nod: EPA 8260	j					
	Pace Analytica	l Services - Ir	idianapolis					
Styrene	ND	mg/kg	0.0059	1		10/28/22 20:09	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0059	1		10/28/22 20:09	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0059	1		10/28/22 20:09	79-34-5	
Tetrachloroethene	ND	mg/kg	0.0059	1		10/28/22 20:09	127-18-4	
Toluene	ND	mg/kg	0.0059	1		10/28/22 20:09	108-88-3	
1,2,4-Trichlorobenzene	ND	mg/kg	0.0059	1		10/28/22 20:09	120-82-1	
I,1,1-Trichloroethane	ND	mg/kg	0.0059	1		10/28/22 20:09	71-55-6	
1,1,2-Trichloroethane	ND	mg/kg	0.0059	1		10/28/22 20:09	79-00-5	
Frichloroethene	ND	mg/kg	0.0059	1		10/28/22 20:09	79-01-6	
Frichlorofluoromethane	ND	mg/kg	0.0059	1		10/28/22 20:09	75-69-4	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0059	1		10/28/22 20:09	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0059	1		10/28/22 20:09	108-67-8	
/inyl acetate	ND	mg/kg	0.12	1		10/28/22 20:09	108-05-4	
/inyl chloride	ND	mg/kg	0.0059	1		10/28/22 20:09	75-01-4	
(Viene (Total)	ND	mg/kg	0.012	1		10/28/22 20:09	1330-20-7	
Surrogates		0 0						
Dibromofluoromethane (S)	106	%.	62-146	1		10/28/22 20:09	1868-53-7	
Toluene-d8 (S)	97	%.	68-143	1		10/28/22 20:09	2037-26-5	
1-Bromofluorobenzene (S)	102	%.	63-129	1		10/28/22 20:09	460-00-4	
Percent Moisture	Analytical Meth	nod: SM 2540	G					
	Pace Analytica	l Services - Ir	idianapolis					
Percent Moisture	19.1	%	0.10	1		10/26/22 19:17		N2



Project: LRN005
Pace Project No.: 50329130

Date: 11/04/2022 03:17 PM

Sample: LRN005:VMW-3:S040050 Collected: 10/24/22 13:10 Received: 10/25/22 09:00 Lab ID: 50329130008 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 Prepared Analyzed CAS No. Qual 8015 TPH Ohio Microwave Analytical Method: EPA 8015 Mod Ext Preparation Method: EPA 3546 Pace Analytical Services - Indianapolis ND 24.8 10/26/22 12:34 10/26/22 18:41 Total Petroleum Hydrocarbons mg/kg TPH (C10-C20) ND mg/kg 12.4 1 10/26/22 12:34 10/26/22 18:41 TPH (C20-C34) ND mg/kg 12.4 10/26/22 12:34 10/26/22 18:41 Surrogates 34 %. 10-157 10/26/22 12:34 10/26/22 18:41 629-99-2 n-Pentacosane (S) Analytical Method: EPA 8082 Preparation Method: EPA 3546 8082 PCB Solids Pace Analytical Services - Indianapolis PCB-1016 (Aroclor 1016) ND 0.12 10/27/22 14:30 10/28/22 14:23 12674-11-2 mg/kg 1 PCB-1221 (Aroclor 1221) ND mg/kg 0.12 10/27/22 14:30 10/28/22 14:23 11104-28-2 1 PCB-1232 (Aroclor 1232) ND mg/kg 0.12 1 10/27/22 14:30 10/28/22 14:23 11141-16-5 PCB-1242 (Aroclor 1242) ND mg/kg 0.12 1 10/27/22 14:30 10/28/22 14:23 53469-21-9 PCB-1248 (Aroclor 1248) ND mg/kg 0.12 10/27/22 14:30 10/28/22 14:23 12672-29-6 1 PCB-1254 (Aroclor 1254) ND mg/kg 0.12 10/27/22 14:30 10/28/22 14:23 11097-69-1 1 PCB-1260 (Aroclor 1260) ND mg/kg 0.12 1 10/27/22 14:30 10/28/22 14:23 11096-82-5 Surrogates 59 36-112 10/27/22 14:30 10/28/22 14:23 877-09-8 Tetrachloro-m-xylene (S) %. 1 Analytical Method: EPA 8015D 8015D Gasoline Range Organics Pace Analytical Services - Indianapolis TPH (C06-C12) ND 1.2 10/28/22 04:20 mg/kg 1 Surrogates 4-Bromofluorobenzene (S) 98 %. 17-148 10/28/22 04:20 460-00-4 Analytical Method: EPA 6010 Preparation Method: EPA 3050 **6010 MET ICP** Pace Analytical Services - Indianapolis Antimony ND mg/kg 1.2 1 11/01/22 09:29 11/02/22 10:11 7440-36-0 10.7 Arsenic mg/kg 1.2 1 11/01/22 09:29 11/02/22 10:11 7440-38-2 Barium 38.4 mg/kg 1.2 11/01/22 09:29 11/02/22 10:11 7440-39-3 1 mg/kg Beryllium 0.89 0.60 11/01/22 09:29 11/02/22 10:11 7440-41-7 1 Cadmium 2.2 mg/kg 0.60 11/01/22 09:29 11/02/22 10:11 7440-43-9 1 Chromium 17.2 11/01/22 09:29 11/02/22 10:11 7440-47-3 mg/kg 1.2 1 Cobalt 11.6 mg/kg 1.2 11/01/22 09:29 11/02/22 10:11 7440-48-4 1 1.2 11/01/22 09:29 11/02/22 10:11 7439-92-1 Lead 9.8 mg/kg 1 Nickel 80.1 mg/kg 1.2 1 11/01/22 09:29 11/02/22 10:11 7440-02-0 Selenium ND mg/kg 1.2 11/01/22 09:29 11/02/22 10:11 7782-49-2 Silver ND mg/kg 0.60 11/01/22 09:29 11/02/22 10:11 7440-22-4 Thallium 1.3 mg/kg 1.2 11/01/22 09:29 11/02/22 10:11 7440-28-0 Vanadium 54.2 mg/kg 1.2 1 11/01/22 09:29 11/02/22 10:11 7440-62-2 Zinc 346 mg/kg 1.2 1 11/01/22 09:29 11/02/22 10:11 7440-66-6 7471 Mercury Analytical Method: EPA 7471 Preparation Method: EPA 7471 Pace Analytical Services - Indianapolis ND 10/26/22 10:53 10/26/22 18:17 7439-97-6 Mercury mg/kg 0.24

#### REPORT OF LABORATORY ANALYSIS

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Project: LRN005 Pace Project No.: 50329130

Date: 11/04/2022 03:17 PM

Sample: LRN005:VMW-3:S040050 Lab ID: 50329130008 Collected: 10/24/22 13:10 Received: 10/25/22 09:00 Matrix: Solid

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
8270 SVOC SS Soil	Analytical Metl	nod: EPA 8270	O Preparation Met	nod: EP	A 3546			
	Pace Analytica							
Acenaphthene	ND	mg/kg	0.40	1	11/03/22 16:32	11/03/22 23:55	83-32-9	
Acenaphthylene	ND	mg/kg	0.40	1		11/03/22 23:55		
Anthracene	ND	mg/kg	0.40	1		11/03/22 23:55		
Benzo(a)anthracene	ND	mg/kg	0.40	1		11/03/22 23:55		
Benzo(a)pyrene	ND	mg/kg	0.40	1		11/03/22 23:55		
Benzo(b)fluoranthene	ND	mg/kg	0.40	1		11/03/22 23:55		
Benzo(g,h,i)perylene	ND	mg/kg	0.40	1		11/03/22 23:55		
Benzo(k)fluoranthene	ND	mg/kg	0.40	1		11/03/22 23:55		
Butylbenzylphthalate	ND	mg/kg	0.40	1		11/03/22 23:55		
-Chloro-3-methylphenol	ND	mg/kg	0.80	1		11/03/22 23:55		
-Chloroaniline	ND	mg/kg	0.80	1		11/03/22 23:55		
ois(2-Chloroethoxy)methane	ND	mg/kg	0.40	1		11/03/22 23:55		
ois(2-Chloroethyl) ether	ND	mg/kg	0.40	1		11/03/22 23:55		
ois(2chloro1methylethyl) ether	ND	mg/kg	0.40	1		11/03/22 23:55		
2-Chloronaphthalene	ND	mg/kg	0.40	1		11/03/22 23:55		
2-Chlorophenol	ND	mg/kg	0.40	1		11/03/22 23:55		
Chrysene	ND		0.40	1		11/03/22 23:55		
Dibenz(a,h)anthracene	ND ND	mg/kg	0.40	1		11/03/22 23:55		
		mg/kg	0.40	1		11/03/22 23:55		
4,4-Dichlorophenol	ND ND	mg/kg						
Diethylphthalate	ND	mg/kg	0.40	1		11/03/22 23:55 11/03/22 23:55		
,4-Dimethylphenol	ND	mg/kg	0.40	1				
i-n-butylphthalate	ND	mg/kg	0.40	1		11/03/22 23:55		
,4-Dinitrophenol	ND	mg/kg	1.9	1		11/03/22 23:55		
,4-Dinitrotoluene	ND	mg/kg	0.40	1		11/03/22 23:55		
,6-Dinitrotoluene	ND	mg/kg	0.40	1		11/03/22 23:55		
Di-n-octylphthalate	ND	mg/kg	0.40	1		11/03/22 23:55		
is(2-Ethylhexyl)phthalate	ND	mg/kg	0.40	1		11/03/22 23:55		
luoranthene	ND	mg/kg	0.40	1		11/03/22 23:55		
luorene	ND	mg/kg	0.40	1		11/03/22 23:55		
lexachlorocyclopentadiene	ND	mg/kg	0.40	1		11/03/22 23:55		
lexachloroethane	ND	mg/kg	0.40	1		11/03/22 23:55		
ndeno(1,2,3-cd)pyrene	ND	mg/kg	0.40	1		11/03/22 23:55		
sophorone	ND	mg/kg	0.40	1		11/03/22 23:55		
?-Methylnaphthalene	ND	mg/kg	0.40	1		11/03/22 23:55		
?-Methylphenol(o-Cresol)	ND	mg/kg	0.40	1		11/03/22 23:55	95-48-7	
&4-Methylphenol(m&p Cresol)	ND	mg/kg	0.80	1		11/03/22 23:55		
laphthalene	ND	mg/kg	0.40	1	11/03/22 16:32	11/03/22 23:55	91-20-3	
litrobenzene	ND	mg/kg	0.40	1		11/03/22 23:55		
N-Nitroso-di-n-propylamine	ND	mg/kg	0.40	1		11/03/22 23:55		
I-Nitrosodiphenylamine	ND	mg/kg	0.40	1		11/03/22 23:55		
Phenanthrene	ND	mg/kg	0.40	1	11/03/22 16:32	11/03/22 23:55	85-01-8	
Phenol	ND	mg/kg	0.40	1	11/03/22 16:32	11/03/22 23:55	108-95-2	
Pyrene	ND	mg/kg	0.40	1	11/03/22 16:32	11/03/22 23:55	129-00-0	
2,4,5-Trichlorophenol	ND	mg/kg	0.40	1	11/03/22 16:32	11/03/22 23:55	95-95-4	
2,4,6-Trichlorophenol	ND	mg/kg	0.40	1	11/03/22 16:32	11/03/22 23:55	88-06-2	



Project: LRN005
Pace Project No.: 50329130

Date: 11/04/2022 03:17 PM

50329130 Sample: LRN005:VMW-3:S040050 Collected: 10/24/22 13:10 Received: 10/25/22 09:00 Lab ID: 50329130008 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 8270 SVOC SS Soil Analytical Method: EPA 8270 Preparation Method: EPA 3546 Pace Analytical Services - Indianapolis Surrogates Nitrobenzene-d5 (S) 40 %. 35-110 1 11/03/22 16:32 11/03/22 23:55 4165-60-0 Phenol-d5 (S) 57 %. 35-115 11/03/22 16:32 11/03/22 23:55 4165-62-2 1 2-Fluorophenol (S) 51 %. 22-114 11/03/22 16:32 11/03/22 23:55 367-12-4 1 2,4,6-Tribromophenol (S) 42 %. 10-123 11/03/22 16:32 11/03/22 23:55 118-79-6 1 2-Fluorobiphenyl (S) 40 %. 36-100 11/03/22 16:32 11/03/22 23:55 321-60-8 1 p-Terphenyl-d14 (S) 44 %. 29-117 1 11/03/22 16:32 11/03/22 23:55 1718-51-0 8260 MSV 5035A VOA Analytical Method: EPA 8260 Pace Analytical Services - Indianapolis 10/31/22 21:16 67-64-1 Acetone ND mg/kg 0.10 1 Benzene ND mg/kg 0.0056 1 10/28/22 20:43 71-43-2 Bromodichloromethane ND mg/kg 0.0056 10/28/22 20:43 75-27-4 1 Bromoform ND mg/kg 0.0056 10/28/22 20:43 75-25-2 1 Bromomethane ND mg/kg 0.0056 1 10/28/22 20:43 74-83-9 2-Butanone (MEK) ND mg/kg 0.028 1 10/28/22 20:43 78-93-3 Carbon disulfide ND mg/kg 0.011 1 10/28/22 20:43 75-15-0 Carbon tetrachloride ND mg/kg 0.0056 10/28/22 20:43 56-23-5 1 Chlorobenzene ND mg/kg 0.0056 10/28/22 20:43 108-90-7 1 10/28/22 20:43 75-00-3 Chloroethane ND mg/kg 0.0056 1 ND Chloroform mg/kg 0.0056 1 10/28/22 20:43 67-66-3 10/28/22 20:43 74-87-3 Chloromethane ND mg/kg 0.0056 1 Dibromochloromethane ND mg/kg 0.0056 1 10/28/22 20:43 124-48-1 1,2-Dibromoethane (EDB) ND mg/kg 0.00084 10/28/22 20:43 106-93-4 Dibromomethane ND mg/kg 0.0056 10/28/22 20:43 74-95-3 1 1,2-Dichlorobenzene 0.0056 ND mg/kg 1 10/28/22 20:43 95-50-1 1,4-Dichlorobenzene ND mg/kg 0.0056 1 10/28/22 20:43 106-46-7 Dichlorodifluoromethane ND mg/kg 0.0056 1 10/28/22 20:43 75-71-8 1.1-Dichloroethane ND mg/kg 0.0056 10/28/22 20:43 75-34-3 1 ND mg/kg 0.0056 10/28/22 20:43 107-06-2 1,2-Dichloroethane 1 ND 0.0056 10/28/22 20:43 75-35-4 1,1-Dichloroethene mg/kg 1 ND 10/28/22 20:43 156-59-2 cis-1,2-Dichloroethene 0.0056 mg/kg 1 ND 0.0056 10/28/22 20:43 156-60-5 trans-1,2-Dichloroethene mg/kg 1 1,2-Dichloropropane ND mg/kg 0.0056 1 10/28/22 20:43 78-87-5 1,3-Dichloropropane ND mg/kg 0.0056 10/28/22 20:43 142-28-9 cis-1,3-Dichloropropene ND mg/kg 0.0056 10/28/22 20:43 10061-01-5 ND 0.0056 10/28/22 20:43 10061-02-6 trans-1,3-Dichloropropene mg/kg 1 Ethylbenzene ND mg/kg 0.0056 1 10/28/22 20:43 100-41-4 Ethyl methacrylate ND mg/kg 0.11 10/28/22 20:43 97-63-2 1 n-Hexane ND mg/kg 0.0056 10/28/22 20:43 110-54-3 1 Isopropylbenzene (Cumene) ND mg/kg 0.0056 10/28/22 20:43 98-82-8 1 mg/kg Methylene Chloride ND 0.020 1 10/31/22 21:16 75-09-2 4-Methyl-2-pentanone (MIBK) ND mg/kg 0.028 10/28/22 20:43 108-10-1 1 Methyl-tert-butyl ether ND mg/kg 0.0056 1 10/28/22 20:43 1634-04-4 Naphthalene ND mg/kg 0.0056 10/28/22 20:43 91-20-3

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Project:

LRN005

Pace Project No.:

Date: 11/04/2022 03:17 PM

50329130

Sample: LRN005:VMW-3:S040050

Lab ID: 50329130008 Collected: 10/24/22 13:10 Received: 10/25/22 09:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
8260 MSV 5035A VOA	Analytical Meth	nod: EPA 8260	)					
	Pace Analytica	l Services - In	dianapolis					
Styrene	ND	mg/kg	0.0056	1		10/28/22 20:43	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0056	1		10/28/22 20:43	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0056	1		10/28/22 20:43	79-34-5	
Tetrachloroethene	ND	mg/kg	0.0056	1		10/28/22 20:43	127-18-4	
Toluene	ND	mg/kg	0.0056	1		10/28/22 20:43	108-88-3	
1,2,4-Trichlorobenzene	ND	mg/kg	0.0056	1		10/28/22 20:43	120-82-1	
1,1,1-Trichloroethane	ND	mg/kg	0.0056	1		10/28/22 20:43	71-55-6	
1,1,2-Trichloroethane	ND	mg/kg	0.0056	1		10/28/22 20:43	79-00-5	
Trichloroethene	ND	mg/kg	0.0056	1		10/28/22 20:43	79-01-6	
Trichlorofluoromethane	ND	mg/kg	0.0056	1		10/28/22 20:43	75-69-4	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0056	1		10/28/22 20:43	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0056	1		10/28/22 20:43	108-67-8	
Vinyl acetate	ND	mg/kg	0.11	1		10/28/22 20:43	108-05-4	
Vinyl chloride	ND	mg/kg	0.0056	1		10/28/22 20:43	75-01-4	
Xylene (Total)	ND	mg/kg	0.011	1		10/28/22 20:43	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	109	%.	62-146	1		10/28/22 20:43	1868-53-7	
Toluene-d8 (S)	97	%.	68-143	1		10/28/22 20:43	2037-26-5	
4-Bromofluorobenzene (S)	100	%.	63-129	1		10/28/22 20:43	460-00-4	
Percent Moisture	Analytical Meth	nod: SM 2540	G					
	Pace Analytica	l Services - Ir	dianapolis					
Percent Moisture	19.9	%	0.10	1		10/26/22 20:21		N2



Project: LRN005
Pace Project No.: 50329130

Date: 11/04/2022 03:17 PM

Sample: LRN005:VMW-1:S000020 Lab ID: 50329130009 Collected: 10/24/22 14:48 Received: 10/25/22 09:00 Matrix: Solid Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions. **Parameters** Results Units Report Limit Prepared Analyzed CAS No. Qual 8015 TPH Ohio Microwave Analytical Method: EPA 8015 Mod Ext Preparation Method: EPA 3546 Pace Analytical Services - Indianapolis ND 25.0 10/26/22 12:34 10/26/22 18:48 Total Petroleum Hydrocarbons mg/kg TPH (C10-C20) ND mg/kg 12.5 1 10/26/22 12:34 10/26/22 18:48 TPH (C20-C34) ND mg/kg 12.5 10/26/22 12:34 10/26/22 18:48 Surrogates 26 %. 10-157 10/26/22 12:34 10/26/22 18:48 629-99-2 n-Pentacosane (S) Analytical Method: EPA 8082 Preparation Method: EPA 3546 8082 PCB Solids Pace Analytical Services - Indianapolis PCB-1016 (Aroclor 1016) ND 0.12 10/27/22 14:30 10/28/22 14:38 12674-11-2 mg/kg 1 PCB-1221 (Aroclor 1221) ND mg/kg 0.12 10/27/22 14:30 10/28/22 14:38 11104-28-2 1 PCB-1232 (Aroclor 1232) ND mg/kg 0.12 1 10/27/22 14:30 10/28/22 14:38 11141-16-5 PCB-1242 (Aroclor 1242) ND mg/kg 0.12 1 10/27/22 14:30 10/28/22 14:38 53469-21-9 PCB-1248 (Aroclor 1248) ND mg/kg 0.12 10/27/22 14:30 10/28/22 14:38 12672-29-6 1 PCB-1254 (Aroclor 1254) ND 0.12 10/27/22 14:30 10/28/22 14:38 11097-69-1 mg/kg 1 PCB-1260 (Aroclor 1260) ND mg/kg 0.12 1 10/27/22 14:30 10/28/22 14:38 11096-82-5 Surrogates 55 36-112 10/27/22 14:30 10/28/22 14:38 877-09-8 Tetrachloro-m-xylene (S) %. 1 Analytical Method: EPA 8015D 8015D Gasoline Range Organics Pace Analytical Services - Indianapolis TPH (C06-C12) ND 1.2 10/28/22 05:06 mg/kg 1 Surrogates 4-Bromofluorobenzene (S) 69 %. 17-148 10/28/22 05:06 460-00-4 Analytical Method: EPA 6010 Preparation Method: EPA 3050 **6010 MET ICP** Pace Analytical Services - Indianapolis Antimony ND mg/kg 1.2 1 11/01/22 09:29 11/02/22 10:13 7440-36-0 Arsenic 6.9 mg/kg 1.2 1 11/01/22 09:29 11/02/22 10:13 7440-38-2 Barium 77.3 mg/kg 1.2 11/01/22 09:29 11/02/22 10:13 7440-39-3 1 Beryllium 0.80 0.61 11/01/22 09:29 11/02/22 10:13 7440-41-7 mg/kg 1 Cadmium ND mg/kg 0.61 11/01/22 09:29 11/02/22 10:13 7440-43-9 1 Chromium 18.0 11/01/22 09:29 11/02/22 10:13 7440-47-3 mg/kg 1.2 1 Cobalt 6.1 1.2 11/01/22 09:29 11/02/22 10:13 7440-48-4 mg/kg 1 10.7 1.2 11/01/22 09:29 11/02/22 10:13 7439-92-1 Lead mg/kg 1 Nickel 33.4 mg/kg 1.2 1 11/01/22 09:29 11/02/22 10:13 7440-02-0 Selenium ND mg/kg 1.2 11/01/22 09:29 11/02/22 10:13 7782-49-2 Silver ND mg/kg 0.61 11/01/22 09:29 11/02/22 10:13 7440-22-4 Thallium ND mg/kg 1.2 11/01/22 09:29 11/02/22 10:13 7440-28-0 Vanadium 36.0 mg/kg 1.2 1 11/01/22 09:29 11/02/22 10:13 7440-62-2 Zinc 131 mg/kg 1.2 1 11/01/22 09:29 11/02/22 10:13 7440-66-6 7471 Mercury Analytical Method: EPA 7471 Preparation Method: EPA 7471 Pace Analytical Services - Indianapolis 0.25 Mercury ND mg/kg 10/26/22 10:53 10/26/22 18:20 7439-97-6

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Project: LRN005 Pace Project No.: 50329130

Date: 11/04/2022 03:17 PM

Sample: LRN005:VMW-1:S000020 Lab ID: 50329130009 Collected: 10/24/22 14:48 Received: 10/25/22 09:00 Matrix: Solid

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
8270 SVOC SS Soil	Analytical Meti	nod: EPA 827(	Preparation Met	nod: EF	A 3546			
	Pace Analytica							
Acenaphthene	ND	mg/kg	0.41	1	11/03/22 16:32	11/04/22 00:12	83-32-9	
Acenaphthylene	ND	mg/kg	0.41	1		11/04/22 00:12		
Anthracene	ND	mg/kg	0.41	1		11/04/22 00:12		
Benzo(a)anthracene	ND	mg/kg	0.41	1		11/04/22 00:12		
Benzo(a)pyrene	ND	mg/kg	0.41	1		11/04/22 00:12		
Benzo(b)fluoranthene	ND	mg/kg	0.41	1		11/04/22 00:12		
Benzo(g,h,i)perylene	ND	mg/kg	0.41	1		11/04/22 00:12		
Benzo(k)fluoranthene	ND	mg/kg	0.41	1		11/04/22 00:12		
Butylbenzylphthalate	ND		0.41	1		11/04/22 00:12		
	ND	mg/kg	0.82	1		11/04/22 00:12		
l-Chloro-3-methylphenol		mg/kg						
l-Chloroaniline	ND ND	mg/kg	0.82	1		11/04/22 00:12		
ois(2-Chloroethoxy)methane	ND	mg/kg	0.41	1		11/04/22 00:12		
ois(2-Chloroethyl) ether	ND	mg/kg	0.41	1		11/04/22 00:12		
ois(2chloro1methylethyl) ether	ND	mg/kg	0.41	1		11/04/22 00:12		
2-Chloronaphthalene	ND	mg/kg	0.41	1		11/04/22 00:12		
2-Chlorophenol	ND	mg/kg	0.41	1		11/04/22 00:12		
Chrysene	ND	mg/kg	0.41	1		11/04/22 00:12		
Dibenz(a,h)anthracene	ND	mg/kg	0.41	1		11/04/22 00:12		
2,4-Dichlorophenol	ND	mg/kg	0.41	1		11/04/22 00:12		
Diethylphthalate	ND	mg/kg	0.41	1		11/04/22 00:12		
2,4-Dimethylphenol	ND	mg/kg	0.41	1		11/04/22 00:12		
Di-n-butylphthalate	ND	mg/kg	0.41	1		11/04/22 00:12		
2,4-Dinitrophenol	ND	mg/kg	2.0	1	11/03/22 16:32	11/04/22 00:12	51-28-5	
2,4-Dinitrotoluene	ND	mg/kg	0.41	1	11/03/22 16:32	11/04/22 00:12	121-14-2	
2,6-Dinitrotoluene	ND	mg/kg	0.41	1	11/03/22 16:32	11/04/22 00:12	606-20-2	
Di-n-octylphthalate	ND	mg/kg	0.41	1	11/03/22 16:32	11/04/22 00:12	117-84-0	
ois(2-Ethylhexyl)phthalate	ND	mg/kg	0.41	1	11/03/22 16:32	11/04/22 00:12	117-81-7	
luoranthene	ND	mg/kg	0.41	1	11/03/22 16:32	11/04/22 00:12	206-44-0	
luorene	ND	mg/kg	0.41	1	11/03/22 16:32	11/04/22 00:12	86-73-7	
Hexachlorocyclopentadiene	ND	mg/kg	0.41	1	11/03/22 16:32	11/04/22 00:12	77-47-4	
Hexachloroethane	ND	mg/kg	0.41	1	11/03/22 16:32	11/04/22 00:12	67-72-1	
ndeno(1,2,3-cd)pyrene	ND	mg/kg	0.41	1	11/03/22 16:32	11/04/22 00:12	193-39-5	
sophorone	ND	mg/kg	0.41	1	11/03/22 16:32	11/04/22 00:12	78-59-1	
2-Methylnaphthalene	ND	mg/kg	0.41	1	11/03/22 16:32	11/04/22 00:12	91-57-6	
2-Methylphenol(o-Cresol)	ND	mg/kg	0.41	1	11/03/22 16:32	11/04/22 00:12	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	mg/kg	0.82	1		11/04/22 00:12		
Naphthalene	ND	mg/kg	0.41	1		11/04/22 00:12	91-20-3	
Vitrobenzene	ND	mg/kg	0.41	1		11/04/22 00:12		
N-Nitroso-di-n-propylamine	ND	mg/kg	0.41	1		11/04/22 00:12		
N-Nitrosodiphenylamine	ND	mg/kg	0.41	1		11/04/22 00:12		
Phenanthrene	ND	mg/kg	0.41	1		11/04/22 00:12		
Phenol	ND	mg/kg	0.41	1		11/04/22 00:12		
Pyrene	ND	mg/kg	0.41	1		11/04/22 00:12		
2,4,5-Trichlorophenol	ND	mg/kg	0.41	1		11/04/22 00:12		
2,4,6-Trichlorophenol	ND	mg/kg	0.41	1		11/04/22 00:12		

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Project: LRN005

Page Project No: 5032913

Date: 11/04/2022 03:17 PM

Pace Project No.: 50329130 Sample: LRN005:VMW-1:S000020 Collected: 10/24/22 14:48 Received: 10/25/22 09:00 Lab ID: 50329130009 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 8270 SVOC SS Soil Analytical Method: EPA 8270 Preparation Method: EPA 3546 Pace Analytical Services - Indianapolis Surrogates Nitrobenzene-d5 (S) 18 %. 35-110 1 11/03/22 16:32 11/04/22 00:12 4165-60-0 **S8** Phenol-d5 (S) 53 %. 35-115 11/03/22 16:32 11/04/22 00:12 4165-62-2 1 2-Fluorophenol (S) 49 %. 22-114 11/03/22 16:32 11/04/22 00:12 367-12-4 1 2,4,6-Tribromophenol (S) 35 %. 10-123 11/03/22 16:32 11/04/22 00:12 118-79-6 1 2-Fluorobiphenyl (S) 35 %. 36-100 11/03/22 16:32 11/04/22 00:12 321-60-8 SB 1 p-Terphenyl-d14 (S) 33 %. 29-117 1 11/03/22 16:32 11/04/22 00:12 1718-51-0 8260 MSV 5035A VOA Analytical Method: EPA 8260 Pace Analytical Services - Indianapolis Acetone ND mg/kg 0.12 1 10/31/22 21:50 67-64-1 Benzene ND mg/kg 0.0068 1 10/28/22 21:17 71-43-2 Bromodichloromethane ND mg/kg 0.0068 10/28/22 21:17 75-27-4 1 Bromoform ND mg/kg 0.0068 10/28/22 21:17 75-25-2 1 Bromomethane ND mg/kg 0.0068 1 10/28/22 21:17 74-83-9 2-Butanone (MEK) ND mg/kg 0.034 1 10/28/22 21:17 78-93-3 Carbon disulfide ND mg/kg 0.014 1 10/28/22 21:17 75-15-0 Carbon tetrachloride ND mg/kg 0.0068 10/28/22 21:17 56-23-5 1 Chlorobenzene ND mg/kg 0.0068 10/28/22 21:17 108-90-7 1 Chloroethane ND mg/kg 0.0068 1 10/28/22 21:17 75-00-3 ND Chloroform mg/kg 0.0068 1 10/28/22 21:17 67-66-3 Chloromethane ND 10/28/22 21:17 74-87-3 mg/kg 0.0068 1 Dibromochloromethane ND mg/kg 0.0068 1 10/28/22 21:17 124-48-1 1,2-Dibromoethane (EDB) ND mg/kg 0.0010 1 10/28/22 21:17 106-93-4 Dibromomethane ND mg/kg 0.0068 10/28/22 21:17 74-95-3 1 1,2-Dichlorobenzene 0.0068 ND mg/kg 1 10/28/22 21:17 95-50-1 1,4-Dichlorobenzene ND mg/kg 0.0068 1 10/28/22 21:17 106-46-7 Dichlorodifluoromethane ND mg/kg 0.0068 1 10/28/22 21:17 75-71-8 1.1-Dichloroethane ND mg/kg 0.0068 10/28/22 21:17 75-34-3 1 ND mg/kg 0.0068 10/28/22 21:17 107-06-2 1,2-Dichloroethane 1 ND 0.0068 10/28/22 21:17 75-35-4 1,1-Dichloroethene mg/kg 1 ND 10/28/22 21:17 156-59-2 cis-1,2-Dichloroethene mg/kg 0.0068 1 ND 0.0068 10/28/22 21:17 156-60-5 trans-1,2-Dichloroethene mg/kg 1 1,2-Dichloropropane ND mg/kg 0.0068 1 10/28/22 21:17 78-87-5 1,3-Dichloropropane ND mg/kg 0.0068 10/28/22 21:17 142-28-9 cis-1,3-Dichloropropene ND mg/kg 0.0068 10/28/22 21:17 10061-01-5 ND 0.0068 10/28/22 21:17 10061-02-6 trans-1,3-Dichloropropene mg/kg 1 Ethylbenzene ND mg/kg 0.0068 1 10/28/22 21:17 100-41-4 Ethyl methacrylate ND mg/kg 0.14 10/28/22 21:17 97-63-2 1 n-Hexane ND mg/kg 0.0068 10/28/22 21:17 110-54-3 1 10/28/22 21:17 98-82-8 Isopropylbenzene (Cumene) ND mg/kg 0.0068 1 mg/kg Methylene Chloride ND 0.024 1 10/31/22 21:50 75-09-2 4-Methyl-2-pentanone (MIBK) ND mg/kg 0.034 10/28/22 21:17 108-10-1 1 Methyl-tert-butyl ether ND mg/kg 0.0068 1 10/28/22 21:17 1634-04-4 10/28/22 21:17 91-20-3 Naphthalene ND mg/kg 0.0068

#### REPORT OF LABORATORY ANALYSIS

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Project:

LRN005

Pace Project No.:

Date: 11/04/2022 03:17 PM

50329130

Sample: LRN005:VMW-1:S000020

Lab ID: 50329130009 Collected: 10/24/22 14:48 Received: 10/25/22 09:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
8260 MSV 5035A VOA	Analytical Meth	nod: EPA 826	D					
	Pace Analytica	l Services - Ir	ndianapolis					
Styrene	ND	mg/kg	0.0068	1		10/28/22 21:17	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0068	1		10/28/22 21:17	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0068	1		10/28/22 21:17	79-34-5	
Tetrachloroethene	ND	mg/kg	0.0068	1		10/28/22 21:17	127-18-4	
Toluene	ND	mg/kg	0.0068	1		10/28/22 21:17	108-88-3	
1,2,4-Trichlorobenzene	ND	mg/kg	0.0068	1		10/28/22 21:17	120-82-1	
1,1,1-Trichloroethane	ND	mg/kg	0.0068	1		10/28/22 21:17	71-55-6	
1,1,2-Trichloroethane	ND	mg/kg	0.0068	1		10/28/22 21:17	79-00-5	
Trichloroethene	ND	mg/kg	0.0068	1		10/28/22 21:17	79-01-6	
Trichlorofluoromethane	ND	mg/kg	0.0068	1		10/28/22 21:17	75-69-4	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0068	1		10/28/22 21:17	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0068	1		10/28/22 21:17	108-67-8	
Vinyl acetate	ND	mg/kg	0.14	1		10/28/22 21:17	108-05-4	
Vinyl chloride	ND	mg/kg	0.0068	1		10/28/22 21:17	75-01-4	
Xylene (Total)	ND	mg/kg	0.014	1		10/28/22 21:17	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	104	%.	62-146	1		10/28/22 21:17	1868-53-7	
Toluene-d8 (S)	97	%.	68-143	1		10/28/22 21:17	2037-26-5	
4-Bromofluorobenzene (S)	97	%.	63-129	1		10/28/22 21:17	460-00-4	
Percent Moisture	Analytical Meth	nod: SM 2540	G					
	Pace Analytica	l Services - Ir	ndianapolis					
Percent Moisture	20.4	%	0.10	1		10/26/22 20:21		N2



Project: LRN005
Pace Project No.: 50329130

Date: 11/04/2022 03:17 PM

Sample: LRN005:VMW-1:S070090 Collected: 10/24/22 14:53 Received: 10/25/22 09:00 Lab ID: 50329130010 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 Prepared Analyzed CAS No. Qual 8015 TPH Ohio Microwave Analytical Method: EPA 8015 Mod Ext Preparation Method: EPA 3546 Pace Analytical Services - Indianapolis 66.6 22.6 10/26/22 12:34 10/26/22 18:55 Total Petroleum Hydrocarbons mg/kg TPH (C10-C20) 32.2 mg/kg 11.3 1 10/26/22 12:34 10/26/22 18:55 TPH (C20-C34) 34.4 mg/kg 11.3 10/26/22 12:34 10/26/22 18:55 Surrogates 113 %. 10-157 10/26/22 12:34 10/26/22 18:55 629-99-2 n-Pentacosane (S) Analytical Method: EPA 8082 Preparation Method: EPA 3546 8082 PCB Solids Pace Analytical Services - Indianapolis PCB-1016 (Aroclor 1016) ND 0.11 10/27/22 14:30 10/28/22 14:54 12674-11-2 mg/kg 1 PCB-1221 (Aroclor 1221) ND mg/kg 0.11 10/27/22 14:30 10/28/22 14:54 11104-28-2 1 PCB-1232 (Aroclor 1232) ND mg/kg 0.11 1 10/27/22 14:30 10/28/22 14:54 11141-16-5 PCB-1242 (Aroclor 1242) ND mg/kg 0.111 10/27/22 14:30 10/28/22 14:54 53469-21-9 PCB-1248 (Aroclor 1248) ND mg/kg 0.11 10/27/22 14:30 10/28/22 14:54 12672-29-6 PCB-1254 (Aroclor 1254) ND 0.11 10/27/22 14:30 10/28/22 14:54 11097-69-1 mg/kg 1 PCB-1260 (Aroclor 1260) ND mg/kg 0.11 1 10/27/22 14:30 10/28/22 14:54 11096-82-5 Surrogates 64 36-112 10/27/22 14:30 10/28/22 14:54 877-09-8 Tetrachloro-m-xylene (S) %. Analytical Method: EPA 8015D 8015D Gasoline Range Organics Pace Analytical Services - Indianapolis TPH (C06-C12) ND 1.1 10/28/22 05:30 mg/kg 1 Surrogates 4-Bromofluorobenzene (S) 93 %. 17-148 10/28/22 05:30 460-00-4 Analytical Method: EPA 6010 Preparation Method: EPA 3050 **6010 MET ICP** Pace Analytical Services - Indianapolis Antimony ND mg/kg 1.1 1 11/01/22 09:29 11/02/22 10:16 7440-36-0 5.9 Arsenic mg/kg 1.1 1 11/01/22 09:29 11/02/22 10:16 7440-38-2 Barium 50.2 mg/kg 1.1 11/01/22 09:29 11/02/22 10:16 7440-39-3 1 mg/kg Beryllium ND 0.57 11/01/22 09:29 11/02/22 10:16 7440-41-7 1 Cadmium ND mg/kg 0.57 11/01/22 09:29 11/02/22 10:16 7440-43-9 1 Chromium 17.5 11/01/22 09:29 11/02/22 10:16 7440-47-3 mg/kg 1.1 1 10.3 Cobalt 1.1 11/01/22 09:29 11/02/22 10:16 7440-48-4 mg/kg 1 11/01/22 09:29 11/02/22 10:16 7439-92-1 Lead 10 mg/kg 1.1 1 Nickel 27.3 mg/kg 1.1 11/01/22 09:29 11/02/22 10:16 7440-02-0 Selenium ND mg/kg 1.1 11/01/22 09:29 11/02/22 10:16 7782-49-2 Silver ND mg/kg 0.57 11/01/22 09:29 11/02/22 10:16 7440-22-4 Thallium ND mg/kg 1.1 11/01/22 09:29 11/02/22 10:16 7440-28-0 Vanadium 23.6 mg/kg 1.1 1 11/01/22 09:29 11/02/22 10:16 7440-62-2 Zinc 53.8 mg/kg 1.1 1 11/01/22 09:29 11/02/22 10:16 7440-66-6 7471 Mercury Analytical Method: EPA 7471 Preparation Method: EPA 7471 Pace Analytical Services - Indianapolis ND Mercury mg/kg 0.24 10/26/22 10:53 10/26/22 18:22 7439-97-6



Project:

LRN005

Pace Project No.:

50329130

Sample: LRN005:VMW-1:S070090

Date: 11/04/2022 03:17 PM

Lab ID: 50329130010 Collected: 10/24/22 14:53 Received: 10/25/22 09:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qu
8270 SVOC SS Soil	Analytical Meti	nod: EPA 827	O Preparation Met	hod: EF	PA 3546			
	Pace Analytica							
Acenaphthene	ND	mg/kg	0.37	1	11/03/22 16:32	11/04/22 00:28	83-32-9	
Acenaphthylene	ND	mg/kg	0.37	1		11/04/22 00:28		
Anthracene	ND	mg/kg	0.37	1		11/04/22 00:28		
Benzo(a)anthracene	ND	mg/kg	0.37	1		11/04/22 00:28		
Benzo(a)pyrene	ND	mg/kg	0.37	1		11/04/22 00:28		
Benzo(b)fluoranthene	ND	mg/kg	0.37	1		11/04/22 00:28		
Benzo(g,h,i)perylene	ND	mg/kg	0.37	1		11/04/22 00:28		
Benzo(k)fluoranthene	ND	mg/kg	0.37	1		11/04/22 00:28		
Butylbenzylphthalate	ND	mg/kg	0.37	1	11/03/22 16:32	11/04/22 00:28	85-68-7	
-Chloro-3-methylphenol	ND	mg/kg	0.75	1		11/04/22 00:28		
-Chloroaniline	ND	mg/kg	0.75	1		11/04/22 00:28		
is(2-Chloroethoxy)methane	ND	mg/kg	0.37	1		11/04/22 00:28		
ois(2-Chloroethyl) ether	ND	mg/kg	0.37	1		11/04/22 00:28		
is(2chloro1methylethyl) ether	ND	mg/kg	0.37	1		11/04/22 00:28		
-Chloronaphthalene	ND	mg/kg	0.37	1		11/04/22 00:28		
-Chlorophenol	ND	mg/kg	0.37	1		11/04/22 00:28		
Chrysene	ND	mg/kg	0.37	1		11/04/22 00:28		
Dibenz(a,h)anthracene	ND	mg/kg	0.37	1		11/04/22 00:28		
,4-Dichlorophenol	ND	mg/kg	0.37	1		11/04/22 00:28		
Diethylphthalate	ND	mg/kg	0.37	1		11/04/22 00:28		
,4-Dimethylphenol	ND	mg/kg	0.37	1		11/04/22 00:28		
0i-n-butylphthalate	ND	mg/kg	0.37	1		11/04/22 00:28		
,4-Dinitrophenol	ND	mg/kg	1.8	1		11/04/22 00:28		
,4-Dinitrotoluene	ND	mg/kg	0.37	1		11/04/22 00:28		
,6-Dinitrotoluene	ND	mg/kg	0.37	1		11/04/22 00:28		
0i-n-octylphthalate	ND	mg/kg	0.37	1		11/04/22 00:28		
is(2-Ethylhexyl)phthalate	ND	mg/kg	0.37	1		11/04/22 00:28		
luoranthene	ND	mg/kg	0.37	1		11/04/22 00:28		
luorene	ND	mg/kg	0.37	1		11/04/22 00:28		
lexachlorocyclopentadiene	ND	mg/kg	0.37	1		11/04/22 00:28		
lexachloroethane	ND	mg/kg	0.37	1		11/04/22 00:28		
ndeno(1,2,3-cd)pyrene	ND	mg/kg	0.37	1		11/04/22 00:28		
sophorone	ND	mg/kg	0.37	1		11/04/22 00:28		
?-Methylnaphthalene	ND	mg/kg	0.37	1		11/04/22 00:28		
P-Methylphenol(o-Cresol)	ND	mg/kg	0.37	1		11/04/22 00:28		
&4-Methylphenol(m&p Cresol)	ND	mg/kg	0.75	1		11/04/22 00:28		
laphthalene	ND	mg/kg	0.37	1		11/04/22 00:28	91-20-3	
litrobenzene	ND	mg/kg	0.37	1		11/04/22 00:28		
I-Nitroso-di-n-propylamine	ND	mg/kg	0.37	1		11/04/22 00:28		
I-Nitrosodiphenylamine	ND	mg/kg	0.37	1		11/04/22 00:28		
Phenanthrene	ND	mg/kg	0.37	1		11/04/22 00:28		
Phenol	ND	mg/kg	0.37	1		11/04/22 00:28		
Pyrene	ND	mg/kg	0.37	1		11/04/22 00:28		
2,4,5-Trichlorophenol	ND	mg/kg	0.37	1		11/04/22 00:28		
2,4,6-Trichlorophenol	ND	mg/kg	0.37	1		11/04/22 00:28		



Project: LRN005

Naphthalene

Date: 11/04/2022 03:17 PM

Pace Project No.: 50329130 Sample: LRN005:VMW-1:S070090 Lab ID: 50329130010 Collected: 10/24/22 14:53 Received: 10/25/22 09:00 Matrix: Solid Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions. **Parameters** Results Units Report Limit DF Prepared Analyzed CAS No. Qual 8270 SVOC SS Soil Analytical Method: EPA 8270 Preparation Method: EPA 3546 Pace Analytical Services - Indianapolis Surrogates 11/03/22 16:32 11/04/22 00:28 4165-60-0 Nitrobenzene-d5 (S) 54 %. 35-110 1 Phenol-d5 (S) 67 %. 35-115 11/03/22 16:32 11/04/22 00:28 4165-62-2 1 2-Fluorophenol (S) 61 %. 22-114 11/03/22 16:32 11/04/22 00:28 367-12-4 1 2,4,6-Tribromophenol (S) 47 %. 10-123 11/03/22 16:32 11/04/22 00:28 118-79-6 1 2-Fluorobiphenyl (S) 56 %. 36-100 11/03/22 16:32 11/04/22 00:28 321-60-8 1 p-Terphenyl-d14 (S) 59 %. 29-117 1 11/03/22 16:32 11/04/22 00:28 1718-51-0 8260 MSV 5035A VOA Analytical Method: EPA 8260 Pace Analytical Services - Indianapolis Acetone ND mg/kg 0.10 1 10/31/22 22:24 67-64-1 Benzene ND mg/kg 0.0050 1 10/28/22 21:51 71-43-2 Bromodichloromethane ND mg/kg 0.0050 10/28/22 21:51 75-27-4 1 Bromoform ND mg/kg 0.0050 10/28/22 21:51 75-25-2 1 Bromomethane ND mg/kg 0.0050 1 10/28/22 21:51 74-83-9 2-Butanone (MEK) ND mg/kg 0.025 1 10/28/22 21:51 78-93-3 Carbon disulfide ND mg/kg 0.010 1 10/28/22 21:51 75-15-0 Carbon tetrachloride ND mg/kg 0.0050 10/28/22 21:51 56-23-5 1 Chlorobenzene ND mg/kg 0.0050 10/28/22 21:51 108-90-7 1 Chloroethane ND mg/kg 0.0050 1 10/28/22 21:51 75-00-3 ND Chloroform mg/kg 0.0050 1 10/28/22 21:51 67-66-3 10/28/22 21:51 74-87-3 Chloromethane ND mg/kg 0.0050 1 Dibromochloromethane ND mg/kg 0.0050 1 10/28/22 21:51 124-48-1 1,2-Dibromoethane (EDB) ND mg/kg 0.00076 10/28/22 21:51 106-93-4 1 Dibromomethane ND mg/kg 0.0050 10/28/22 21:51 74-95-3 1 1,2-Dichlorobenzene 0.0050 ND mg/kg 1 10/28/22 21:51 95-50-1 1,4-Dichlorobenzene ND mg/kg 0.0050 1 10/28/22 21:51 106-46-7 Dichlorodifluoromethane ND mg/kg 0.0050 1 10/28/22 21:51 75-71-8 1.1-Dichloroethane ND 0.0050 10/28/22 21:51 75-34-3 mg/kg 1 ND mg/kg 0.0050 10/28/22 21:51 107-06-2 1,2-Dichloroethane 1 ND 0.0050 10/28/22 21:51 75-35-4 1,1-Dichloroethene mg/kg 1 ND 10/28/22 21:51 156-59-2 cis-1,2-Dichloroethene 0.0050 mg/kg 1 ND 0.0050 10/28/22 21:51 156-60-5 trans-1,2-Dichloroethene mg/kg 1 1,2-Dichloropropane ND mg/kg 0.0050 1 10/28/22 21:51 78-87-5 1,3-Dichloropropane ND mg/kg 0.0050 10/28/22 21:51 142-28-9 cis-1,3-Dichloropropene ND mg/kg 0.0050 10/28/22 21:51 10061-01-5 ND 0.0050 10/28/22 21:51 10061-02-6 trans-1,3-Dichloropropene mg/kg 1 Ethylbenzene ND mg/kg 0.0050 1 10/28/22 21:51 100-41-4 Ethyl methacrylate ND mg/kg 0.10 10/28/22 21:51 97-63-2 1 n-Hexane ND mg/kg 0.0050 10/28/22 21:51 110-54-3 1 Isopropylbenzene (Cumene) ND mg/kg 0.0050 10/28/22 21:51 98-82-8 1 mg/kg Methylene Chloride ND 0.020 1 10/31/22 22:24 75-09-2 4-Methyl-2-pentanone (MIBK) ND mg/kg 0.025 10/28/22 21:51 108-10-1 1 Methyl-tert-butyl ether ND mg/kg 0.0050 1 10/28/22 21:51 1634-04-4

#### REPORT OF LABORATORY ANALYSIS

0.0050

ND

mg/kg

10/28/22 21:51 91-20-3



Project:

LRN005

Pace Project No.:

50329130

Sample: LRN005:VMW-1:S070090

Date: 11/04/2022 03:17 PM

Lab ID: 50329130010

Collected: 10/24/22 14:53 Received: 10/25/22 09:00 Matrix: Solid

Results reported on a	"dry weight" basis and are adjusted f	or percent moisture, sample size and any	dilutions.
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Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA	Analytical Meti	nod: EPA 826	0					
	Pace Analytica	l Services - Ir	ndianapolis					
Styrene	ND	mg/kg	0.0050	1		10/28/22 21:51	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0050	1		10/28/22 21:51	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0050	1		10/28/22 21:51	79-34-5	
Tetrachloroethene	ND	mg/kg	0.0050	1		10/28/22 21:51	127-18-4	
Toluene	ND	mg/kg	0.0050	1		10/28/22 21:51	108-88-3	
1,2,4-Trichlorobenzene	ND	mg/kg	0.0050	1		10/28/22 21:51	120-82-1	
1,1,1-Trichloroethane	ND	mg/kg	0.0050	1		10/28/22 21:51	71-55-6	
1,1,2-Trichloroethane	ND	mg/kg	0.0050	1		10/28/22 21:51	79-00-5	
Trichloroethene	ND	mg/kg	0.0050	1		10/28/22 21:51	79-01-6	
Trichlorofluoromethane	ND	mg/kg	0.0050	1		10/28/22 21:51	75-69-4	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0050	1		10/28/22 21:51	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0050	1		10/28/22 21:51	108-67-8	
Vinyl acetate	ND	mg/kg	0.10	1		10/28/22 21:51	108-05-4	
Vinyl chloride	ND	mg/kg	0.0050	1		10/28/22 21:51	75-01-4	
Xylene (Total)	ND	mg/kg	0.010	1		10/28/22 21:51	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	116	%.	62-146	1		10/28/22 21:51	1868-53-7	
Toluene-d8 (S)	116	%.	68-143	1		10/28/22 21:51	2037-26-5	
4-Bromofluorobenzene (S)	77	%.	63-129	1		10/28/22 21:51	460-00-4	
Percent Moisture	Analytical Metl	nod: SM 2540	G					
	Pace Analytica	l Services - Ir	ndianapolis					
Percent Moisture	12.5	%	0.10	1		10/26/22 20:22		N2



Project: LRN005
Pace Project No.: 50329130

Date: 11/04/2022 03:17 PM

Sample: LRN005:EB-1:W102422	Lab ID:	50329130011	Collected:	10/24/2	2 16:55	Received: 1	0/25/22 09:00	Matrix: Water	
Parameters	Results	Units	Report	Limit	DF	Prepared	Analyzed	CAS No.	Qua
8082 GCS PCB RV Waters	Analytical	Method: EPA 80	082 Preparat	ion Meth	nod: EPA	3510			
	Pace Anal	lytical Services -	Indianapolis						
PCB-1016 (Aroclor 1016)	NI	D ug/L		0.10	1	11/01/22 10:55	5 11/01/22 20:20	6 12674-11-2	
PCB-1221 (Aroclor 1221)	NI			0.10	1		5 11/01/22 20:20		
PCB-1232 (Aroclor 1232)	NI			0.10	1		11/01/22 20:20		
PCB-1242 (Aroclor 1242)	NI			0.10	1		5 11/01/22 20:20		
PCB-1248 (Aroclor 1248)	NI			0.10	1		5 11/01/22 20:20		
PCB-1254 (Aroclor 1254)	NI			0.10	1		11/01/22 20:20		
PCB-1260 (Aroclor 1260)	NI			0.10	1		11/01/22 20:20		
Surrogates		o ug/L		0.10		11/01/22 10:00	7 11/0 1/22 20.2	0 11000 02 0	
etrachloro-m-xylene (S)	7	4 %.		10-117	1	11/01/22 10:55	5 11/01/22 20:20	6 877-09-8	
010 MET ICP	Analytical	Method: EPA 60	010 Preparat	ion Meth	nod: EPA	3010			
	Pace Anal	lytical Services -	Indianapolis						
antimony	NI	D ug/L		6.0	1	10/28/22 16:4	5 10/30/22 16:4	9 7440-36-0	
rsenic	NI			10.0	1	10/28/22 16:49	5 10/30/22 16:4	9 7440-38-2	
Barium	NI			5.0	1	10/28/22 16:49	5 10/30/22 16:4	9 7440-39-3	
Beryllium	NI			4.0	1		5 10/30/22 16:4		
admium	NI			1.0	1		5 10/30/22 16:4		
Chromium	NI			4.0	1		5 10/30/22 16:4		
Cobalt	NI			3.0	1		5 10/30/22 16:4		
ead	NI			5.0	1		5 10/30/22 16:4		
lickel	NI NI			3.0	1		5 10/31/22 10:3		
elenium	NI	•		10.0	1		5 10/30/22 16:4		
ilver	NI			10.0	1		5 10/30/22 16:4		
/anadium	NI			10.0	1		5 10/30/22 16:4		
linc	NI			10.0	1		5 10/30/22 16:4		
020 MET ICPMS	Analytical	Method: EPA 60	120 Prenarat	ion Meth	nod: EPA	200.2			
1020 III.2.1 101 III.0		lytical Services -	•						
- - - - - - - - - - - - - - - - - - -	NI	D ug/L		0.10	1	10/25/22 16:1	5 10/27/22 02:1	3 7440-28-0	
470 Mercury	Analytical	Method: EPA 74	170 Prenarat	ion Meth	nod: EPA	7470			
470 Merodry		lytical Services -			.00				
Mercury	NI			0.20	1	10/25/22 18:5	1 10/26/22 12:1	9 7439-97-6	
3270 100mL Combo RV	Analytical	Method: EPA 82	270 by SIM F	Preparati	on Meth	od: EPA 3510			
		lytical Services -							
cenaphthene	NI	D ug/L		0.95	1	10/28/22 09:1	5 10/28/22 17:5	5 83-32-9	
Acenaphthylene	NI			0.95	1		5 10/28/22 17:5		
Inthracene	NI			0.095	1		5 10/28/22 17:5		
senzo(a)anthracene	NI			0.095	1		5 10/28/22 17:5		
Benzo(a)pyrene	NI			0.095	1		5 10/28/22 17:5		
senzo(b)fluoranthene	NI			0.095	1		5 10/28/22 17:5		
Benzo(g,h,i)perylene	NI	10 To		0.095	1		5 10/28/22 17:5		
Benzo(k)fluoranthene	NI			0.095	1		5 10/28/22 17:5		
Chrysene	NI			0.48	1		5 10/28/22 17:5		

# **REPORT OF LABORATORY ANALYSIS**

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Project: LRN005
Pace Project No.: 50329130

Date: 11/04/2022 03:17 PM

Sample: LRN005:EB-1:W102422	Lab ID:	50329130011	Collected: 10/24	22 16:55	Received: 1	0/25/22 09:00	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
270 100mL Combo RV	Analytical	Method: EPA 82	270 by SIM Prepara	tion Meth	od: EPA 3510			
		ytical Services -						
Dibenz(a,h)anthracene	NI	D ug/L	0.088	1	10/28/22 09:15	5 10/28/22 17:5	5 53-70-3	
Fluoranthene	N		0.95	1	10/28/22 09:15	5 10/28/22 17:5	5 206-44-0	
luorene	NI		0.95	1	10/28/22 09:15	5 10/28/22 17:5	5 86-73-7	
ndeno(1,2,3-cd)pyrene	N	O ug/L	0.095	1	10/28/22 09:15	5 10/28/22 17:5	5 193-39-5	
2-Methylnaphthalene	N		0.95	1	10/28/22 09:15	5 10/28/22 17:5	5 91-57-6	
Naphthalene	N		0.95	1	10/28/22 09:15	5 10/28/22 17:5	5 91-20-3	
Phenanthrene	N		0.95	1		5 10/28/22 17:5		
Pyrene	NI		0.95	1		5 10/28/22 17:5		
Surrogates	337	- ug. =	0.00		10/20/22 00:11	10,20,22 1710		
2-Fluorobiphenyl (S)	3:	2 %.	13-97	1	10/28/22 09:15	5 10/28/22 17:5	5 321-60-8	
o-Terphenyl-d14 (S)	7-		29-110	1		5 10/28/22 17:5		
3270 SVOC Combo Water			270 Preparation Me	thod: EP/	A 3510			
	Pace Anal	ytical Services -	Indianapolis					
Butylbenzylphthalate	N	O ug/L	9.5	1	10/28/22 09:15	5 10/28/22 18:0	3 85-68-7	
l-Chloro-3-methylphenol	N	O ug/L	9.5	1	10/28/22 09:15	5 10/28/22 18:0	3 59-50-7	
-Chloroaniline	N	O ug/L	9.5	1	10/28/22 09:15	5 10/28/22 18:0	3 106-47-8	
is(2-Chloroethoxy)methane	N	O ug/L	9.5	1	10/28/22 09:15	5 10/28/22 18:0	3 111-91-1	
ois(2-Chloroethyl) ether	N		9.5	1	10/28/22 09:15	5 10/28/22 18:0	3 111-44-4	
ois(2chloro1methylethyl) ether	NI		9.5	1	10/28/22 09:15	5 10/28/22 18:0	3 108-60-1	
2-Chloronaphthalene	N		9.5			5 10/28/22 18:0		
2-Chlorophenol	NI		9.5	1		5 10/28/22 18:0		
2,4-Dichlorophenol	NI		9.5	1		5 10/28/22 18:0		
Diethylphthalate	NI		9.5			5 10/28/22 18:0		
2,4-Dimethylphenol	NI		9.5			5 10/28/22 18:0		
Di-n-butylphthalate	NI		9.5	1		5 10/28/22 18:0		
2,4-Dinitrophenol	NI		47.6	1		5 10/28/22 18:0		
2,4-Dinitrotoluene	NI		9.5	1		5 10/28/22 18:0		
	NI NI	•	9.5			5 10/28/22 18:0		
2,6-Dinitrotoluene								
Di-n-octylphthalate	NI		9.5			5 10/28/22 18:0		
pis(2-Ethylhexyl)phthalate	NI	•	4.8	1		5 10/28/22 18:0		
-lexachlorocyclopentadiene	NI		9.5	1		5 10/28/22 18:0		
Hexachloroethane	N		9.5	1		5 10/28/22 18:0		
sophorone	NI		9.5	1		5 10/28/22 18:0		
?-Methylphenol(o-Cresol)	NI		9.5			5 10/28/22 18:0		
3&4-Methylphenol(m&p Cresol)	N		9.5			5 10/28/22 18:0		
Nitrobenzene	N	O ug/L	4.8			5 10/28/22 18:0		
N-Nitroso-di-n-propylamine	N	O ug/L	47.6	1	10/28/22 09:15	5 10/28/22 18:0	3 621-64-7	
N-Nitrosodiphenylamine	N	O ug/L	9.5	1	10/28/22 09:15	5 10/28/22 18:0	3 86-30-6	
Phenol	NI	O ug/L	9.5	1	10/28/22 09:15	5 10/28/22 18:0	3 108-95-2	
2,4,5-Trichlorophenol	N		9.5	1	10/28/22 09:15	5 10/28/22 18:0	3 95-95-4	
2,4,6-Trichlorophenol	N		8.6	1	10/28/22 09:15	5 10/28/22 18:0	3 88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	4	5 %.	17-127	1	10/28/22 09:15	5 10/28/22 18:0	3 4165-60-0	
Phenol-d5 (S)	3		10-65	1		5 10/28/22 18:0		
2-Fluorophenol (S)	3		10-84	1		5 10/28/22 18:0		

# **REPORT OF LABORATORY ANALYSIS**

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Project:

LRN005

Pace Project No.: 50329130

Date: 11/04/2022 03:17 PM

Sample: LRN005:EB-1:W102422	Lab ID:	50329130011	Collected:	10/24/2	2 16:55	Received: 1	0/25/22 09:00	Matrix: Water	
Parameters	Results	Units	Report	Limit	DF	Prepared	Analyzed	CAS No.	Qua
3270 SVOC Combo Water	Analytical	Method: EPA 82	270 Preparati	ion Meth	od: EPA	3510			
	Pace Anal	lytical Services -	Indianapolis						
Surrogates									
2,4,6-Tribromophenol (S)	6	4 %.	3	37-160	1	10/28/22 09:1	5 10/28/22 18:0	3 118-79-6	
8260/5030 MSV	Analytical	Method: EPA 82	260						
	Pace Anal	lytical Services -	Indianapolis						
Acetone	NI	D ug/L		100	1		11/01/22 14:2	0 67-64-1	
Benzene	NI			5.0	1		10/29/22 12:4		
3romodichloromethane	NI			5.0	1		10/29/22 12:4		
3romoform	NI			5.0	1		10/29/22 12:4		
3romomethane	NI	T		5.0	1		11/01/22 14:2		
2-Butanone (MEK)	NI			25.0	1		10/29/22 12:4		
Carbon disulfide	NI			10.0	1		10/29/22 12:4		
Carbon tetrachloride	NI			5.0	1		10/29/22 12:4		
Chlorobenzene	NI			5.0	1		10/29/22 12:4		
Chloroethane	NI			5.0	1		10/29/22 12:4		
Chloroform	NI	· · · · · · · · · · · · · · · · · · ·		5.0	1		10/29/22 12:4		
Chloromethane				5.0	1				
Dibromochloromethane	NI			5.0	1		11/01/22 14:2 10/29/22 12:4		
	NI						10/29/22 12:4		
I,2-Dibromoethane (EDB)	NI			5.0	1				
Dibromomethane	NI			5.0	1		10/29/22 12:4		
1,2-Dichlorobenzene	NI			5.0	1		10/29/22 12:4		
I,4-Dichlorobenzene	NI	_		5.0	1		10/29/22 12:4		
Dichlorodifluoromethane	NI			5.0	1		11/01/22 14:2		
1,1-Dichloroethane	NI			5.0	1		10/29/22 12:4		
1,2-Dichloroethane	NI			5.0	1		10/29/22 12:4		
1,1-Dichloroethene	NI			5.0	1		10/29/22 12:4		
cis-1,2-Dichloroethene	NI			5.0	1		10/29/22 12:4		
rans-1,2-Dichloroethene	NI	•		5.0	1		10/29/22 12:4		
,2-Dichloropropane	NI			5.0	1		10/29/22 12:4		
1,3-Dichloropropane	NI			5.0	1		10/29/22 12:4		
cis-1,3-Dichloropropene	NI			4.1	1			4 10061-01-5	
rans-1,3-Dichloropropene	NI	•		4.1	1			4 10061-02-6	
Ethylbenzene	NI			5.0	1		10/29/22 12:4		
Ethyl methacrylate	NI			100	1		10/29/22 12:4		
n-Hexane	NI			5.0	1		10/29/22 12:4	4 110-54-3	
sopropylbenzene (Cumene)	NI	D ug/L		5.0	1		10/29/22 12:4	4 98-82-8	
Methylene Chloride	NI	D ug/L		5.0	1		10/29/22 12:4	4 75-09-2	
I-Methyl-2-pentanone (MIBK)	NI			25.0	1		10/29/22 12:4		
Methyl-tert-butyl ether	NI	0.0		4.0	1		10/29/22 12:4		
Naphthalene	N			1.4	1		10/29/22 12:4		
Styrene	NI	D ug/L		5.0	1		10/29/22 12:4	4 100-42-5	
1,1,1,2-Tetrachloroethane	NI	D ug/L		5.0	1		10/29/22 12:4	4 630-20-6	
1,1,2,2-Tetrachloroethane	NI	D ug/L		5.0	1		10/29/22 12:4	4 79-34-5	
Tetrachloroethene	NI	D ug/L		5.0	1		10/29/22 12:4	4 127-18-4	
Toluene	NI	D ug/L		5.0	1		10/29/22 12:4	4 108-88-3	
1,2,4-Trichlorobenzene	NI	D ug/L		5.0	1		10/29/22 12:4	4 120-82-1	



Project: LRN005
Pace Project No.: 50329130

Date: 11/04/2022 03:17 PM

Sample: LRN005:EB-1:W102422	Lab ID:	50329130011	Collected: 10/24/2	22 16:55	Received:	10/25/22 09:00	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260/5030 MSV	Analytical I	Method: EPA 82	260					
	Pace Analy	tical Services -	Indianapolis					
1,1,1-Trichloroethane	ND	ug/L	5.0	1		10/29/22 12:4	4 71-55-6	
1,1,2-Trichloroethane	ND	ug/L	5.0	1		10/29/22 12:4	4 79-00-5	
Trichloroethene	ND	ug/L	5.0	1		10/29/22 12:4	4 79-01-6	
Trichlorofluoromethane	NE	ug/L	5.0	1		11/01/22 14:20	75-69-4	
1,2,4-Trimethylbenzene	ND	ug/L	5.0	1		10/29/22 12:4	4 95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	5.0	1		10/29/22 12:4	4 108-67-8	
Vinyl acetate	NE	ug/L	50.0	1		11/01/22 14:20	0 108-05-4	
Vinyl chloride	ND	ug/L	2.0	1		11/01/22 14:20	75-01-4	
Xylene (Total)	ND	ug/L	10.0	1		10/29/22 12:4	4 1330-20-7	
Surrogates								
Dibromofluoromethane (S)	107	%.	82-128	1		10/29/22 12:4	4 1868-53-7	
4-Bromofluorobenzene (S)	102	2 %.	79-124	1		10/29/22 12:4	4 460-00-4	
Toluene-d8 (S)	97	%.	73-122	1		10/29/22 12:4	4 2037-26-5	



Project: LRN005 Pace Project No.: 50329130

Date: 11/04/2022 03:17 PM

Lab ID: 50329130012 Sample: LRN005:TB-1:W102422 Collected: 10/24/22 08:00 Received: 10/25/22 09:00 Matrix: Solid

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
8260 MSV 5035A VOA	Analytical Met	nod: EPA 826	0					
	Pace Analytica	l Services - Ir	ndianapolis					
Acetone	ND	mg/kg	0.10	1		10/31/22 16:11	67-64-1	
Benzene	ND	mg/kg	0.0050	1		10/28/22 15:06		
3romodichloromethane	ND	mg/kg	0.0050	1		10/28/22 15:06		
Bromoform	ND	mg/kg	0.0050	1		10/28/22 15:06		
Bromomethane	ND	mg/kg	0.0050	1		10/28/22 15:06		
P-Butanone (MEK)	ND	mg/kg	0.025	1		10/28/22 15:06		
Carbon disulfide	ND	mg/kg	0.010	1		10/28/22 15:06		
Carbon tetrachloride	ND	mg/kg	0.0050	1		10/28/22 15:06		
Chlorobenzene	ND	mg/kg	0.0050	1		10/28/22 15:06		
Chloroethane	ND		0.0050	1		10/28/22 15:06		
Chloroform	ND	mg/kg mg/kg	0.0050	1		10/28/22 15:06		
Chloromethane	ND ND		0.0050	1		10/28/22 15:06		
Dioromethane Dibromochloromethane	ND ND	mg/kg	0.0050	1		10/28/22 15:06		
		mg/kg						
,2-Dibromoethane (EDB)	ND	mg/kg	0.00075	1		10/28/22 15:06		
Dibromomethane	ND	mg/kg	0.0050	1		10/28/22 15:06		
,2-Dichlorobenzene	ND	mg/kg	0.0050	1		10/28/22 15:06		
,4-Dichlorobenzene	ND	mg/kg	0.0050	1		10/28/22 15:06		
ichlorodifluoromethane	ND	mg/kg	0.0050	1		10/28/22 15:06		
,1-Dichloroethane	ND	mg/kg	0.0050	1		10/28/22 15:06		
,2-Dichloroethane	ND	mg/kg	0.0050	1		10/28/22 15:06		
,1-Dichloroethene	ND	mg/kg	0.0050	1		10/28/22 15:06		
is-1,2-Dichloroethene	ND	mg/kg	0.0050	1		10/28/22 15:06	156-59-2	
ans-1,2-Dichloroethene	ND	mg/kg	0.0050	1		10/28/22 15:06		
,2-Dichloropropane	ND	mg/kg	0.0050	1		10/28/22 15:06	78-87-5	
,3-Dichloropropane	ND	mg/kg	0.0050	1		10/28/22 15:06	142-28-9	
is-1,3-Dichloropropene	ND	mg/kg	0.0050	1		10/28/22 15:06	10061-01-5	
ans-1,3-Dichloropropene	ND	mg/kg	0.0050	1		10/28/22 15:06	10061-02-6	
thylbenzene	ND	mg/kg	0.0050	1		10/28/22 15:06	100-41-4	
thyl methacrylate	ND	mg/kg	0.10	1		10/28/22 15:06	97-63-2	
-Hexane	ND	mg/kg	0.0050	1		10/28/22 15:06	110-54-3	
sopropylbenzene (Cumene)	ND	mg/kg	0.0050	1		10/28/22 15:06	98-82-8	
Methylene Chloride	ND	mg/kg	0.020	1		10/31/22 16:11	75-09-2	
-Methyl-2-pentanone (MIBK)	ND	mg/kg	0.025	1		10/28/22 15:06	108-10-1	
/lethyl-tert-butyl ether	ND	mg/kg	0.0050	1		10/28/22 15:06	1634-04-4	
Naphthalene	ND	mg/kg	0.0050	1		10/28/22 15:06	91-20-3	
Styrene	ND	mg/kg	0.0050	1		10/28/22 15:06	100-42-5	
,1,1,2-Tetrachloroethane	ND	mg/kg	0.0050	1		10/28/22 15:06	630-20-6	
.1.2.2-Tetrachloroethane	ND	mg/kg	0.0050	1		10/28/22 15:06		
etrachloroethene	ND	mg/kg	0.0050	1		10/28/22 15:06		
oluene	ND	mg/kg	0.0050	1		10/28/22 15:06		
,2,4-Trichlorobenzene	ND	mg/kg	0.0050	1		10/28/22 15:06		
,1,1-Trichloroethane	ND	mg/kg	0.0050	1		10/28/22 15:06		
,1,2-Trichloroethane	ND	mg/kg	0.0050	1		10/28/22 15:06		
Frichloroethene	ND	mg/kg	0.0050	1		10/28/22 15:06		
Frichlorofluoromethane	ND	mg/kg	0.0050	1		10/28/22 15:06		

# **REPORT OF LABORATORY ANALYSIS**

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Project:

LRN005

Pace Project No.:

50329130

Sample: LRN005:TB-1:W102422

Date: 11/04/2022 03:17 PM

Lab ID: 50329130012

Collected: 10/24/22 08:00 Received: 10/25/22 09:00 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035A VOA	Analytical Method: EPA 8260							
	Pace Analytical Services - Indianapolis							
1,2,4-Trimethylbenzene	ND	mg/kg	0.0050	1		10/28/22 15:06	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0050	1		10/28/22 15:06	108-67-8	
Vinyl acetate	ND	mg/kg	0.10	1		10/28/22 15:06	108-05-4	
Vinyl chloride	ND	mg/kg	0.0050	1		10/28/22 15:06	75-01-4	
Xylene (Total)	ND	mg/kg	0.010	1		10/28/22 15:06	1330-20-7	
Surrogates		7.7						
Dibromofluoromethane (S)	103	%.	62-146	1		10/28/22 15:06	1868-53-7	
Toluene-d8 (S)	97	%.	68-143	1		10/28/22 15:06	2037-26-5	
4-Bromofluorobenzene (S)	99	%.	63-129	1		10/28/22 15:06	460-00-4	



#### **QUALITY CONTROL DATA**

Project:

LRN005

Pace Project No.:

50329130

QC Batch: QC Batch Method: 703053

**EPA 8015D** 

Analysis Method:

**EPA 8015D** 

**Analysis Description:** 

8015 Solid GCV

Laboratory:

Pace Analytical Services - Indianapolis

50329130003, 50329130004, 50329130005, 50329130006, 50329130007, 50329130008, 50329130009, Associated Lab Samples: 50329130010

METHOD BLANK: 3232042

Matrix: Solid

Associated Lab Samples:

50329130003, 50329130004, 50329130005, 50329130006, 50329130007, 50329130008, 50329130009,

50329130010

Units

mg/kg

%.

Parameter

Units

Blank Result Reporting Limit

Analyzed

Qualifiers

TPH (C06-C12) 4-Bromofluorobenzene (S) mg/kg %.

ND 76

10/28/22 01:16 0.96 17-148 10/28/22 01:16

LABORATORY CONTROL SAMPLE:

Parameter

3232043

Spike Conc.

LCS Result

LCS % Rec % Rec Limits

Qualifiers

TPH (C06-C12) 4-Bromofluorobenzene (S) mg/kg %.

50329130005

Result

ND

Units

9.8

95 113 55-140

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3232044

MSD

3232045

9.4

MS

5.4

MSD

17-148

% Rec

Max **RPD RPD** Qual

20 R1

TPH (C06-C12) 4-Bromofluorobenzene (S)

Date: 11/04/2022 03:17 PM

Parameter

MS Spike Conc.

10.2

Spike Conc.

10.4

MS MSD Result Result

7.4

% Rec

% Rec

51

93

72

103

Limits

10-173 32 17-148

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:

LRN005

Pace Project No.:

50329130

QC Batch:

702576

Analysis Method:

**EPA 7470** 

QC Batch Method:

**EPA 7470** 

Analysis Description:

7470 Mercury

Laboratory: Associated Lab Samples: 50329130011

METHOD BLANK: 3229586

Matrix: Water

Associated Lab Samples:

50329130011

Units

ug/L

Blank

Result

Reporting Limit

Qualifiers Analyzed

Pace Analytical Services - Indianapolis

Mercury

Units ug/L

ND

10/26/22 11:15

LABORATORY CONTROL SAMPLE:

Parameter

3229587

Spike

LCS

LCS % Rec % Rec Limits

Qualifiers

Parameter Mercury

Parameter

Date: 11/04/2022 03:17 PM

Units ug/L

Conc.

Result

108

80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3229588

MS

MSD

MSD

MS

MSD

% Rec

Max

Mercury

50329037007 Result

Spike Conc.

Spike Conc. MS

% Rec

106

% Rec

**RPD** 

**RPD** 

ND

5

5

Result 5.3

3229589

5.4

Result 5.3 105

Limits

75-125

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:

LRN005

Pace Project No.:

50329130

QC Batch:

702653

Analysis Method:

**EPA 7471** 

QC Batch Method:

**EPA 7471** 

**Analysis Description:** 

7471 Mercury

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

50329130001, 50329130002, 50329130003, 50329130004, 50329130005, 50329130006, 50329130007, 50329130008, 50329130009, 50329130010

METHOD BLANK: 3230027

Matrix: Solid

Associated Lab Samples:

50329130001, 50329130002, 50329130003, 50329130004, 50329130005, 50329130006, 50329130007,

50329130008, 50329130009, 50329130010

Blank

Reporting

Parameter

Units

Result

Limit

Analyzed

Qualifiers

Mercury

mg/kg

ND

10/26/22 17:22 0.20

LABORATORY CONTROL SAMPLE:

Parameter

3230028

Spike Conc.

LCS Result

LCS % Rec % Rec Limits

80-120

Qualifiers

Mercury

Units mg/kg

0.5

0.48

3230030

MS

Result

97

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3230029

MSD

50329130002 Parameter Units Result ND

mg/kg

MS Spike Conc.

Spike Conc.

MSD Result 0.56

MS % Rec

MSD % Rec

% Rec Limits **RPD** 

Max **RPD** 

Mercury

0.52 0.58

0.71

118

75-125 102

23 20 R1

Qual

Date: 11/04/2022 03:17 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: LRN005
Pace Project No.: 50329130

Date: 11/04/2022 03:17 PM

QC Batch: 703226 Analysis Method: EPA 6010
QC Batch Method: EPA 3050 Analysis Description: 6010 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50329130001, 50329130002, 50329130003, 50329130004, 50329130005, 50329130006, 50329130007,

50329130008, 50329130009, 50329130010

METHOD BLANK: 3232813 Matrix: Solid

Associated Lab Samples: 50329130001, 50329130002, 50329130003, 50329130004, 50329130005, 50329130006, 50329130007,

50329130008, 50329130009, 50329130010

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Antimony	mg/kg	ND	1.0	11/02/22 09:45	
Arsenic	mg/kg	ND	1.0	11/02/22 09:45	
Barium	mg/kg	ND	1.0	11/02/22 09:45	
Beryllium	mg/kg	ND	0.50	11/02/22 09:45	
Cadmium	mg/kg	ND	0.50	11/02/22 09:45	
Chromium	mg/kg	ND	1.0	11/02/22 09:45	
Cobalt	mg/kg	ND	1.0	11/02/22 09:45	
Lead	mg/kg	ND	1.0	11/02/22 09:45	
Nickel	mg/kg	ND	1.0	11/02/22 09:45	
Selenium	mg/kg	ND	1.0	11/02/22 09:45	
Silver	mg/kg	ND	0.50	11/02/22 09:45	
Thallium	mg/kg	ND	1.0	11/02/22 09:45	
Vanadium	mg/kg	ND	1.0	11/02/22 09:45	
Zinc	mg/kg	ND	1.0	11/02/22 09:45	

LABORATORY CONTROL SAMPLE:	3232814					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Antimony	mg/kg	50	47.7	95	80-120	
Arsenic	mg/kg	50	47.5	95	80-120	
Barium	mg/kg	50	49.0	98	80-120	
Beryllium	mg/kg	50	48.9	98	80-120	
Cadmium	mg/kg	50	47.5	95	80-120	
Chromium	mg/kg	50	50.2	100	80-120	
Cobalt	mg/kg	50	47.2	94	80-120	
Lead	mg/kg	50	46.8	94	80-120	
Nickel	mg/kg	50	50.6	101	80-120	
Selenium	mg/kg	50	47.7	95	80-120	
Silver	mg/kg	25	25.0	100	80-120	
Thallium	mg/kg	50	46.3	93	80-120	
Vanadium	mg/kg	50	49.2	98	80-120	
Zinc	mg/kg	50	49.3	99	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: LRN005
Pace Project No.: 50329130

Date: 11/04/2022 03:17 PM

MATRIX SPIKE & MATRIX	SPIKE DUPLIC	CATE: 3232	815 MS	MSD	3232816							
	5	0329130010	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qua
Antimony	mg/kg	ND	52.5	54.9	13.9	14.9	26	27	75-125	7	20	МЗ
Arsenic	mg/kg	5.9	52.5	54.9	45.4	49.6	75	79	75-125	9	20	
Barium	mg/kg	50.2	52.5	54.9	85.2	96.7	67	85	75-125	13	20	MO
Beryllium	mg/kg	ND	52.5	54.9	42.3	44.7	80	80	75-125	6	20	
Cadmium	mg/kg	ND	52.5	54.9	42.7	45.3	81	82	75-125	6	20	
Chromium	mg/kg	17.5	52.5	54.9	61.4	63.4	84	84	75-125	3	20	
Cobalt	mg/kg	10.3	52.5	54.9	41.8	45.9	60	65	75-125	9	20	МЗ
Lead	mg/kg	10	52.5	54.9	43.1	46.3	63	66	75-125	7	20	МЗ
Nickel	mg/kg	27.3	52.5	54.9	61.0	65.4	64	69	75-125	7	20	МЗ
Selenium	mg/kg	ND	52.5	54.9	40.9	43.6	78	79	75-125	6	20	
Silver	mg/kg	ND	26.2	27.4	23.1	24.3	87	88	75-125	5	20	
Thallium	mg/kg	ND	52.5	54.9	34.2	36.3	63	64	75-125	6	20	МЗ
Vanadium	mg/kg	23.6	52.5	54.9	69.5	71.8	88	88	75-125	3	20	
Zinc	mg/kg	53.8	52.5	54.9	87.0	91.9	63	69	75-125	6	20	МЗ

Results presented on 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:

LRN005

Pace Project No.:

50329130

QC Batch:

703189

Analysis Method:

EPA 6010

QC Batch Method:

**EPA 3010** 

Analysis Description:

6010 MET

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

50329130011

METHOD BLANK: 3232631

Matrix: Water

Associated Lab Samples: 50329130011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	6.0	10/30/22 15:36	
Arsenic	ug/L	ND	10.0	10/30/22 15:36	
Barium	ug/L	ND	5.0	10/30/22 15:36	
Beryllium	ug/L	ND	4.0	10/30/22 15:36	
Cadmium	ug/L	ND	1.0	10/30/22 15:36	
Chromium	ug/L	ND	4.0	10/30/22 15:36	
Cobalt	ug/L	ND	3.0	10/30/22 15:36	
Lead	ug/L	ND	5.0	10/30/22 15:36	
Nickel	ug/L	ND	3.0	10/31/22 10:32	
Selenium	ug/L	ND	10.0	10/30/22 15:36	
Silver	ug/L	ND	10.0	10/30/22 15:36	
Vanadium	ug/L	ND	10.0	10/30/22 15:36	
Zinc	ug/L	ND	10.0	10/30/22 15:36	

1	ARODAT	ODV C	CAMDI	□.	3232632

Date: 11/04/2022 03:17 PM

		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Antimony	ug/L	1000	1050	105	80-120	
Arsenic	ug/L	1000	1000	100	80-120	
Barium	ug/L	1000	1060	106	80-120	
Beryllium	ug/L	1000	1040	104	80-120	
Cadmium	ug/L	1000	1000	100	80-120	
Chromium	ug/L	1000	1030	103	80-120	
Cobalt	ug/L	1000	1000	100	80-120	
Lead	ug/L	1000	978	98	80-120	
Nickel	ug/L	1000	1040	104	80-120	
Selenium	ug/L	1000	1010	101	80-120	
Silver	ug/L	500	536	107	80-120	
Vanadium	ug/L	1000	1020	102	80-120	
Zinc	ug/L	1000	1030	103	80-120	

MATRIX SPIKE & MATRIX	SPIKE DUPLIC	CATE: 3232	633		3232634							
	5	50329146008	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Antimony	ug/L	ND	1000	1000	1030	1030	103	103	75-125	0	20	
Arsenic	ug/L	ND	1000	1000	1000	1010	100	101	75-125	1	20	

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Project: LRN005
Pace Project No.: 50329130

		50329146008	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	206	1000	1000	1240	1240	103	103	75-125	0	20	
Beryllium	ug/L	ND	1000	1000	1040	1040	104	104	75-125	0	20	
Cadmium	ug/L	ND	1000	1000	996	1000	100	100	75-125	1	20	
Chromium	ug/L	ND	1000	1000	1000	1010	100	100	75-125	0	20	
Cobalt	ug/L	ND	1000	1000	951	957	95	96	75-125	1	20	
Lead	ug/L	ND	1000	1000	919	929	92	93	75-125	1	20	
Nickel	ug/L	16.1	1000	1000	998	1000	98	99	75-125	1	20	
Selenium	ug/L	ND	1000	1000	1000	1020	100	102	75-125	1	20	
Silver	ug/L	ND	500	500	527	525	105	105	75-125	1	20	
/anadium	ug/L	ND	1000	1000	1040	1050	103	105	75-125	1	20	
Zinc	ug/L	ND	1000	1000	1010	1020	101	102	75-125	1	20	

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Project:

LRN005

Pace Project No.:

50329130

QC Batch:

702448

Analysis Method:

EPA 6020

QC Batch Method: EPA 200.2 Analysis Description:

6020 MET

Laboratory:

Blank

Result

Pace Analytical Services - Indianapolis

Associated Lab Samples:

50329130011

METHOD BLANK: 3229005

Matrix: Water

Associated Lab Samples:

50329130011

Parameter

Units

Reporting

Limit

Analyzed

Qualifiers

Thallium

ug/L

ND

10/26/22 17:35

LABORATORY CONTROL SAMPLE:

3229006

Spike Conc.

LCS Result

LCS % Rec % Rec Limits

Qualifiers

Thallium

Date: 11/04/2022 03:17 PM

Parameter Units ug/L

40

41.2

103

80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3229007

MSD

MS

3229008

MS

MSD

% Rec

Max

0 20

50328946002 Units Result

MS Spike Conc.

Spike Conc.

MSD Result

% Rec

% Rec

Limits **RPD** 

**RPD** 

Qual

Parameter Result Thallium ND 101 ug/L 40 40 40.4 40.6 101 75-125



Project: LRN005
Pace Project No.: 50329130

QC Batch: 703498 QC Batch Method: EPA 8260 Analysis Method: EPA 8260

Analysis Description: 8260 MSV

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50329130011

METHOD BLANK: 3234323

Date: 11/04/2022 03:17 PM

Matrix: Water

Associated Lab Samples: 50329130011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	5.0	10/29/22 10:25	
,1,1-Trichloroethane	ug/L	ND	5.0	10/29/22 10:25	
,1,2,2-Tetrachloroethane	ug/L	ND	5.0	10/29/22 10:25	
,1,2-Trichloroethane	ug/L	ND	5.0	10/29/22 10:25	
,1-Dichloroethane	ug/L	ND	5.0	10/29/22 10:25	
,1-Dichloroethene	ug/L	ND	5.0	10/29/22 10:25	
,2,4-Trichlorobenzene	ug/L	ND	5.0	10/29/22 10:25	
2,4-Trimethylbenzene	ug/L	ND	5.0	10/29/22 10:25	
,2-Dibromoethane (EDB)	ug/L	ND	5.0	10/29/22 10:25	
,2-Dichlorobenzene	ug/L	ND	5.0	10/29/22 10:25	
,2-Dichloroethane	ug/L	ND	5.0	10/29/22 10:25	
,2-Dichloropropane	ug/L	ND	5.0	10/29/22 10:25	
,3,5-Trimethylbenzene	ug/L	ND	5.0	10/29/22 10:25	
,3-Dichloropropane	ug/L	ND	5.0	10/29/22 10:25	
,4-Dichlorobenzene	ug/L	ND	5.0	10/29/22 10:25	
-Butanone (MEK)	ug/L	ND	25.0	10/29/22 10:25	
-Methyl-2-pentanone (MIBK)	ug/L	ND	25.0	10/29/22 10:25	
cetone	ug/L	ND	100	10/29/22 10:25	
enzene	ug/L	ND	5.0	10/29/22 10:25	
romodichloromethane	ug/L	ND	5.0	10/29/22 10:25	
romoform	ug/L	ND	5.0	10/29/22 10:25	
romomethane	ug/L	ND	5.0	10/29/22 10:25	
arbon disulfide	ug/L	ND	10.0	10/29/22 10:25	
arbon tetrachloride	ug/L	ND	5.0	10/29/22 10:25	
hlorobenzene	ug/L	ND	5.0	10/29/22 10:25	
hloroethane	ug/L	ND	5.0	10/29/22 10:25	
hloroform	ug/L	ND	5.0	10/29/22 10:25	
chloromethane	ug/L	ND	5.0	10/29/22 10:25	
is-1,2-Dichloroethene	ug/L	ND	5.0	10/29/22 10:25	
is-1,3-Dichloropropene	ug/L	ND	4.1	10/29/22 10:25	
ibromochloromethane	ug/L	ND	5.0	10/29/22 10:25	
Dibromomethane	ug/L	ND	5.0	10/29/22 10:25	
ichlorodifluoromethane	ug/L	ND	5.0	10/29/22 10:25	
thyl methacrylate	ug/L	ND	100	10/29/22 10:25	
thylbenzene	ug/L	ND	5.0	10/29/22 10:25	
sopropylbenzene (Cumene)	ug/L	ND	5.0	10/29/22 10:25	
lethyl-tert-butyl ether	ug/L	ND	4.0	10/29/22 10:25	
lethylene Chloride	ug/L	ND	5.0	10/29/22 10:25	
-Hexane	ug/L	ND	5.0	10/29/22 10:25	
laphthalene	ug/L	ND	1.4	10/29/22 10:25	

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Project: LRN005 50329130 Pace Project No.:

Date: 11/04/2022 03:17 PM

METHOD BLANK: 3234323 Matrix: Water

Associated Lab Samples: 50329130011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Styrene	ug/L	ND	5.0	10/29/22 10:25	
Tetrachloroethene	ug/L	ND	5.0	10/29/22 10:25	
Toluene	ug/L	ND	5.0	10/29/22 10:25	
trans-1,2-Dichloroethene	ug/L	ND	5.0	10/29/22 10:25	
trans-1,3-Dichloropropene	ug/L	ND	4.1	10/29/22 10:25	
Trichloroethene	ug/L	ND	5.0	10/29/22 10:25	
Trichlorofluoromethane	ug/L	ND	5.0	10/29/22 10:25	
Vinyl acetate	ug/L	ND	50.0	10/29/22 10:25	
Vinyl chloride	ug/L	ND	2.0	10/29/22 10:25	
Xylene (Total)	ug/L	ND	10.0	10/29/22 10:25	
4-Bromofluorobenzene (S)	%.	102	79-124	10/29/22 10:25	
Dibromofluoromethane (S)	%.	107	82-128	10/29/22 10:25	
Toluene-d8 (S)	%.	98	73-122	10/29/22 10:25	

LABORATORY CONTROL SAMPLE:	3234324					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	51.8	104	77-125	
1,1,1-Trichloroethane	ug/L	50	48.0	96	69-125	
1,1,2,2-Tetrachloroethane	ug/L	50	50.3	101	72-123	
1,1,2-Trichloroethane	ug/L	50	50.7	101	73-124	
1,1-Dichloroethane	ug/L	50	51.0	102	71-124	
1,1-Dichloroethene	ug/L	50	45.3	91	63-138	
1,2,4-Trichlorobenzene	ug/L	50	47.2	94	68-132	
1,2,4-Trimethylbenzene	ug/L	50	43.3	87	71-121	
1,2-Dibromoethane (EDB)	ug/L	50	51.0	102	75-123	
1,2-Dichlorobenzene	ug/L	50	47.5	95	76-118	
1,2-Dichloroethane	ug/L	50	55.3	111	68-126	
1,2-Dichloropropane	ug/L	50	54.5	109	73-127	
I,3,5-Trimethylbenzene	ug/L	50	42.0	84	72-120	
1,3-Dichloropropane	ug/L	50	52.4	105	77-125	
1,4-Dichlorobenzene	ug/L	50	45.0	90	74-118	
2-Butanone (MEK)	ug/L	250	251	101	57-130	
4-Methyl-2-pentanone (MIBK)	ug/L	250	270	108	58-134	
Acetone	ug/L	250	224	90	41-133	
Benzene	ug/L	50	50.0	100	76-121	
Bromodichloromethane	ug/L	50	54.4	109	72-125	
Bromoform	ug/L	50	52.7	105	57-134	
Bromomethane	ug/L	50	20.2	40	10-187	
Carbon disulfide	ug/L	50	42.2	84	59-125	
Carbon tetrachloride	ug/L	50	50.0	100	71-134	
Chlorobenzene	ug/L	50	48.8	98	74-119	
Chloroethane	ug/L	50	54.0	108	49-152	
Chloroform	ug/L	50	49.7	99	68-123	

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Project: LRN005
Pace Project No.: 50329130

Date: 11/04/2022 03:17 PM

ABORATORY CONTROL SAMPLE:	3234324					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Chloromethane	ug/L	50	31.4	63	33-133	
is-1,2-Dichloroethene	ug/L	50	47.3	95	73-122	
is-1,3-Dichloropropene	ug/L	50	52.5	105	69-128	
ibromochloromethane	ug/L	50	52.6	105	69-127	
ibromomethane	ug/L	50	54.3	109	74-126	
chlorodifluoromethane	ug/L	50	25.0	50	19-136	
thyl methacrylate	ug/L	50	50.8J	102	65-127	
thylbenzene	ug/L	50	45.3	91	74-122	
opropylbenzene (Cumene)	ug/L	50	43.2	86	75-124	
ethyl-tert-butyl ether	ug/L	50	56.0	112	71-125	
ethylene Chloride	ug/L	50	46.1	92	71-125	
Hexane	ug/L	50	40.4	81	60-132	
phthalene	ug/L	50	52.6	105	69-128	
rene	ug/L	50	47.6	95	74-126	
rachloroethene	ug/L	50	46.1	92	74-129	
uene	ug/L	50	44.3	89	70-118	
ns-1,2-Dichloroethene	ug/L	50	43.8	88	69-124	
ns-1,3-Dichloropropene	ug/L	50	51.8	104	66-125	
ichloroethene	ug/L	50	49.8	100	73-125	
ichlorofluoromethane	ug/L	50	46.0	92	56-139	
nyl acetate	ug/L	200	184	92	46-101	
nyl chloride	ug/L	50	37.0	74	46-134	
ene (Total)	ug/L	150	125	83	71-123	
Bromofluorobenzene (S)	%.			98	79-124	
bromofluoromethane (S)	%.			107	82-128	
luene-d8 (S)	%.			99	73-122	

MATRIX SPIKE & MATRIX SP	PIKE DUPI	LICATE: 3234	325 MS	MSD	3234326							
		50328969001	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	54.8	54.8	110	110	64-142	0	20	
1,1,1-Trichloroethane	ug/L	ND	50	50	48.9	49.8	98	100	60-143	2	20	
1,1,2,2-Tetrachloroethane	ug/L	ND	50	50	53.8	55.1	108	110	64-135	2	20	
1,1,2-Trichloroethane	ug/L	ND	50	50	52.2	54.8	104	110	66-137	5	20	
1,1-Dichloroethane	ug/L	ND	50	50	51.4	51.3	103	103	62-144	0	20	
1,1-Dichloroethene	ug/L	ND	50	50	45.5	45.4	91	91	55-158	0	20	
1,2,4-Trichlorobenzene	ug/L	ND	50	50	48.3	47.8	97	96	27-149	1	20	
1,2,4-Trimethylbenzene	ug/L	ND	50	50	45.1	45.3	90	91	41-140	0	20	
1,2-Dibromoethane (EDB)	ug/L	ND	50	50	52.5	53.9	105	108	68-136	3	20	
1,2-Dichlorobenzene	ug/L	ND	50	50	50.7	51.1	101	102	47-140	1	20	
1,2-Dichloroethane	ug/L	ND	50	50	55.9	56.6	112	113	61-144	1	20	
1,2-Dichloropropane	ug/L	ND	50	50	55.7	56.9	111	114	67-141	2	20	
1,3,5-Trimethylbenzene	ug/L	ND	50	50	44.3	44.5	89	89	40-141	1	20	
1,3-Dichloropropane	ug/L	ND	50	50	54.1	56.0	108	112	67-141	3	20	

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## **REPORT OF LABORATORY ANALYSIS**

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Project: LRN005
Pace Project No.: 50329130

Date: 11/04/2022 03:17 PM

MATRIX SPIKE & MATRIX SP	IKE DUP	LICATE: 3234	325		3234326							
			MS	MSD								
	44.5	50328969001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	-
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qua
,4-Dichlorobenzene	ug/L	ND	50	50	46.7	47.3	93	95	39-140	1	20	
2-Butanone (MEK)	ug/L	ND	250	250	247	253	99	101	49-149	2	20	
I-Methyl-2-pentanone MIBK)	ug/L	ND	250	250	269	278	107	111	50-152	3		
Acetone	ug/L	ND	250	250	215	219	86	88	23-157	2		
Benzene	ug/L	ND	50	50	50.6	51.6	101	103	68-139	2		
Bromodichloromethane	ug/L	ND	50	50	56.9	56.5	114	113	65-139	1		
Bromoform	ug/L	ND	50	50	53.6	54.7	107	109	51-139	2	20	
3romomethane	ug/L	ND	50	50	17.9	22.9	36	46	10-189	25	20	R1
Carbon disulfide	ug/L	ND	50	50	41.3	40.7	83	81	45-143	1	20	
Carbon tetrachloride	ug/L	ND	50	50	48.6	50.5	97	101	61-153	4	20	
Chlorobenzene	ug/L	ND	50	50	50.2	51.0	100	102	57-137	2	20	
Chloroethane	ug/L	ND	50	50	51.5	50.5	103	101	41-183	2	20	
Chloroform	ug/L	ND	50	50	51.0	52.1	102	104	61-138	2	20	
Chloromethane	ug/L	ND	50	50	32.0	32.8	64	66	25-150	2	20	
sis-1,2-Dichloroethene	ug/L	ND	50	50	49.4	50.1	99	100	58-142	2	20	
sis-1,3-Dichloropropene	ug/L	ND	50	50	52.2	54.4	104	109	53-140	4	20	
Dibromochloromethane	ug/L	ND	50	50	54.1	56.0	108	112	61-139	4	20	
Dibromomethane	ug/L	ND	50	50	56.3	57.1	113	114	69-138	1	20	
Dichlorodifluoromethane	ug/L	ND	50	50	25.4	25.3	51	51	10-150	0	20	
Ethyl methacrylate	ug/L	ND	50	50	51.8J	53.5J	104	107	57-141		20	
Ethylbenzene	ug/L	ND	50	50	47.1	48.1	94	96	54-141	2	20	
sopropylbenzene Cumene)	ug/L	ND	50	50	45.9	46.1	92	92	48-145	0		
Methyl-tert-butyl ether	ug/L	ND	50	50	56.7	57.7	113	115	62-143	2	20	
Methylene Chloride	ug/L	ND	50	50	46.0	46.8	92	94	59-141	2	20	
n-Hexane	ug/L	ND	50	50	40.2	40.8	80	82	44-145	2	20	
Naphthalene	ug/L	ND	50	50	53.3	54.3	107	109	56-136	2	20	
Styrene	ug/L	ND	50	50	47.8	48.7	96	97	51-146	2	20	
Tetrachloroethene	ug/L	ND	50	50	46.5	45.9	93	92	50-149	2	20	
Toluene	ug/L	ND	50	50	45.2	46.1	90	92	59-134	2	20	
rans-1,2-Dichloroethene	ug/L	ND	50	50	44.2	43.8	88	88	57-141	1	20	
rans-1,3-Dichloropropene	ug/L	ND	50	50	50.6	52.3	101	105	51-136	3	20	
richloroethene	ug/L	ND	50	50	48.3	47.9	97	96	55-147	1	20	
richlorofluoromethane	ug/L	ND	50	50	45.8	46.1	92	92	55-160	1	20	
/inyl acetate	ug/L	ND	200	200	178	182	89	91	24-109	2	20	
/inyl chloride	ug/L	ND	50	50	36.6	37.4	73	75	36-154	2		
(ylene (Total)	ug/L	ND	150	150	130	132	87	88	50-143	1		
I-Bromofluorobenzene (S)	%.						98	99	79-124	1		
Dibromofluoromethane (S)	%.						105	105	82-128			
Foluene-d8 (S)	%.						99	100	73-122			

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Project: LRN005
Pace Project No.: 50329130

Date: 11/04/2022 03:17 PM

QC Batch: 703261 Analysis Method: EPA 8260

QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50329130003, 50329130004, 50329130005, 50329130006, 50329130007, 50329130008, 50329130009,

50329130010, 50329130012

METHOD BLANK: 3233054 Matrix: Solid

Associated Lab Samples: 50329130003, 50329130004, 50329130005, 50329130006, 50329130007, 50329130008, 50329130009,

50329130010, 50329130012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	mg/kg	ND	0.0050	10/28/22 14:32	
1,1,1-Trichloroethane	mg/kg	ND	0.0050	10/28/22 14:32	
1,1,2,2-Tetrachloroethane	mg/kg	ND	0.0050	10/28/22 14:32	
1,1,2-Trichloroethane	mg/kg	ND	0.0050	10/28/22 14:32	
1,1-Dichloroethane	mg/kg	ND	0.0050	10/28/22 14:32	
1,1-Dichloroethene	mg/kg	ND	0.0050	10/28/22 14:32	
1,2,4-Trichlorobenzene	mg/kg	ND	0.0050	10/28/22 14:32	
1,2,4-Trimethylbenzene	mg/kg	ND	0.0050	10/28/22 14:32	
1,2-Dibromoethane (EDB)	mg/kg	ND	0.00075	10/28/22 14:32	
1,2-Dichlorobenzene	mg/kg	ND	0.0050	10/28/22 14:32	
1,2-Dichloroethane	mg/kg	ND	0.0050	10/28/22 14:32	
1,2-Dichloropropane	mg/kg	ND	0.0050	10/28/22 14:32	
1,3,5-Trimethylbenzene	mg/kg	ND	0.0050	10/28/22 14:32	
1,3-Dichloropropane	mg/kg	ND	0.0050	10/28/22 14:32	
1,4-Dichlorobenzene	mg/kg	ND	0.0050	10/28/22 14:32	
2-Butanone (MEK)	mg/kg	ND	0.025	10/28/22 14:32	
4-Methyl-2-pentanone (MIBK)	mg/kg	ND	0.025	10/28/22 14:32	
Acetone	mg/kg	ND	0.10	10/28/22 14:32	
Benzene	mg/kg	ND	0.0050	10/28/22 14:32	
Bromodichloromethane	mg/kg	ND	0.0050	10/28/22 14:32	
Bromoform	mg/kg	ND	0.0050	10/28/22 14:32	
Bromomethane	mg/kg	ND	0.0050	10/28/22 14:32	
Carbon disulfide	mg/kg	ND	0.010	10/28/22 14:32	
Carbon tetrachloride	mg/kg	ND	0.0050	10/28/22 14:32	
Chlorobenzene	mg/kg	ND	0.0050	10/28/22 14:32	
Chloroethane	mg/kg	ND	0.0050	10/28/22 14:32	
Chloroform	mg/kg	ND	0.0050	10/28/22 14:32	
Chloromethane	mg/kg	ND	0.0050	10/28/22 14:32	
cis-1,2-Dichloroethene	mg/kg	ND	0.0050	10/28/22 14:32	
cis-1,3-Dichloropropene	mg/kg	ND	0.0050	10/28/22 14:32	
Dibromochloromethane	mg/kg	ND	0.0050	10/28/22 14:32	
Dibromomethane	mg/kg	ND	0.0050	10/28/22 14:32	
Dichlorodifluoromethane	mg/kg	ND	0.0050	10/28/22 14:32	
Ethyl methacrylate	mg/kg	ND	0.10	10/28/22 14:32	
Ethylbenzene	mg/kg	ND	0.0050	10/28/22 14:32	
Isopropylbenzene (Cumene)	mg/kg	ND	0.0050	10/28/22 14:32	
Methyl-tert-butyl ether	mg/kg	ND	0.0050	10/28/22 14:32	
Methylene Chloride	mg/kg	ND	0.020	10/28/22 14:32	
n-Hexane	mg/kg	ND	0.0050	10/28/22 14:32	

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## **QUALITY CONTROL DATA**

Project: LRN005 Pace Project No.: 50329130

Date: 11/04/2022 03:17 PM

METHOD BLANK: 3233054 Matrix: Solid

50329130003, 50329130004, 50329130005, 50329130006, 50329130007, 50329130008, 50329130009, Associated Lab Samples:

50329130010, 50329130012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Naphthalene	mg/kg	ND	0.0050	10/28/22 14:32	
Styrene	mg/kg	ND	0.0050	10/28/22 14:32	
Tetrachloroethene	mg/kg	ND	0.0050	10/28/22 14:32	
Toluene	mg/kg	ND	0.0050	10/28/22 14:32	
trans-1,2-Dichloroethene	mg/kg	ND	0.0050	10/28/22 14:32	
trans-1,3-Dichloropropene	mg/kg	ND	0.0050	10/28/22 14:32	
Trichloroethene	mg/kg	ND	0.0050	10/28/22 14:32	
Trichlorofluoromethane	mg/kg	ND	0.0050	10/28/22 14:32	
Vinyl acetate	mg/kg	ND	0.10	10/28/22 14:32	
Vinyl chloride	mg/kg	ND	0.0050	10/28/22 14:32	
Xylene (Total)	mg/kg	ND	0.010	10/28/22 14:32	
4-Bromofluorobenzene (S)	%.	101	63-129	10/28/22 14:32	
Dibromofluoromethane (S)	%.	105	62-146	10/28/22 14:32	1d
Toluene-d8 (S)	%.	96	68-143	10/28/22 14:32	

LABORATORY CONTROL SAMPLE:	3233055					
-		Spike	LCS	LCS	% Rec	0 110
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
1,1,1,2-Tetrachloroethane	mg/kg	0.05	0.045	89	73-121	
1,1,1-Trichloroethane	mg/kg	0.05	0.040	81	60-122	
1,1,2,2-Tetrachloroethane	mg/kg	0.05	0.044	87	60-129	
1,1,2-Trichloroethane	mg/kg	0.05	0.045	90	69-126	
1,1-Dichloroethane	mg/kg	0.05	0.040	80	62-124	
1,1-Dichloroethene	mg/kg	0.05	0.040	80	57-133	
1,2,4-Trichlorobenzene	mg/kg	0.05	0.044	89	46-131	
1,2,4-Trimethylbenzene	mg/kg	0.05	0.043	87	57-119	
1,2-Dibromoethane (EDB)	mg/kg	0.05	0.046	92	62-134	
1,2-Dichlorobenzene	mg/kg	0.05	0.043	86	65-116	
1,2-Dichloroethane	mg/kg	0.05	0.041	83	63-127	
1,2-Dichloropropane	mg/kg	0.05	0.041	82	64-124	
1,3,5-Trimethylbenzene	mg/kg	0.05	0.042	83	58-118	
1,3-Dichloropropane	mg/kg	0.05	0.045	90	74-123	
1,4-Dichlorobenzene	mg/kg	0.05	0.043	86	59-117	
2-Butanone (MEK)	mg/kg	0.25	0.21	83	53-123	
1-Methyl-2-pentanone (MIBK)	mg/kg	0.25	0.25	102	54-130	
Acetone	mg/kg	0.25	0.18	73	21-145	
Benzene	mg/kg	0.05	0.040	80	65-124	
Bromodichloromethane	mg/kg	0.05	0.042	83	71-121	
Bromoform	mg/kg	0.05	0.043	86	65-120	
Bromomethane	mg/kg	0.05	0.041	81	35-155	
Carbon disulfide	mg/kg	0.05	0.037	74	50-125	
Carbon tetrachloride	mg/kg	0.05	0.042	83	63-129	
Chlorobenzene	mg/kg	0.05	0.041	83	64-118	

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## **REPORT OF LABORATORY ANALYSIS**

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Project: LRN005
Pace Project No.: 50329130

Date: 11/04/2022 03:17 PM

LABORATORY CONTROL SAMPLE:	3233055					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Chloroethane	mg/kg	0.05	0.041	82	41-144	
Chloroform	mg/kg	0.05	0.037	75	60-118	
Chloromethane	mg/kg	0.05	0.047	94	34-127	
cis-1,2-Dichloroethene	mg/kg	0.05	0.040	79	65-121	
cis-1,3-Dichloropropene	mg/kg	0.05	0.046	91	69-124	
Dibromochloromethane	mg/kg	0.05	0.045	89	69-126	
Dibromomethane	mg/kg	0.05	0.041	82	71-120	
Dichlorodifluoromethane	mg/kg	0.05	0.054	107	10-134	
Ethyl methacrylate	mg/kg	0.05	.044J	87	63-123	
Ethylbenzene	mg/kg	0.05	0.042	84	63-119	
Isopropylbenzene (Cumene)	mg/kg	0.05	0.042	85	61-122	
Methyl-tert-butyl ether	mg/kg	0.05	0.043	87	63-128	
Methylene Chloride	mg/kg	0.05	0.032	64	54-141	
n-Hexane	mg/kg	0.05	0.039	79	49-119	
Naphthalene	mg/kg	0.05	0.039	78	56-124	
Styrene	mg/kg	0.05	0.043	87	65-119	
Tetrachloroethene	mg/kg	0.05	0.043	85	60-122	
Toluene	mg/kg	0.05	0.040	81	61-117	
trans-1,2-Dichloroethene	mg/kg	0.05	0.039	79	61-121	
trans-1,3-Dichloropropene	mg/kg	0.05	0.045	90	68-122	
Trichloroethene	mg/kg	0.05	0.042	83	63-123	
Trichlorofluoromethane	mg/kg	0.05	0.046	92	44-137	
Vinyl acetate	mg/kg	0.2	0.18	92	36-96	
Vinyl chloride	mg/kg	0.05	0.048	97	37-136	
Xylene (Total)	mg/kg	0.15	0.12	82	61-120	
4-Bromofluorobenzene (S)	%.			98	63-129	
Dibromofluoromethane (S)	%.			92	62-146	
Toluene-d8 (S)	%.			101	68-143	

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Project:

LRN005

Pace Project No.:

50329130

QC Batch: QC Batch Method: 702720 **EPA 3546** 

Analysis Method:

EPA 8015 Mod Ext

Analysis Description:

EPA 8015 TPH Ohio

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

50329130001, 50329130002, 50329130003, 50329130004, 50329130005, 50329130006, 50329130007,

50329130008, 50329130009, 50329130010

METHOD BLANK: 3230248

Matrix: Solid

Associated Lab Samples:

Date: 11/04/2022 03:17 PM

50329130001, 50329130002, 50329130003, 50329130004, 50329130005, 50329130006, 50329130007,

50329130008, 50329130009, 50329130010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/kg	ND	19.7	10/26/22 17:06	
TPH (C10-C20)	mg/kg	ND	9.9	10/26/22 17:06	
TPH (C20-C34)	mg/kg	ND	9.9	10/26/22 17:06	
n-Pentacosane (S)	%.	90	10-157	10/26/22 17:06	

LABORATORY CONTROL SAMPLE:

		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/kg	83.1	69.7	84	45-114	
n-Pentacosane (S)	%.			102	10-157	



Project:

LRN005

Pace Project No.:

50329130

QC Batch: QC Batch Method: 702615

Analysis Method:

EPA 8082

EPA 3546

Analysis Description:

8082 PCB Solids

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

50329130001, 50329130002, 50329130003, 50329130004, 50329130005, 50329130006

METHOD BLANK: 3229840

Matrix: Solid

Associated Lab Samples:

Date: 11/04/2022 03:17 PM

50329130001, 50329130002, 50329130003, 50329130004, 50329130005, 50329130006

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	mg/kg	ND	0.096	10/26/22 15:54	
PCB-1221 (Aroclor 1221)	mg/kg	ND	0.096	10/26/22 15:54	
PCB-1232 (Aroclor 1232)	mg/kg	ND	0.096	10/26/22 15:54	
PCB-1242 (Aroclor 1242)	mg/kg	ND	0.096	10/26/22 15:54	
PCB-1248 (Aroclor 1248)	mg/kg	ND	0.096	10/26/22 15:54	
PCB-1254 (Aroclor 1254)	mg/kg	ND	0.096	10/26/22 15:54	
PCB-1260 (Aroclor 1260)	mg/kg	ND	0.096	10/26/22 15:54	
Tetrachloro-m-xylene (S)	%.	80	36-112	10/26/22 15:54	

LABORATORY	CONTROL	CAMPIE	2220044
LABURATURY	CONTROL	SAMPLE:	3//9841

ELECTRICATION CONTINUE CO.	0220041	Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
PCB-1016 (Aroclor 1016)	mg/kg	0.32	0.28	88	52-128	
PCB-1260 (Aroclor 1260)	mg/kg	0.32	0.29	92	30-128	
Tetrachloro-m-xylene (S)	%.			81	36-112	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:	3229842	3229843
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Parameter	Units	50329140001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
PCB-1016 (Aroclor 1016)	mg/kg	ND	0.34	0.34	0.29	0.29	86	83	10-150	3	20	
PCB-1260 (Aroclor 1260)	mg/kg	ND	0.34	0.34	0.29	0.28	84	82	10-140	2	20	
Tetrachloro-m-xylene (S)	%.						78	78	36-112			

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Project: LRN005 Pace Project No.: 50329130

Date: 11/04/2022 03:17 PM

QC Batch: 702986

Analysis Method: QC Batch Method: **EPA 3546** Analysis Description: 8082 PCB Solids

> Laboratory: Pace Analytical Services - Indianapolis

EPA 8082

Associated Lab Samples: 50329130007, 50329130008, 50329130009, 50329130010

METHOD BLANK: 3231651 Matrix: Solid

Associated Lab Samples: 50329130007, 50329130008, 50329130009, 50329130010

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	mg/kg	ND	0.099	10/28/22 19:24	
PCB-1221 (Aroclor 1221)	mg/kg	ND	0.099	10/28/22 19:24	
PCB-1232 (Aroclor 1232)	mg/kg	ND	0.099	10/28/22 19:24	
PCB-1242 (Aroclor 1242)	mg/kg	ND	0.099	10/28/22 19:24	
PCB-1248 (Aroclor 1248)	mg/kg	ND	0.099	10/28/22 19:24	
PCB-1254 (Aroclor 1254)	mg/kg	ND	0.099	10/28/22 19:24	
PCB-1260 (Aroclor 1260)	mg/kg	ND	0.099	10/28/22 19:24	
Tetrachloro-m-xylene (S)	%.	73	36-112	10/28/22 19:24	

LABORATORY CONTROL SAMPLE: 3231652 LCS LCS Spike % Rec Parameter Units Conc. Result % Rec Limits Qualifiers

PCB-1016 (Aroclor 1016) 0.32 0.28 86 52-128 mg/kg PCB-1260 (Aroclor 1260) mg/kg 0.32 0.26 81 30-128 Tetrachloro-m-xylene (S) %. 76 36-112

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3231654 3231653

Parameter	Units	50329388019 Result	Spike Conc.	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
PCB-1016 (Aroclor 1016)	mg/kg	ND	0.32	0.32	0.26	0.25	81	79	10-150	1	20	100
PCB-1260 (Aroclor 1260)	mg/kg	ND	0.32	0.32	0.26	0.20	80	62	10-140	25	20	R1
Tetrachloro-m-xylene (S)	%.						67	67	36-112			

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Project:

LRN005

Pace Project No.:

50329130

QC Batch:

703705

Analysis Method:

EPA 8082

QC Batch Method:

EPA 3510

Analysis Description:

8082 GCS PCB Mod

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

Date: 11/04/2022 03:17 PM

50329130011

METHOD BLANK: 3235007

Matrix: Water

Associated Lab Samples:

50329130011

Parameter	Units	Result	Reporting Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/L	ND	0.10	11/01/22 19:27	
PCB-1221 (Aroclor 1221)	ug/L	ND	0.10	11/01/22 19:27	
PCB-1232 (Aroclor 1232)	ug/L	ND	0.10	11/01/22 19:27	
PCB-1242 (Aroclor 1242)	ug/L	ND	0.10	11/01/22 19:27	
PCB-1248 (Aroclor 1248)	ug/L	ND	0.10	11/01/22 19:27	
PCB-1254 (Aroclor 1254)	ug/L	ND	0.10	11/01/22 19:27	
PCB-1260 (Aroclor 1260)	ug/L	ND	0.10	11/01/22 19:27	
Tetrachloro-m-xylene (S)	%.	61	10-117	11/01/22 19:27	

LABODATODY	CONTROL	CALIDIE	0005000
LABORATORY	CONTROL	SAMPLE:	3235008

EABORATORY CONTROL CAMILLE	020000	Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/L	5	6.8	136	46-160	
PCB-1260 (Aroclor 1260)	ug/L	5	6.3	127	35-155	
Tetrachloro-m-xylene (S)	%.			57	10-117	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:	3235009	3235010
--	---------	---------

Parameter	Units	50329479001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
PCB-1016 (Aroclor 1016)	ug/L	<0.067	5	5	6.7	5.5	133	111	10-172	18	20	
PCB-1260 (Aroclor 1260)	ug/L	< 0.051	5	5	5.7	4.8	114	95	10-148	17	20	
Tetrachloro-m-xylene (S)	%.						75	77	10-117			

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Project: LRN005
Pace Project No.: 50329130

QC Batch: 702537

QC Batch Method: EPA 3546

Analysis Method: EPA 8270

Analysis Description:

8270 Solid MSSV Microwave Short Spike

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples: 50329130005, 50329130006

METHOD BLANK: 3229417

Date: 11/04/2022 03:17 PM

Matrix: Solid

Associated Lab Samples: 50329130005, 50329130006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
2,4,5-Trichlorophenol	mg/kg	ND	0.33	10/27/22 18:38	
2,4,6-Trichlorophenol	mg/kg	ND	0.33	10/27/22 18:38	
2,4-Dichlorophenol	mg/kg	ND	0.33	10/27/22 18:38	
2,4-Dimethylphenol	mg/kg	ND	0.33	10/27/22 18:38	
2,4-Dinitrophenol	mg/kg	ND	1.6	10/27/22 18:38	
2,4-Dinitrotoluene	mg/kg	ND	0.33	10/27/22 18:38	
2,6-Dinitrotoluene	mg/kg	ND	0.33	10/27/22 18:38	
2-Chloronaphthalene	mg/kg	ND	0.33	10/27/22 18:38	
2-Chlorophenol	mg/kg	ND	0.33	10/27/22 18:38	
2-Methylnaphthalene	mg/kg	ND	0.33	10/27/22 18:38	
2-Methylphenol(o-Cresol)	mg/kg	ND	0.33	10/27/22 18:38	
3&4-Methylphenol(m&p Cresol)	mg/kg	ND	0.66	10/27/22 18:38	
4-Chloro-3-methylphenol	mg/kg	ND	0.66	10/27/22 18:38	
4-Chloroaniline	mg/kg	ND	0.66	10/27/22 18:38	
Acenaphthene	mg/kg	ND	0.33	10/27/22 18:38	
Acenaphthylene	mg/kg	ND	0.33	10/27/22 18:38	
Anthracene	mg/kg	ND	0.33	10/27/22 18:38	
Benzo(a)anthracene	mg/kg	ND	0.33	10/27/22 18:38	
Benzo(a)pyrene	mg/kg	ND	0.33	10/27/22 18:38	
Benzo(b)fluoranthene	mg/kg	ND	0.33	10/27/22 18:38	
Benzo(g,h,i)perylene	mg/kg	ND	0.33	10/27/22 18:38	
Benzo(k)fluoranthene	mg/kg	ND	0.33	10/27/22 18:38	
bis(2-Chloroethoxy)methane	mg/kg	ND	0.33	10/27/22 18:38	
bis(2-Chloroethyl) ether	mg/kg	ND	0.33	10/27/22 18:38	
bis(2-Ethylhexyl)phthalate	mg/kg	ND	0.33	10/27/22 18:38	
bis(2chloro1methylethyl) ether	mg/kg	ND	0.33	10/27/22 18:38	
Butylbenzylphthalate	mg/kg	ND	0.33	10/27/22 18:38	
Chrysene	mg/kg	ND	0.33	10/27/22 18:38	
Di-n-butylphthalate	mg/kg	ND	0.33	10/27/22 18:38	
Di-n-octylphthalate	mg/kg	ND	0.33	10/27/22 18:38	
Dibenz(a,h)anthracene	mg/kg	ND	0.33	10/27/22 18:38	
Diethylphthalate	mg/kg	ND	0.33	10/27/22 18:38	
Fluoranthene	mg/kg	ND	0.33	10/27/22 18:38	
Fluorene	mg/kg	ND	0.33	10/27/22 18:38	
Hexachlorocyclopentadiene	mg/kg	ND	0.33	10/27/22 18:38	
Hexachloroethane	mg/kg	ND	0.33	10/27/22 18:38	
Indeno(1,2,3-cd)pyrene	mg/kg	ND	0.33	10/27/22 18:38	
Isophorone	mg/kg	ND	0.33	10/27/22 18:38	
N-Nitroso-di-n-propylamine	mg/kg	ND	0.33	10/27/22 18:38	
N-Nitrosodiphenylamine	mg/kg	ND	0.33	10/27/22 18:38	

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Project: LRN005
Pace Project No.: 50329130

Date: 11/04/2022 03:17 PM

METHOD BLANK: 3229417 Matrix: Solid

Associated Lab Samples: 50329130005, 50329130006

Parameter Units	Result	Limit	Analyzed	Qualifiers
Naphthalene mg/kg	ND .	0.33	10/27/22 18:38	
Nitrobenzene mg/kg	ND	0.33	10/27/22 18:38	
Phenanthrene mg/kg	ND	0.33	10/27/22 18:38	
Phenol mg/kg	ND	0.33	10/27/22 18:38	
Pyrene mg/kg	ND	0.33	10/27/22 18:38	
2,4,6-Tribromophenol (S) %.	80	10-123	10/27/22 18:38	
P-Fluorobiphenyl (S) %.	73	36-100	10/27/22 18:38	
?-Fluorophenol (S) %.	81	22-114	10/27/22 18:38	
Nitrobenzene-d5 (S) %.	70	35-110	10/27/22 18:38	
p-Terphenyl-d14 (S) %.	97	29-117	10/27/22 18:38	
Phenol-d5 (S) %.	81	35-115	10/27/22 18:38	

LABORATORY CONTROL SAMPLE:	3229418					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
2,4-Dinitrotoluene	mg/kg	1.6	1.6	96	57-115	
2-Chlorophenol	mg/kg	1.6	1.3	79	55-103	
2-Methylnaphthalene	mg/kg	1.6	1.2	75	53-108	
4-Chloro-3-methylphenol	mg/kg	1.6	1.5	93	60-121	
Acenaphthene	mg/kg	1.6	1.3	81	57-102	
Acenaphthylene	mg/kg	1.6	1.3	81	56-103	
Anthracene	mg/kg	1.6	1.3	79	62-106	
Benzo(a)anthracene	mg/kg	1.6	1.4	86	63-110	
Benzo(a)pyrene	mg/kg	1.6	1.3	82	60-114	
Benzo(b)fluoranthene	mg/kg	1.6	1.3	78	61-119	
Benzo(g,h,i)perylene	mg/kg	1.6	1.3	81	62-109	
Benzo(k)fluoranthene	mg/kg	1.6	1.4	86	59-115	
Chrysene	mg/kg	1.6	1.4	86	61-109	
Dibenz(a,h)anthracene	mg/kg	1.6	1.3	79	62-111	
Fluoranthene	mg/kg	1.6	1.5	92	65-113	
Fluorene	mg/kg	1.6	1.5	89	60-109	
Indeno(1,2,3-cd)pyrene	mg/kg	1.6	1.3	81	62-111	
N-Nitroso-di-n-propylamine	mg/kg	1.6	1.2	72	51-105	
Naphthalene	mg/kg	1.6	1.2	73	53-103	
Phenanthrene	mg/kg	1.6	1.3	82	62-108	
Phenol	mg/kg	1.6	1.3	77	45-112	
Pyrene	mg/kg	1.6	1.4	87	61-113	
2,4,6-Tribromophenol (S)	%.			83	10-123	
2-Fluorobiphenyl (S)	%.			77	36-100	
2-Fluorophenol (S)	%.			83	22-114	
Nitrobenzene-d5 (S)	%.			74	35-110	
p-Terphenyl-d14 (S)	%.			96	29-117	
Phenol-d5 (S)	%.			86	35-115	

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Project: LRN005
Pace Project No.: 50329130

Date: 11/04/2022 03:17 PM

MATRIX SPIKE & MATRIX SF	PIKE DUPLIC	CATE: 3229		1.02.23	3229420							
	5	0329130006	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qua
2,4-Dinitrotoluene	mg/kg	ND	1.7	1.7	1.2	1.2	68	70	10-126	2	20	
2-Chlorophenol	mg/kg	ND	1.7	1.7	1.3	1.2	71	68	15-119	5	20	
2-Methylnaphthalene	mg/kg	ND	1.7	1.7	1.2	1.3	69	73	24-122	4	20	
4-Chloro-3-methylphenol	mg/kg	ND	1.7	1.7	1.4	1.4	80	79	20-139	2	20	
Acenaphthene	mg/kg	ND	1.7	1.7	1.2	1.3	71	72	18-123	1	20	
Acenaphthylene	mg/kg	ND	1.7	1.7	1.3	1.2	72	71	17-120	2	20	
Anthracene	mg/kg	ND	1.7	1.7	1.2	1.2	68	71	16-126	2	20	
Benzo(a)anthracene	mg/kg	ND	1.7	1.7	1.3	1.3	73	74	10-145	0	20	
Benzo(a)pyrene	mg/kg	ND	1.7	1.7	1.2	1.2	69	72	10-136	3	20	
Benzo(b)fluoranthene	mg/kg	ND	1.7	1.7	1.3	1.2	73	71	10-147	3	20	
Benzo(g,h,i)perylene	mg/kg	ND	1.7	1.7	1.2	1.2	67	70	10-128	3	20	
Benzo(k)fluoranthene	mg/kg	ND	1.7	1.7	1.2	1.3	68	72	10-137	6	20	
Chrysene	mg/kg	ND	1.7	1.7	1.3	1.4	76	79	10-141	3	20	
Dibenz(a,h)anthracene	mg/kg	ND	1.7	1.7	1.2	1.2	67	69	10-130	2	20	
Fluoranthene	mg/kg	ND	1.7	1.7	1.4	1.4	79	83	10-151	4	20	
Fluorene	mg/kg	ND	1.7	1.7	1.3	1.3	73	76	17-131	3	20	
ndeno(1,2,3-cd)pyrene	mg/kg	ND	1.7	1.7	1.2	1.3	70	72	10-132	2	20	
N-Nitroso-di-n-propylamine	mg/kg	ND	1.7	1.7	1.1	1.1	64	63	21-118	3	20	
Naphthalene	mg/kg	ND	1.7	1.7	1.2	1.2	66	68	21-122	2	20	
Phenanthrene	mg/kg	ND	1.7	1.7	1.3	1.3	74	75	10-141	0	20	
Phenol	mg/kg	ND	1.7	1.7	1.2	1.2	71	69	17-120	4	20	
Pyrene	mg/kg	ND	1.7	1.7	1.4	1.4	78	79	10-150	0	20	
2,4,6-Tribromophenol (S)	%.						63	66	10-123			
2-Fluorobiphenyl (S)	%.						62	64	36-100			
2-Fluorophenol (S)	%.						74	73	22-114			
Nitrobenzene-d5 (S)	%.						63	62	35-110			
o-Terphenyl-d14 (S)	%.						75	78	29-117			
Phenol-d5 (S)	%.						79	74	35-115			

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Project: LF

LRN005

Pace Project No.:

50329130

QC Batch:

702616

Analysis Method:

EPA 8270

QC Batch Method:

EPA 3546

Analysis Description:

8270 Solid MSSV Microwave Short Spike

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

Date: 11/04/2022 03:17 PM

50329130001, 50329130002

METHOD BLANK: 3229844

Matrix: Solid

Associated Lab Samples: 50329130001, 50329130002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
2,4,5-Trichlorophenol	mg/kg	ND	0.33	10/26/22 17:38	•
2,4,6-Trichlorophenol	mg/kg	ND	0.33	10/26/22 17:38	
2,4-Dichlorophenol	mg/kg	ND	0.33	10/26/22 17:38	
2,4-Dimethylphenol	mg/kg	ND	0.33	10/26/22 17:38	
2,4-Dinitrophenol	mg/kg	ND	1.6	10/26/22 17:38	
2,4-Dinitrotoluene	mg/kg	ND	0.33	10/26/22 17:38	
2,6-Dinitrotoluene	mg/kg	ND	0.33	10/26/22 17:38	
2-Chloronaphthalene	mg/kg	ND	0.33	10/26/22 17:38	
2-Chlorophenol	mg/kg	ND	0.33	10/26/22 17:38	
2-Methylnaphthalene	mg/kg	ND	0.33	10/26/22 17:38	
2-Methylphenol(o-Cresol)	mg/kg	ND	0.33	10/26/22 17:38	
3&4-Methylphenol(m&p Cresol)	mg/kg	ND	0.65	10/26/22 17:38	
4-Chloro-3-methylphenol	mg/kg	ND	0.65	10/26/22 17:38	
4-Chloroaniline	mg/kg	ND	0.65	10/26/22 17:38	
Acenaphthene	mg/kg	ND	0.33	10/26/22 17:38	
Acenaphthylene	mg/kg	ND	0.33	10/26/22 17:38	
Anthracene	mg/kg	ND	0.33	10/26/22 17:38	
Benzo(a)anthracene	mg/kg	ND	0.33	10/26/22 17:38	
Benzo(a)pyrene	mg/kg	ND	0.33	10/26/22 17:38	
Benzo(b)fluoranthene	mg/kg	ND	0.33	10/26/22 17:38	
Benzo(g,h,i)perylene	mg/kg	ND	0.33	10/26/22 17:38	
Benzo(k)fluoranthene	mg/kg	ND	0.33	10/26/22 17:38	
ois(2-Chloroethoxy)methane	mg/kg	ND	0.33	10/26/22 17:38	
bis(2-Chloroethyl) ether	mg/kg	ND	0.33	10/26/22 17:38	
bis(2-Ethylhexyl)phthalate	mg/kg	ND	0.33	10/26/22 17:38	
bis(2chloro1methylethyl) ether	mg/kg	ND	0.33	10/26/22 17:38	
Butylbenzylphthalate	mg/kg	ND	0.33	10/26/22 17:38	
Chrysene	mg/kg	ND	0.33	10/26/22 17:38	
Di-n-butylphthalate	mg/kg	ND	0.33	10/26/22 17:38	
Di-n-octylphthalate	mg/kg	ND	0.33	10/26/22 17:38	
Dibenz(a,h)anthracene	mg/kg	ND	0.33	10/26/22 17:38	
Diethylphthalate	mg/kg	ND	0.33	10/26/22 17:38	
Fluoranthene	mg/kg	ND	0.33	10/26/22 17:38	
Fluorene	mg/kg	ND	0.33	10/26/22 17:38	
Hexachlorocyclopentadiene	mg/kg	ND	0.33	10/26/22 17:38	
Hexachloroethane	mg/kg	ND	0.33	10/26/22 17:38	
Indeno(1,2,3-cd)pyrene	mg/kg	ND	0.33	10/26/22 17:38	
Isophorone	mg/kg	ND	0.33	10/26/22 17:38	
N-Nitroso-di-n-propylamine	mg/kg	ND	0.33	10/26/22 17:38	
N-Nitrosodiphenylamine	mg/kg	ND	0.33	10/26/22 17:38	

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Project: LRN005 Pace Project No.: 50329130

Date: 11/04/2022 03:17 PM

METHOD BLANK: 3229844 Matrix: Solid

Associated Lab Samples: 50329130001, 50329130002

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Naphthalene	mg/kg	ND	0.33	10/26/22 17:38	
Nitrobenzene	mg/kg	ND	0.33	10/26/22 17:38	
Phenanthrene	mg/kg	ND	0.33	10/26/22 17:38	
Phenol	mg/kg	ND	0.33	10/26/22 17:38	
Pyrene	mg/kg	ND	0.33	10/26/22 17:38	
2,4,6-Tribromophenol (S)	%.	86	10-123	10/26/22 17:38	
2-Fluorobiphenyl (S)	%.	77	36-100	10/26/22 17:38	
2-Fluorophenol (S)	%.	84	22-114	10/26/22 17:38	
Nitrobenzene-d5 (S)	%.	74	35-110	10/26/22 17:38	
p-Terphenyl-d14 (S)	%.	85	29-117	10/26/22 17:38	
Phenol-d5 (S)	%.	85	35-115	10/26/22 17:38	

LABORATORY CONTROL SAMPLE:	3229845					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
2,4-Dinitrotoluene	mg/kg	1.6	1.3	77	57-115	
2-Chlorophenol	mg/kg	1.6	1.2	75	55-103	
2-Methylnaphthalene	mg/kg	1.6	1.2	72	53-108	
4-Chloro-3-methylphenol	mg/kg	1.6	1.4	83	60-121	
Acenaphthene	mg/kg	1.6	1.3	77	57-102	
Acenaphthylene	mg/kg	1.6	1.3	77	56-103	
Anthracene	mg/kg	1.6	1.2	75	62-106	
Benzo(a)anthracene	mg/kg	1.6	1.3	82	63-110	
Benzo(a)pyrene	mg/kg	1.6	1.3	78	60-114	
Benzo(b)fluoranthene	mg/kg	1.6	1.3	79	61-119	
Benzo(g,h,i)perylene	mg/kg	1.6	1.2	76	62-109	
Benzo(k)fluoranthene	mg/kg	1.6	1.3	79	59-115	
Chrysene	mg/kg	1.6	1.3	80	61-109	
Dibenz(a,h)anthracene	mg/kg	1.6	1.2	76	62-111	
Fluoranthene	mg/kg	1.6	1.4	84	65-113	
Fluorene	mg/kg	1.6	1.3	80	60-109	
Indeno(1,2,3-cd)pyrene	mg/kg	1.6	1.3	78	62-111	
N-Nitroso-di-n-propylamine	mg/kg	1.6	1.1	68	51-105	
Naphthalene	mg/kg	1.6	1.2	70	53-103	
Phenanthrene	mg/kg	1.6	1.3	79	62-108	
Phenol	mg/kg	1.6	1.2	75	45-112	
Pyrene	mg/kg	1.6	1.3	82	61-113	
2,4,6-Tribromophenol (S)	%.			80	10-123	
2-Fluorobiphenyl (S)	%.			73	36-100	
2-Fluorophenol (S)	%.			79	22-114	
Nitrobenzene-d5 (S)	%.			69	35-110	
p-Terphenyl-d14 (S)	%.			81	29-117	
Phenol-d5 (S)	%.			81	35-115	

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Project: LRN005
Pace Project No.: 50329130

Date: 11/04/2022 03:17 PM

QC Batch: 704284 Analysis Method: EPA 8270

QC Batch Method: EPA 3546 Analysis Description: 8270 Solid MSSV Microwave Short Spike

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50329130003, 50329130004, 50329130007, 50329130008, 50329130009, 50329130010

METHOD BLANK: 3237680 Matrix: Solid

Associated Lab Samples: 50329130003, 50329130004, 50329130007, 50329130008, 50329130009, 50329130010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
2,4,5-Trichlorophenol	mg/kg	ND	0.33	11/03/22 21:42	
2,4,6-Trichlorophenol	mg/kg	ND	0.33	11/03/22 21:42	
2,4-Dichlorophenol	mg/kg	ND	0.33	11/03/22 21:42	
2,4-Dimethylphenol	mg/kg	ND	0.33	11/03/22 21:42	
2,4-Dinitrophenol	mg/kg	ND	1.6	11/03/22 21:42	
2,4-Dinitrotoluene	mg/kg	ND	0.33	11/03/22 21:42	
2,6-Dinitrotoluene	mg/kg	ND	0.33	11/03/22 21:42	
2-Chloronaphthalene	mg/kg	ND	0.33	11/03/22 21:42	
2-Chlorophenol	mg/kg	ND	0.33	11/03/22 21:42	
2-Methylnaphthalene	mg/kg	ND	0.33	11/03/22 21:42	
2-Methylphenol(o-Cresol)	mg/kg	ND	0.33	11/03/22 21:42	
3&4-Methylphenol(m&p Cresol)	mg/kg	ND	0.66	11/03/22 21:42	
4-Chloro-3-methylphenol	mg/kg	ND	0.66	11/03/22 21:42	
4-Chloroaniline	mg/kg	ND	0.66	11/03/22 21:42	
Acenaphthene	mg/kg	ND	0.33	11/03/22 21:42	
Acenaphthylene	mg/kg	ND	0.33	11/03/22 21:42	
Anthracene	mg/kg	ND	0.33	11/03/22 21:42	
Benzo(a)anthracene	mg/kg	ND	0.33	11/03/22 21:42	
Benzo(a)pyrene	mg/kg	ND	0.33	11/03/22 21:42	
Benzo(b)fluoranthene	mg/kg	ND	0.33	11/03/22 21:42	
Benzo(g,h,i)perylene	mg/kg	ND	0.33	11/03/22 21:42	
Benzo(k)fluoranthene	mg/kg	ND	0.33	11/03/22 21:42	
bis(2-Chloroethoxy)methane	mg/kg	ND	0.33	11/03/22 21:42	
bis(2-Chloroethyl) ether	mg/kg	ND	0.33	11/03/22 21:42	
bis(2-Ethylhexyl)phthalate	mg/kg	ND	0.33	11/03/22 21:42	
bis(2chloro1methylethyl) ether	mg/kg	ND	0.33	11/03/22 21:42	
Butylbenzylphthalate	mg/kg	ND	0.33	11/03/22 21:42	
Chrysene	mg/kg	ND	0.33	11/03/22 21:42	
Di-n-butylphthalate	mg/kg	ND	0.33	11/03/22 21:42	
Di-n-octylphthalate	mg/kg	ND	0.33	11/03/22 21:42	
Dibenz(a,h)anthracene	mg/kg	ND	0.33	11/03/22 21:42	
Diethylphthalate	mg/kg	ND	0.33	11/03/22 21:42	
Fluoranthene	mg/kg	ND	0.33	11/03/22 21:42	
Fluorene	mg/kg	ND	0.33	11/03/22 21:42	
Hexachlorocyclopentadiene	mg/kg	ND	0.33	11/03/22 21:42	
Hexachloroethane	mg/kg	ND	0.33	11/03/22 21:42	
Indeno(1,2,3-cd)pyrene	mg/kg	ND	0.33	11/03/22 21:42	
Isophorone	mg/kg	ND	0.33	11/03/22 21:42	
N-Nitroso-di-n-propylamine	mg/kg	ND	0.33	11/03/22 21:42	
N-Nitrosodiphenylamine	mg/kg	ND	0.33	11/03/22 21:42	

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

#### **REPORT OF LABORATORY ANALYSIS**

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Project: LRN005
Pace Project No.: 50329130

Date: 11/04/2022 03:17 PM

METHOD BLANK: 3237680 Matrix: Solid

Associated Lab Samples: 50329130003, 50329130004, 50329130007, 50329130008, 50329130009, 50329130010

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Naphthalene	mg/kg	ND	0.33	11/03/22 21:42	
Nitrobenzene	mg/kg	ND	0.33	11/03/22 21:42	
Phenanthrene	mg/kg	ND	0.33	11/03/22 21:42	
Phenol	mg/kg	ND	0.33	11/03/22 21:42	
Pyrene	mg/kg	ND	0.33	11/03/22 21:42	
2,4,6-Tribromophenol (S)	%.	63	10-123	11/03/22 21:42	
2-Fluorobiphenyl (S)	%.	71	36-100	11/03/22 21:42	
2-Fluorophenol (S)	%.	77	22-114	11/03/22 21:42	
Nitrobenzene-d5 (S)	%.	67	35-110	11/03/22 21:42	
p-Terphenyl-d14 (S)	%.	78	29-117	11/03/22 21:42	
Phenol-d5 (S)	%.	82	35-115	11/03/22 21:42	

LABORATORY CONTROL SAMPLE:	3237681					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
2,4-Dinitrotoluene	mg/kg	1.6	1.2	74	57-115	
2-Chlorophenol	mg/kg	1.6	1.4	83	55-103	
2-Methylnaphthalene	mg/kg	1.6	1.3	80	53-108	
4-Chloro-3-methylphenol	mg/kg	1.6	1.5	89	60-121	
Acenaphthene	mg/kg	1.6	1.4	82	57-102	
Acenaphthylene	mg/kg	1.6	1.4	83	56-103	
Anthracene	mg/kg	1.6	1.3	82	62-106	
Benzo(a)anthracene	mg/kg	1.6	1.4	86	63-110	
Benzo(a)pyrene	mg/kg	1.6	1.4	82	60-114	
Benzo(b)fluoranthene	mg/kg	1.6	1.3	79	61-119	
Benzo(g,h,i)perylene	mg/kg	1.6	1.4	83	62-109	
Benzo(k)fluoranthene	mg/kg	1.6	1.4	84	59-115	
Chrysene	mg/kg	1.6	1.4	87	61-109	
Dibenz(a,h)anthracene	mg/kg	1.6	1.4	83	62-111	
Fluoranthene	mg/kg	1.6	1.4	82	65-113	
Fluorene	mg/kg	1.6	1.4	85	60-109	
Indeno(1,2,3-cd)pyrene	mg/kg	1.6	1.4	86	62-111	
N-Nitroso-di-n-propylamine	mg/kg	1.6	1.2	72	51-105	
Naphthalene	mg/kg	1.6	1.2	75	53-103	
Phenanthrene	mg/kg	1.6	1.3	82	62-108	
Phenol	mg/kg	1.6	1.3	81	45-112	
Pyrene	mg/kg	1.6	1.5	93	61-113	
2,4,6-Tribromophenol (S)	%.			70	10-123	
2-Fluorobiphenyl (S)	%.			75	36-100	
2-Fluorophenol (S)	%.			84	22-114	
Nitrobenzene-d5 (S)	%.			72	35-110	
p-Terphenyl-d14 (S)	%.			83	29-117	
Phenol-d5 (S)	%.			89	35-115	

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## **REPORT OF LABORATORY ANALYSIS**

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Project: LRN005
Pace Project No.: 50329130

Date: 11/04/2022 03:17 PM

MATRIX SPIKE & MATRIX SF	IKE DUPLIC	ATE: 3237	682 MS	MSD	3237683							
	50	0329250002	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qua
2,4-Dinitrotoluene	mg/kg	ND	2	2.2	.37J	0.86	18	41	10-126		20	
2-Chlorophenol	mg/kg	ND	2	2.2	1.2	1.2	56	59	15-119	5	20	
2-Methylnaphthalene	mg/kg	ND	2	2.2	1.2	1.3	56	61	24-122	9	20	
4-Chloro-3-methylphenol	mg/kg	ND	2	2.2	1.3	1.3	61	62	20-139	2	20	
Acenaphthene	mg/kg	ND	2	2.2	1.1	1.2	54	59	18-123	10	20	
Acenaphthylene	mg/kg	ND	2	2.2	0.95	1.2	46	57	17-120	23	20	R1
Anthracene	mg/kg	ND	2	2.2	1.0	1.1	49	54	16-126	9	20	
Benzo(a)anthracene	mg/kg	ND	2	2.2	1.0	1.1	49	54	10-145	10	20	
Benzo(a)pyrene	mg/kg	ND	2	2.2	0.83	1.0	40	48	10-136	18	20	
Benzo(b)fluoranthene	mg/kg	ND	2	2.2	0.85	1.1	41	52	10-147	24	20	R1
Benzo(g,h,i)perylene	mg/kg	ND	2	2.2	0.78	0.95	37	45	10-128	20	20	
Benzo(k)fluoranthene	mg/kg	ND	2	2.2	0.92	0.94	44	45	10-137	2	20	
Chrysene	mg/kg	ND	2	2.2	0.97	1.1	47	51	10-141	10	20	
Dibenz(a,h)anthracene	mg/kg	ND	2	2.2	0.82	0.96	40	46	10-130	16	20	
Fluoranthene	mg/kg	ND	2	2.2	1.1	1.1	51	53	10-151	4	20	
Fluorene	mg/kg	ND	2	2.2	1.1	1.2	55	59	17-131	7	20	
Indeno(1,2,3-cd)pyrene	mg/kg	ND	2	2.2	0.82	1.0	39	48	10-132	20	20	
N-Nitroso-di-n-propylamine	mg/kg	ND	2	2.2	1.0	1.1	50	54	21-118	8	20	
Naphthalene	mg/kg	ND	2	2.2	1.1	1.2	51	59	21-122	15	20	
Phenanthrene	mg/kg	ND	2	2.2	1.1	1.2	55	57	10-141	4	20	
Phenol	mg/kg	ND	2	2.2	1.2	1.2	59	59	17-120	0	20	
Pyrene	mg/kg	ND	2	2.2	1.2	1.3	56	60	10-150	7	20	
2,4,6-Tribromophenol (S)	%.						39	45	10-123			
2-Fluorobiphenyl (S)	%.						49	56	36-100			
2-Fluorophenol (S)	%.						55	59	22-114			
Nitrobenzene-d5 (S)	%.						38	50	35-110			
p-Terphenyl-d14 (S)	%.						47	50	29-117			
Phenol-d5 (S)	%.						61	63	35-115			

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Project: LRN005
Pace Project No.: 50329130

QC Batch Method:

QC Batch: 703118

Analysis Method: EPA 8270 by SIM

Analysis Description:

8270 Water PAH Low Volume

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples: 50329130011

EPA 3510

METHOD BLANK: 3232375

Date: 11/04/2022 03:17 PM

Matrix: Water

Associated Lab Samples: 50329130011

Blank Reporting Parameter Units Result Limit Qualifiers Analyzed 2-Methylnaphthalene ND 1.0 10/28/22 17:32 ug/L Acenaphthene ug/L ND 10/28/22 17:32 1.0 Acenaphthylene ug/L ND 10/28/22 17:32 1.0 Anthracene ug/L ND 0.10 10/28/22 17:32 Benzo(a)anthracene ug/L ND 0.10 10/28/22 17:32 Benzo(a)pyrene ug/L ND 0.10 10/28/22 17:32 Benzo(b)fluoranthene ND 0.10 10/28/22 17:32 ug/L Benzo(g,h,i)perylene ug/L ND 0.10 10/28/22 17:32 Benzo(k)fluoranthene ug/L ND 0.10 10/28/22 17:32 Chrysene ND 0.50 10/28/22 17:32 ug/L ND 0.092 10/28/22 17:32 Dibenz(a,h)anthracene ug/L Fluoranthene ug/L ND 1.0 10/28/22 17:32 ug/L Fluorene ND 1.0 10/28/22 17:32 Indeno(1,2,3-cd)pyrene 0.10 10/28/22 17:32 ug/L ND Naphthalene ug/L ND 1.0 10/28/22 17:32 Phenanthrene ug/L ND 1.0 10/28/22 17:32 Pyrene ug/L ND 1.0 10/28/22 17:32 2-Fluorobiphenyl (S) %. 39 13-97 10/28/22 17:32 p-Terphenyl-d14 (S) %. 29-110 10/28/22 17:32 73

LABORATORY CONTROL SAMPLE:	3232376					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
2-Methylnaphthalene	ug/L	10	5.5	55	27-94	
Acenaphthene	ug/L	10	6.2	62	33-97	
Acenaphthylene	ug/L	10	6.4	64	38-110	
Anthracene	ug/L	10	7.3	73	40-111	
Benzo(a)anthracene	ug/L	10	9.8	98	39-132	
Benzo(a)pyrene	ug/L	10	8.1	81	32-128	
Benzo(b)fluoranthene	ug/L	10	7.8	78	27-126	
Benzo(g,h,i)perylene	ug/L	10	7.3	73	26-109	
Benzo(k)fluoranthene	ug/L	10	9.0	90	29-121	
Chrysene	ug/L	10	7.3	73	37-114	
Dibenz(a,h)anthracene	ug/L	10	7.7	77	24-111	
Fluoranthene	ug/L	10	9.2	92	42-123	
Fluorene	ug/L	10	7.5	75	38-110	
Indeno(1,2,3-cd)pyrene	ug/L	10	8.1	81	25-109	
Naphthalene	ug/L	10	5.0	50	28-94	
Phenanthrene	ug/L	10	7.6	76	41-111	

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Project: LRN005
Pace Project No.: 50329130

Date: 11/04/2022 03:17 PM

LABORATORY CONTROL SAMPLE:	3232376					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Pyrene	ug/L	10	8.6	86	43-118	
2-Fluorobiphenyl (S)	%.			37	13-97	
p-Terphenyl-d14 (S)	%.			61	29-110	



EPA 8270

Project: LRN005
Pace Project No.: 50329130

2-Chlorophenol

Date: 11/04/2022 03:17 PM

QC Batch: 703116 Analysis Method:

QC Batch Method: EPA 3510 Analysis Description: 8270 Water Scan LV

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50329130011

METHOD BLANK: 3232367 Matrix: Water

Associated Lab Samples: 50329130011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
,4,5-Trichlorophenol	ug/L	ND	10.0	10/28/22 17:31	,
,4,6-Trichlorophenol	ug/L	ND	9.0	10/28/22 17:31	
4-Dichlorophenol	ug/L	ND	10.0	10/28/22 17:31	
4-Dimethylphenol	ug/L	ND	10.0	10/28/22 17:31	
4-Dinitrophenol	ug/L	ND	50.0	10/28/22 17:31	
I-Dinitrotoluene	ug/L	ND	10.0	10/28/22 17:31	
-Dinitrotoluene	ug/L	ND	10.0	10/28/22 17:31	
hloronaphthalene	ug/L	ND	10.0	10/28/22 17:31	
hlorophenol	ug/L	ND	10.0	10/28/22 17:31	
lethylphenol(o-Cresol)	ug/L	ND	10.0	10/28/22 17:31	
-Methylphenol(m&p Cresol)	ug/L	ND	10.0	10/28/22 17:31	
hloro-3-methylphenol	ug/L	ND	10.0	10/28/22 17:31	
nloroaniline	ug/L	ND	10.0	10/28/22 17:31	
-Chloroethoxy)methane	ug/L	ND	10.0	10/28/22 17:31	
-Chloroethyl) ether	ug/L	ND	10.0	10/28/22 17:31	
P-Ethylhexyl)phthalate	ug/L	ND	5.0	10/28/22 17:31	
chloro1methylethyl) ether	ug/L	ND	10.0	10/28/22 17:31	
Ibenzylphthalate	ug/L	ND	10.0	10/28/22 17:31	
butylphthalate	ug/L	ND	10.0	10/28/22 17:31	
-octylphthalate	ug/L	ND	10.0	10/28/22 17:31	
hylphthalate	ug/L	ND	10.0	10/28/22 17:31	
achlorocyclopentadiene	ug/L	ND	10.0	10/28/22 17:31	
achloroethane	ug/L	ND	10.0	10/28/22 17:31	
horone	ug/L	ND	10.0	10/28/22 17:31	
itroso-di-n-propylamine	ug/L	ND	50.0	10/28/22 17:31	
itrosodiphenylamine	ug/L	ND	10.0	10/28/22 17:31	
benzene	ug/L	ND	5.0	10/28/22 17:31	
nol	ug/L	ND	10.0	10/28/22 17:31	
6-Tribromophenol (S)	%.	55	37-160	10/28/22 17:31	
uorophenol (S)	%.	29	10-84	10/28/22 17:31	
obenzene-d5 (S)	%.	47	17-127	10/28/22 17:31	2d
enol-d5 (S)	%.	21	10-65	10/28/22 17:31	

LABORATORY CONTROL SAMPLE:	3232368					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
2,4-Dimethylphenol	ug/L	100	64.5	64	36-130	C
2,4-Dinitrotoluene	ug/L	100	77.3	77	51-143	

100

ug/L

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58.0

58

33-115



Project: LRN005
Pace Project No.: 50329130

Date: 11/04/2022 03:17 PM

LABORATORY CONTROL SAMPLE:	3232368					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
4-Chloro-3-methylphenol	ug/L	100	80.0	80	44-145	
bis(2-Ethylhexyl)phthalate	ug/L	100	91.0	91	50-161	
N-Nitroso-di-n-propylamine	ug/L	100	71.9	72	36-130	
Phenol	ug/L	100	45.4	45	14-71	
2,4,6-Tribromophenol (S)	%.			58	37-160	
2-Fluorophenol (S)	%.			38	10-84	
Nitrobenzene-d5 (S)	%.			46	17-127	
Phenol-d5 (S)	%.			34	10-65	



Project:

LRN005

Pace Project No.:

50329130

QC Batch:

702818

Analysis Method:

SM 2540G

QC Batch Method: SM 2540G Analysis Description:

Dry Weight/Percent Moisture

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

50329130001, 50329130002, 50329130003, 50329130004, 50329130005, 50329130006, 50329130007

SAMPLE DUPLICATE: 3230706

Parameter

50328868003

Dup Result

Max

Qualifiers

Percent Moisture

Units %

Result 4.5

4.8

5

5 N2

SAMPLE DUPLICATE: 3230707

Date: 11/04/2022 03:17 PM

50329130001 Result

Dup Result

**RPD** 

**RPD** 

Max **RPD** 

**RPD** 

Qualifiers

Parameter Percent Moisture

Units %

10.5

10.9

5 N2



Project:

LRN005

Pace Project No.:

50329130

QC Batch:

702820

Analysis Method:

SM 2540G

QC Batch Method: SM 2540G Analysis Description:

Dry Weight/Percent Moisture

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

50329130008, 50329130009, 50329130010

SAMPLE DUPLICATE: 3230711

Parameter

50328950005

Dup

Max

Qualifiers

Percent Moisture

Units %

Result 9.1 Result 8.9 **RPD** 2

5 N2

5 N2

SAMPLE DUPLICATE: 3230712

50328950011

Dup Result

**RPD** 

Max

**RPD** 

Parameter Percent Moisture

Units %

Result 22.6

22.4

**RPD** 

Qualifiers



#### **QUALIFIERS**

Project: LRN005
Pace Project No.: 50329130

#### **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: 11/04/2022 03:17 PM

1d	A matrix spike/matrix spike duplicate could not be performed for this batch due to insufficient sample volume.
2d	A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

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

N2 The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

R1 RPD value was outside control limits.

S8 Surrogate recovery outside laboratory control limits due to matrix interferences (confirmed by similar results from sample re-extraction and/or re-analysis)



## **METHOD CROSS REFERENCE TABLE**

Project: LRN005
Pace Project No.: 50329130

Parameter	Matrix Analytical Method		Preparation Method	
010 MET ICP	Solid	SW-846 6010B	SW-846 3050B	
010 MET ICP	Water	SW-846 6010B	SW-846 3010A	
020 MET ICPMS	Water	SW-846 6020	SW-846 3010A	
470 Mercury	Water	SW-846 7470A	SW-846 7470A	
471 Mercury	Solid	SW-846 7471A	SW-846 7471A	
015 TPH Ohio Microwave	Solid	SW-846 8015D	SW-846 3546	
015D Gasoline Range Organics	Solid	SW-846 8015A	SW-846 5030A	
082 GCS PCB RV Waters	Water	SW-846 8082A	SW-846 3510C	
082 PCB Solids	Solid	SW-846 8082A	SW-846 3546	
260 MSV 5035A VOA	Solid	SW-846 8260C	SW-846 5035A	
260/5030 MSV	Water	SW-846 8260C	SW-846 5030B	
270 100mL Combo RV	Water	SW-846 8270C	SW-846 3510C	
270 SVOC Combo Water	Water	SW-846 8270C	SW-846 3510C	
270 SVOC SS Soil	Solid	SW-846 8270C	SW-846 3546	



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

Project: LRN005
Pace Project No.: 50329130

Date: 11/04/2022 03:17 PM

ab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytica Batch
0329130001	LRN005:VSB-6:S000020	EPA 3546	702720	EPA 8015 Mod Ext	702848
0329130002	LRN005:VSB-6:S020040	EPA 3546	702720	EPA 8015 Mod Ext	702848
0329130003	LRN005:VMW-5:S000020	EPA 3546	702720	EPA 8015 Mod Ext	702848
0329130004	LRN005:VMW-5:S050070	EPA 3546	702720	EPA 8015 Mod Ext	702848
0329130005	LRN005:VMW-4:S000020	EPA 3546	702720	EPA 8015 Mod Ext	702848
0329130006	LRN005:VMW-4:S050070	EPA 3546	702720	EPA 8015 Mod Ext	702848
0329130007	LRN005:VMW-3:S000020	EPA 3546	702720	EPA 8015 Mod Ext	702848
0329130008	LRN005:VMW-3:S040050	EPA 3546	702720	EPA 8015 Mod Ext	702848
329130009	LRN005:VMW-1:S000020	EPA 3546	702720	EPA 8015 Mod Ext	702848
329130010	LRN005:VMW-1:S070090	EPA 3546	702720	EPA 8015 Mod Ext	702848
329130001	LRN005:VSB-6:S000020	EPA 3546	702615	EPA 8082	702746
329130002	LRN005:VSB-6:S020040	EPA 3546	702615	EPA 8082	702746
329130003	LRN005:VMW-5:S000020	EPA 3546	702615	EPA 8082	702746
329130004	LRN005:VMW-5:S050070	EPA 3546	702615	EPA 8082	702746
0329130005	LRN005:VMW-4:S000020	EPA 3546	702615	EPA 8082	702746
329130006	LRN005:VMW-4:S050070	EPA 3546	702615	EPA 8082	702746
0329130007	LRN005:VMW-3:S000020	EPA 3546	702986	EPA 8082	703068
0329130008	LRN005:VMW-3:S040050	EPA 3546	702986	EPA 8082	703068
329130009	LRN005:VMW-1:S000020	EPA 3546	702986	EPA 8082	703068
329130010	LRN005:VMW-1:S070090	EPA 3546	702986	EPA 8082	703068
329130011	LRN005:EB-1:W102422	EPA 3510	703705	EPA 8082	703850
329130003	LRN005:VMW-5:S000020	EPA 8015D	703053		
329130004	LRN005:VMW-5:S050070	EPA 8015D	703053		
329130005	LRN005:VMW-4:S000020	EPA 8015D	703053		
329130006	LRN005:VMW-4:S050070	EPA 8015D	703053		
329130007	LRN005:VMW-3:S000020	EPA 8015D	703053		
329130008	LRN005:VMW-3:S040050	EPA 8015D	703053		
329130009	LRN005:VMW-1:S000020	EPA 8015D	703053		
329130010	LRN005:VMW-1:S070090	EPA 8015D	703053		
329130001	LRN005:VSB-6:S000020	EPA 3050	703226	EPA 6010	703923
329130002	LRN005:VSB-6:S020040	EPA 3050	703226	EPA 6010	703923
329130003	LRN005:VMW-5:S000020	EPA 3050	703226	EPA 6010	703923
329130004	LRN005:VMW-5:S050070	EPA 3050	703226	EPA 6010	703923
329130005	LRN005:VMW-4:S000020	EPA 3050	703226	EPA 6010	703923
329130006	LRN005:VMW-4:S050070	EPA 3050	703226	EPA 6010	703923
329130007	LRN005:VMW-3:S000020	EPA 3050	703226	EPA 6010	703923
329130008	LRN005:VMW-3:S040050	EPA 3050	703226	EPA 6010	703923
329130009	LRN005:VMW-1:S000020	EPA 3050	703226	EPA 6010	703923
329130010	LRN005:VMW-1:S070090	EPA 3050	703226	EPA 6010	703923
329130011	LRN005:EB-1:W102422	EPA 3010	703189	EPA 6010	703399
0329130011	LRN005:EB-1:W102422	EPA 200.2	702448	EPA 6020	702636
0329130011	LRN005:EB-1:W102422	EPA 7470	702576	EPA 7470	702649
329130001	LRN005:VSB-6:S000020	EPA 7471	702653	EPA 7471	702839
0329130002	LRN005:VSB-6:S020040	EPA 7471	702653	EPA 7471	702839

# **REPORT OF LABORATORY ANALYSIS**

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

Project: LRN005
Pace Project No.: 50329130

Date: 11/04/2022 03:17 PM

_ab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytica Batch
50329130003	LRN005:VMW-5:S000020	EPA 7471	702653	EPA 7471	702839
50329130004	LRN005:VMW-5:S050070	EPA 7471	702653	EPA 7471	702839
0329130005	LRN005:VMW-4:S000020	EPA 7471	702653	EPA 7471	702839
0329130006	LRN005:VMW-4:S050070	EPA 7471	702653	EPA 7471	702839
0329130007	LRN005:VMW-3:S000020	EPA 7471	702653	EPA 7471	702839
0329130008	LRN005:VMW-3:S040050	EPA 7471	702653	EPA 7471	702839
0329130009	LRN005:VMW-1:S000020	EPA 7471	702653	EPA 7471	702839
0329130010	LRN005:VMW-1:S070090	EPA 7471	702653	EPA 7471	702839
0329130001	LRN005:VSB-6:S000020	EPA 3546	702616	EPA 8270	702864
	LRN005:VSB-6:S020040				
0329130002	LKN005:V5B-0:S020040	EPA 3546	702616	EPA 8270	702864
0329130003	LRN005:VMW-5:S000020	EPA 3546	704284	EPA 8270	704355
0329130004	LRN005:VMW-5:S050070	EPA 3546	704284	EPA 8270	704355
0329130005	LRN005:VMW-4:S000020	EPA 3546	702537	EPA 8270	703082
0329130006	LRN005:VMW-4:S050070	EPA 3546	702537	EPA 8270	703082
0329130007	LRN005:VMW-3:S000020	EPA 3546	704284	EPA 8270	704355
0329130007	LRN005:VMW-3:S040050	EPA 3546	704284	EPA 8270	704355
0329130009	LRN005:VMW-1:S000020	EPA 3546	704284	EPA 8270	704355
0329130003	LRN005:VMW-1:S070090	EPA 3546	704284	EPA 8270	704355
0329130011	LRN005:EB-1:W102422	EPA 3510	703118	EPA 8270 by SIM	703310
0329130011	LRN005:EB-1:W102422	EPA 3510	703116	EPA 8270	703309
0329130011	LRN005:EB-1:W102422	EPA 8260	703498		
0329130003	LRN005:VMW-5:S000020	EPA 8260	703261		
0329130004	LRN005:VMW-5:S050070	EPA 8260	703261		
0329130005	LRN005:VMW-4:S000020	EPA 8260	703261		
0329130006	LRN005:VMW-4:S050070	EPA 8260	703261		
0329130007	LRN005:VMW-3:S000020	EPA 8260	703261		
0329130008	LRN005:VMW-3:S040050	EPA 8260	703261		
0329130009	LRN005:VMW-1:S000020	EPA 8260	703261		
0329130010	LRN005:VMW-1:S070090	EPA 8260	703261		
0329130012	LRN005:TB-1:W102422	EPA 8260	703261		
0329130001	LRN005:VSB-6:S000020	SM 2540G	702818		
0329130002	LRN005:VSB-6:S020040	SM 2540G	702818		
0329130003	LRN005:VMW-5:S000020	SM 2540G	702818		
0329130004	LRN005:VMW-5:S050070	SM 2540G	702818		
0329130005	LRN005:VMW-4:S000020	SM 2540G	702818		
0329130006	LRN005:VMW-4:S050070	SM 2540G	702818		
0329130007	LRN005:VMW-3:S000020	SM 2540G	702818		
0329130008	LRN005:VMW-3:S040050	SM 2540G	702820		
0329130009	LRN005:VMW-1:S000020	SM 2540G	702820		



# CHAIN OF CUSTODY RECO

WO#:50329130

			1
PAGE	1	OF _	

NO. 2189

Dublin, OH         Newark, OH           6397 Emerald Pkwy         59 Grant St.           Suite 200         Newark, OH 43055	4770 Duke Dr. 4 Hem	isphere Way 21	9 S. Erie St.	St. Clairsville, OH  156 Woodrow Avenue  Suite 3	Pitts burgh, PA 300 Merchant Ln., Suite 307	5032	9130				HE			- de	ataadmin	
Suite 200 Newark, OH 43055  Dublin, OH 43016 P: (740) 344-5451			(419) 385-2018	St. Clairsville, OH 43950	Pittsburgh, PA 15205		/				A	ANALYSE	S			
P: (614) 793-8777	P: (513) 459-9677			P: (740) 217-2460	P: (412) 446-0315	PRESE	RVATIVE	s	/	/	/	//				
Client: City of Long Site: St. Oe's hose Project #: ISO 11 Samplers: Julia Belop Purchase Order # ISO 11 - C	Phase: II	AA.A C-AS D-SE G-Gr IA-IN L-LE P-PR S-SC SG-S SS-S VAPI	SOIL GAS SUBSLAB	A-Cool only, <4 deg. C B-HNO <sub>3</sub> pH<2 C-H <sub>2</sub> SO <sub>4</sub> pH<2 D-NaOH pH>12 E-ZnAcetate + NaOH, pH>9 F-Na <sub>2</sub> S2 O <sub>3</sub> (0.008%) G-HCL pH <2	SERVATIVES H-EDTA I-5ml 1:1 HCL J-none K-Stored in dark L-NH4CI M-Methanol S-Sodium	METALS  N - Not filtered  F45u- filtered with 0.45 micron  F5u- filtered with 5 micron	/{	5/2/2	Mo	Pro metals	The	ALTH DRO	" THEKO			
PROJECT NO.: SAMPLE LOC	ATION : SAMPLE MA	TRIX & ID NO	O. OF CONT.	SAMPLE TYPE (discrete, composite)	COLLECTION DATE/TIME	METALS	/ ->	10	1	10	1	1 2	<b>&gt;</b>		COMMEN	ITS
LPWOOF SB-6	50000	20	١	p	10124122/11:12			X	X	Х	Х				01	
LIENO05: 5B-6	50800		١	D	10/24/22/11:12			х	X	X	Х	10/2	5/22tn	ıs	002	
LRHOOT MW-S	50000		6	D	10124122/10:37		X	×	X	X	X	×			03	
LRN005 MW-5	\$0500		٥	a	10124/72/10:39		X	X	X	X	X	Y			004	
LPNOOS MW-4	50000	30	6	ь	1012417/12:12	2	×	χ	X	X	X	X			005	
LRWOOS WW-4	50500		6	7	10/24/2/12:17		X	X	Y	×	r	x			006	
LRNOOS MW-3	200003	20	6	Ω	10/24/22/13:06		X	X	X	Χ	X	X			007	
LENDOS MW-3	204005	0	6	D	10/24/22/13:10		X	x	X	X	X	X			008	
LRINGOS MUL-1	50000	00	(0	ь	10124122/14:48		x	X	x	*	+	X			09	
URNOOS MW-1	:50700	90	6	b	10124122/14:53	2	X	X	x	*	*	+			610	
LRN005 EB-1		422	8	D	16:55 16:55		X	X	X	X					oll	
LRNOS: TB-1		422	1				х									
RELINQUISHED BY:	DATE: 10/24/7	50 F		xpress	DATE: 1924/22 TIME: 5'.50		Deliver	То:		Par	eli	rdia	na pol	, 21	N	
RELINQUISHED BY:	DATE: /4/25/2	₹ RE	CEIVED BY:	3/7	DATE: 10/25/22		Method	of Delive	ery:	Fee	HEY		10.	-		_
FEDER	TIME: 0900	4	CEIVED BY:		TIME: OSOO		Airbill N					-73	334	91	90	
RELINQUISHED BY:	DATE:	- RE	OCIVED BY.		DATE: TIME:		1	tory Progred Limits:	ram:	Ch	OV	AP		- 60		_
COOLER TEMPERATURE AS RECEIVED	TIME: °C	DIS	STRIBUTION:	WHITE	-LAB USE (MUST BE RETURN) -LAB USE	ED WITH REPOR		NOTES		pac	e pr	of 16				_
				PINK	-RETAINED BY HULL			TURN A	ROUND	TIME:		S	tan	dar	Page 106 c	)T 108 YS



# SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents	s:	MTZ 1	0/25/22 093	•				
1. Courier: ☐ FED EX ☐ UPS ☐ CLIENT ☐ PA	CE 🗆	USPS	OTHER	5. Packing Material:	☐ Bubble Wrap	Bubble	e Bags	
2. Custody Seal on Cooler/Box Present: Yes	□ No			, 1	□ None	☐ Other		-
(If yes)Seals Intact: Yes D No (leave blank	if no seals	were prese	ent)					
3. Thermometer: 123456 ABC DEF	:			6. Ice Type:	☐ Blue ☐ None			
4. Cooler Temperature(s): 6.7/67 [Initial/Corrected] RECORD TEMPS OF ALL COOLERS RECE	IVED (use Co	mmente belev		7. If temp. is over 6°C or u	nder 0°C, was the PM			□ No
				omments section below.	Silould be above free	Zing to 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?: Excepany container with a	ing acid/base preservation h ations: VOA, coliform, LLHg, septum cap or preserved with	O&G, RAD CHEM, and			
Short Hold Time Analysis (48 hours or less)? Analysis:				(<2) NaOH (>10) NaOH/Zr to pH recommendations will be				, 31
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: 0	845				Present	Absent	N/A
			Residual Chlorine C	Check (SVOC 625 Pest/PCB	608)			_
Rush TAT Requested (4 days or less):		-	Residual Chlorine C	Check (Total/Amenable/Free	Cyanide)			_
Custody Signatures Present?	_		Headspace Wiscons	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?:		/		
COMMENTS:								
Add SVOC, VAP metals, PCB, a				0040; Analyze				
Trip Blank for VOCs per S. Ewin	g email. 10	)/25/22tms						
						-		

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\*\* Place a RED dot on containers

that are out of conformance \*\*

		MeOH (only)						1																				Nitric	Sulfuric	Sodium Hydroxide	Sodium Hydroxide/ ZnAc
		SBS DI		V	IALS					AMB	ER G	LASS						P	LAST	IC					OTH	IER		Red	Yellow	Green	Black
COC Line Item	WGFU	_	169H 169H	VOA VIAL HS (>6mm)	VG9U	DG9N	VG9T	AGOU	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	врзи	BP3N	ВРЗЕ	BP3S	врзв	BP3Z	сезн	Syringe Kit		Matrix	HNO3 <2	H2SO4 <2	NaOH >10	NaOH/Zn Ac >9
1	1																										SL		- 4		
2	1																				-									-	
3	2	4																													
4	1	1	,																												
5																															
6																															
7					7																				,						
8	+	1																	y												
9																					I,						Ш				
10	1	1		,																							4				
11		7	3			-		4							3		-		(								45	V			$\perp$
12		3	3	200																							SL				

**Container Codes** 

	Glas	SS		Plastic							
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			
	40mL Na Thio amber vial	BG3U	250mL Unpres Clear Glass	BP1U	1L unpreserved plastic			Miscellaneous			
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac			Miscellatiedus			
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic		Syringe	Kit LL Cr+6 sampling kit			
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic		ZPLC	Ziploc Bag			
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic		R	Terracore Kit			
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic		SP5T	120mL Coliform Sodium Thiosulfate			
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac		Т	Tedlar Bag (air sample)			
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic		U	Summa Can (air sample)			
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic		WT	Water			
CG3H	250mL clear glass HCI	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered		SL	Solid Solid			
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic		OL:	Oil			
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic		NAL	Non-aqueous liquid			
GN	General	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic		WP	Wipe			

# **Affidavit of VAP Certified Laboratory**

[For VAP certified laboratories to attest to "certified data" under OAC 3745-300-04(A) and OAC 3745-300-13. Note that Ohio EPA is to receive a legible copy of the CL's affidavit. The entity that received the CL's analytical report under affidavit may retain the CL's affidavit original.]

State of	Indiana	)
		) ss:
County of	Marion	)

- I, <u>Anne Troyer</u>, being first duly sworn according to law, state that, to the best of my knowledge, information and belief:
- 1. I am an adult over the age of eighteen years old and competent to testify herein.
- 2. I am employed by <u>Pace Analytical Services Indianapolis</u> ("the laboratory") as Quality Manager. I am authorized to submit this affidavit on behalf of the laboratory.
- 3. The purpose of this submission is to support a request for a no further action letter or other aspects of a voluntary action, under Ohio's Voluntary Action Program (VAP) as set forth in Ohio Revised Code Chapter 3746 and Ohio Administrative Code (OAC) Chapter 3745-300.
- 4. <u>Pace Analytical Services Indianapolis</u> performed analyses for <u>Verdantas</u> for a voluntary action at property known as LRN005 / St. Joe's Hospital, Lorain.
- 5. This affidavit applies to and is submitted with the following information, data, documents or reports for the property:

Document ID 50329130 Date of Document November 4, 2022

- 6. <u>Pace Analytical Services Indianapolis</u> was a VAP certified laboratory pursuant to OAC 3745-300-04 when it performed the analyses referenced herein.
- 7. All analyses under this affidavit consist of VAP "certified data" as described in OAC 3745-300-04(A) - unless paragraph b., below, specifies the exceptions:
  - a. The laboratory performed the analyses within its current VAP certification, number CL0065. The laboratory was certified for each analyte, parameter group and method used at the time that it performed the analyses see Method Cross Reference Table. The analyses were performed consistent with the laboratory's standard operating procedures and quality assurance program plan as approved under OAC 3745-300-04.
  - b. Exceptions, if any: Any soil moisture performed by method SM 2540G used for dry weight correction of data or any analysis used for batch QC on matrix spikes, matrix spike duplicates or sample duplicates that are not associated with the referenced project number identified in item 5 above.
- 8. The information, data, documents and reports identified under this affidavit are true, accurate and complete.

Certified Lab Affidavit Pursuant to OAC 3745-300-13(P) Page 2	
50329130	
Further affiant sayeth naught.	
	anne Droyer
	Signature of Affiant
Sworn to before me and subscribed in my presence	this <u>28th</u> day of <u>November</u> , 2022.
Melissa Lynn Albertson Notary Public Seal State of Indiana Marion County Commission # 710839 My Commission Expires 02/25/2026	Melisia I atturbox
	Notary Public





November 04, 2022

Hien Pham Verdantas 4 Hemisphere Way Bedford, OH 44146

RE: Project: LRN005

Pace Project No.: 50329250

#### Dear Hien Pham:

Enclosed are the analytical results for sample(s) received by the laboratory on October 26, 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,

Tina Sayer tina.sayer@pacelabs.com (317)228-3100

Tina Sayer

Project Manager

Enclosures

cc: Verdantas Data/EDD Admin Ms. Sarah Ewing, Verdantas







### **CERTIFICATIONS**

Project: LRN005
Pace Project No.: 50329250

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: LRN005
Pace Project No.: 50329250

Lab ID	Sample ID	Matrix	<b>Date Collected</b>	Date Received
50329250001	LRN005:VMW-2:S000020	Solid	10/25/22 08:55	10/26/22 09:30
50329250002	LRN005:VMW-2:S020025	Solid	10/25/22 08:55	10/26/22 09:30
50329250003	LRN005:TB-2:W102522	Solid	10/25/22 08:00	10/26/22 09:30



# **SAMPLE ANALYTE COUNT**

Project:

LRN005

Pace Project No.:

50329250

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50329250001	LRN005:VMW-2:S000020	EPA 8015 Mod Ext	СРН	4	PASI-I
		EPA 8082	RID	8	PASI-I
		EPA 8015D	JRW	2	PASI-I
		EPA 6010	JPK	14	PASI-I
		EPA 7471	ILP	1	PASI-I
		EPA 8270	JCM	51	PASI-I
		EPA 8260	TLS1	53	PASI-I
		SM 2540G	IRH	1	PASI-I
50329250002	LRN005:VMW-2:S020025	EPA 8015 Mod Ext	CPH	4	PASI-I
		EPA 8082	RID	8	PASI-I
		EPA 8015D	JRW	2	PASI-I
		EPA 6010	JPK	14	PASI-I
		EPA 7471	ILP	1	PASI-I
		EPA 8270	JCM	51	PASI-I
		EPA 8260	TLS1	53	PASI-I
		SM 2540G	IRH	1	PASI-I
50329250003	LRN005:TB-2:W102522	EPA 8260	TLS1	53	PASI-I

PASI-I = Pace Analytical Services - Indianapolis



# **SUMMARY OF DETECTION**

Project: LRN005
Pace Project No.: 50329250

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50329250001	LRN005:VMW-2:S000020					
EPA 8015 Mod Ext	Total Petroleum Hydrocarbons	31.2	mg/kg	23.9	11/01/22 18:36	
EPA 8015 Mod Ext	TPH (C20-C34)	27.1	mg/kg	12.0	11/01/22 18:36	
EPA 6010	Arsenic	15.3	mg/kg	1.1	11/04/22 01:39	
EPA 6010	Barium	65.0	mg/kg	1.1	11/04/22 01:39	
EPA 6010	Beryllium	0.80	mg/kg	0.54	11/04/22 01:39	
EPA 6010	Cadmium	1.2	mg/kg	0.54	11/04/22 01:39	
EPA 6010	Chromium	14.5	mg/kg	1.1	11/04/22 01:39	
EPA 6010	Cobalt	9.5	mg/kg	1.1	11/04/22 01:39	
EPA 6010	Lead	20.2	mg/kg	1.1	11/04/22 01:39	
EPA 6010	Nickel	47.6	mg/kg	1.1	11/04/22 01:39	
EPA 6010	Selenium	1.4	mg/kg	1.1	11/04/22 01:39	
EPA 6010	Vanadium	26.3	mg/kg	1.1	11/04/22 01:39	
EPA 6010	Zinc	121	mg/kg	1.1	11/04/22 01:39	
SM 2540G	Percent Moisture	17.8	%	0.10	10/29/22 11:19	N2
0329250002	LRN005:VMW-2:S020025					
EPA 6010	Arsenic	10.1	mg/kg	1,1	11/04/22 01:42	
EPA 6010	Barium	67.3	mg/kg	1.1	11/04/22 01:42	
EPA 6010	Beryllium	0.89	mg/kg	0.55	11/04/22 01:42	
EPA 6010	Cadmium	0.56	mg/kg	0.55	11/04/22 01:42	
EPA 6010	Chromium	13.7	mg/kg	1.1	11/04/22 01:42	
EPA 6010	Cobalt	7.8	mg/kg	1.1	11/04/22 01:42	
EPA 6010	Lead	19.1	mg/kg	1.1	11/04/22 01:42	
PA 6010	Nickel	26.4	mg/kg	1.1	11/04/22 01:42	
EPA 6010	Vanadium	21.2	mg/kg	1.1	11/04/22 01:42	
EPA 6010	Zinc	75.8	mg/kg	1.1	11/04/22 01:42	
SM 2540G	Percent Moisture	21.1	%	0.10	10/29/22 11:20	N2





Project: LRN005
Pace Project No.: 50329250

Method: EPA 8015 Mod Ext
Description: 8015 TPH Ohio Microwave
Client: Verdantas Bedford

Date: Verdantas Bediord
November 04, 2022

#### **General Information:**

2 samples were analyzed for EPA 8015 Mod Ext by Pace Analytical Services Indianapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### **Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Sample Preparation:

The samples were prepared in accordance with EPA 3546 with any exceptions noted below.

#### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### **Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

#### Surrogates:

All surrogates were within QC limits with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### **Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

#### **Additional Comments:**

### Analyte Comments:

QC Batch: 703553

2d: A matrix spike/matrix spike duplicate was not performed due to insufficient volume

- BLANK (Lab ID: 3234481)
  - n-Pentacosane (S)





Project: LRN005
Pace Project No.: 50329250

Method: EPA 8082

Description: 8082 PCB Solids

Client: Verdantas Bedford

Date: November 04, 2022

#### **General Information:**

2 samples were analyzed for EPA 8082 by Pace Analytical Services Indianapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### **Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Sample Preparation:

The samples were prepared in accordance with EPA 3546 with any exceptions noted below.

#### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### **Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

#### Surrogates:

All surrogates were within QC limits with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### **Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### **Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 702711

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 50329217012

R1: RPD value was outside control limits.

- · MSD (Lab ID: 3230211)
  - PCB-1016 (Aroclor 1016)
  - PCB-1260 (Aroclor 1260)

# **Additional Comments:**





Project: LRN005
Pace Project No.: 50329250

Method: EPA 8015D

**Description: 8015D Gasoline Range Organics** 

Client: Verdantas Bedford

Date: November 04, 2022

#### **General Information:**

2 samples were analyzed for EPA 8015D by Pace Analytical Services Indianapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### **Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### **Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

#### Surrogates:

All surrogates were within QC limits with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### **Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### **Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 703053

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 50329130005

R1: RPD value was outside control limits.

- MSD (Lab ID: 3232045)
  - TPH (C06-C12)

### **Additional Comments:**



Project: LRN005
Pace Project No.: 50329250

Method: EPA 6010
Description: 6010 MET ICP
Client: Verdantas Bedford
Date: November 04, 2022

#### **General Information:**

2 samples were analyzed for EPA 6010 by Pace Analytical Services Indianapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### **Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3050 with any exceptions noted below.

#### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### **Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### **Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### **Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 703338

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 50329629001

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

- MS (Lab ID: 3233677)
  - Antimony
- · MSD (Lab ID: 3233678)
  - Antimony

### **Additional Comments:**



Project: LRN005
Pace Project No.: 50329250

Method: EPA 7471
Description: 7471 Mercury
Client: Verdantas Bedford
Date: November 04, 2022

#### **General Information:**

2 samples were analyzed for EPA 7471 by Pace Analytical Services Indianapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### **Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Sample Preparation:

The samples were prepared in accordance with EPA 7471 with any exceptions noted below.

#### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### **Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### **Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### **Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 703228

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 50329520003

P6: Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike

· MS (Lab ID: 3232836)

Mercury

• MSD (Lab ID: 3232837)

Mercury

#### **Additional Comments:**





Project: LRN005
Pace Project No.: 50329250

Method: EPA 8270

Description: 8270 SVOC SS Soil
Client: Verdantas Bedford
Date: November 04, 2022

#### **General Information:**

2 samples were analyzed for EPA 8270 by Pace Analytical Services Indianapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### **Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Sample Preparation:

The samples were prepared in accordance with EPA 3546 with any exceptions noted below.

#### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### **Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

### Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

#### Surrogates:

All surrogates were within QC limits with any exceptions noted below.

QC Batch: 704284

S8: Surrogate recovery outside laboratory control limits due to matrix interferences (confirmed by similar results from sample re-extraction and/or re-analysis)

- · LRN005:VMW-2:S020025 (Lab ID: 50329250002)
  - · Nitrobenzene-d5 (S)

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

# **Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 704284

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 50329250002

R1: RPD value was outside control limits.

- MSD (Lab ID: 3237683)
  - Acenaphthylene
  - · Benzo(b)fluoranthene

#### REPORT OF LABORATORY ANALYSIS

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Project: LRN005
Pace Project No.: 50329250

Method: EPA 8270

Description:8270 SVOC SS SoilClient:Verdantas BedfordDate:November 04, 2022

**Additional Comments:** 





Project: LRN005
Pace Project No.: 50329250

Method: EPA 8260

Description: 8260 MSV 5035A VOA
Client: Verdantas Bedford
Date: November 04, 2022

#### **General Information:**

3 samples were analyzed for EPA 8260 by Pace Analytical Services Indianapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### **Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### **Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

#### Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

#### Surrogates:

All surrogates were within QC limits with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### **Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### **Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

#### **Additional Comments:**

# **Analyte Comments:**

QC Batch: 703261

1d: A matrix spike/matrix spike duplicate could not be performed for this batch due to insufficient sample volume.

BLANK (Lab ID: 3233054)
Dibromofluoromethane (S)

This data package has been reviewed for quality and completeness and is approved for release.



Project: LRN005
Pace Project No.: 50329250

Date: 11/04/2022 05:02 PM

Sample: LRN005:VMW-2:S000020 Collected: 10/25/22 08:55 Received: 10/26/22 09:30 Lab ID: 50329250001 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 Prepared Analyzed CAS No. Qual 8015 TPH Ohio Microwave Analytical Method: EPA 8015 Mod Ext Preparation Method: EPA 3546 Pace Analytical Services - Indianapolis 31.2 23.9 10/31/22 13:55 11/01/22 18:36 Total Petroleum Hydrocarbons mg/kg TPH (C10-C20) ND mg/kg 12.0 1 10/31/22 13:55 11/01/22 18:36 TPH (C20-C34) 27.1 mg/kg 12.0 10/31/22 13:55 11/01/22 18:36 Surrogates 27 %. 10-157 10/31/22 13:55 11/01/22 18:36 629-99-2 n-Pentacosane (S) Analytical Method: EPA 8082 Preparation Method: EPA 3546 8082 PCB Solids Pace Analytical Services - Indianapolis PCB-1016 (Aroclor 1016) ND 0.12 10/26/22 13:47 10/27/22 20:24 12674-11-2 mg/kg 1 PCB-1221 (Aroclor 1221) ND mg/kg 0.12 10/26/22 13:47 10/27/22 20:24 11104-28-2 1 PCB-1232 (Aroclor 1232) ND mg/kg 0.12 1 10/26/22 13:47 10/27/22 20:24 11141-16-5 10/26/22 13:47 10/27/22 20:24 53469-21-9 PCB-1242 (Aroclor 1242) ND mg/kg 0.12 1 PCB-1248 (Aroclor 1248) ND mg/kg 0.12 10/26/22 13:47 10/27/22 20:24 12672-29-6 1 PCB-1254 (Aroclor 1254) ND mg/kg 0.12 10/26/22 13:47 10/27/22 20:24 11097-69-1 1 PCB-1260 (Aroclor 1260) ND mg/kg 0.12 1 10/26/22 13:47 10/27/22 20:24 11096-82-5 Surrogates 36-112 57 10/26/22 13:47 10/27/22 20:24 877-09-8 Tetrachloro-m-xylene (S) %. 1 Analytical Method: EPA 8015D 8015D Gasoline Range Organics Pace Analytical Services - Indianapolis TPH (C06-C12) ND 1.2 10/28/22 05:53 mg/kg 1 Surrogates 4-Bromofluorobenzene (S) 114 %. 17-148 10/28/22 05:53 460-00-4 Analytical Method: EPA 6010 Preparation Method: EPA 3050 **6010 MET ICP** Pace Analytical Services - Indianapolis Antimony ND mg/kg 1.1 1 11/02/22 12:18 11/04/22 01:39 7440-36-0 15.3 Arsenic mg/kg 1.1 1 11/02/22 12:18 11/04/22 01:39 7440-38-2 Barium 65.0 mg/kg 1.1 11/02/22 12:18 11/04/22 01:39 7440-39-3 1 mg/kg Beryllium 0.80 0.54 11/02/22 12:18 11/04/22 01:39 7440-41-7 1 Cadmium 1.2 mg/kg 0.54 11/02/22 12:18 11/04/22 01:39 7440-43-9 1 Chromium 14.5 11/02/22 12:18 11/04/22 01:39 7440-47-3 mg/kg 1.1 1 Cobalt 9.5 1.1 11/02/22 12:18 11/04/22 01:39 7440-48-4 mg/kg 1 20.2 11/02/22 12:18 11/04/22 01:39 7439-92-1 Lead mg/kg 1.1 1 Nickel 47.6 mg/kg 1.1 11/02/22 12:18 11/04/22 01:39 7440-02-0 Selenium 1.4 mg/kg 1.1 11/02/22 12:18 11/04/22 01:39 7782-49-2 Silver ND mg/kg 0.54 11/02/22 12:18 11/04/22 01:39 7440-22-4 Thallium ND mg/kg 1.1 11/02/22 12:18 11/04/22 01:39 7440-28-0 Vanadium 26.3 mg/kg 1.1 1 11/02/22 12:18 11/04/22 01:39 7440-62-2 Zinc 121 mg/kg 1.1 1 11/02/22 12:18 11/04/22 01:39 7440-66-6 7471 Mercury Analytical Method: EPA 7471 Preparation Method: EPA 7471 Pace Analytical Services - Indianapolis ND 0.25 10/30/22 19:15 10/31/22 11:52 7439-97-6 Mercury mg/kg



Project:

LRN005

Pace Project No.:

50329250

Sample: LRN005:VMW-2:S000020

Date: 11/04/2022 05:02 PM

Lab ID: 50329250001

Collected: 10/25/22 08:55 Received: 10/26/22 09:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qu
3270 SVOC SS Soil	Analytical Metl	nod: EPA 8270	O Preparation Met	hod: EF	PA 3546			
	Pace Analytica	l Services - In	ndianapolis					
Acenaphthene	ND	mg/kg	0.40	1	10/27/22 13:45	11/01/22 17:00	83-32-9	
Acenaphthylene	ND	mg/kg	0.40	1	10/27/22 13:45	11/01/22 17:00	208-96-8	
Anthracene	ND	mg/kg	0.40	1	10/27/22 13:45	11/01/22 17:00	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.40	1	10/27/22 13:45	11/01/22 17:00	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.40	1	10/27/22 13:45	11/01/22 17:00	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.40	1	10/27/22 13:45	11/01/22 17:00	205-99-2	
senzo(g,h,i)perylene	ND	mg/kg	0.40	1		11/01/22 17:00		
Benzo(k)fluoranthene	ND	mg/kg	0.40	1	10/27/22 13:45	11/01/22 17:00	207-08-9	
Butylbenzylphthalate	ND	mg/kg	0.40	1		11/01/22 17:00		
-Chloro-3-methylphenol	ND	mg/kg	0.80	1		11/01/22 17:00		
-Chloroaniline	ND	mg/kg	0.80	1		11/01/22 17:00		
is(2-Chloroethoxy)methane	ND	mg/kg	0.40	1		11/01/22 17:00		
is(2-Chloroethyl) ether	ND	mg/kg	0.40	1		11/01/22 17:00		
ois(2chloro1methylethyl) ether	ND	mg/kg	0.40	1		11/01/22 17:00		
-Chloronaphthalene	ND	mg/kg	0.40	1		11/01/22 17:00		
P-Chlorophenol	ND	mg/kg	0.40	1		11/01/22 17:00		
Chrysene	ND	mg/kg	0.40	1		11/01/22 17:00		
	ND		0.40	1		11/01/22 17:00		
ibenz(a,h)anthracene ,4-Dichlorophenol		mg/kg		1		11/01/22 17:00		
	ND ND	mg/kg	0.40					
Diethylphthalate	ND	mg/kg	0.40	1		11/01/22 17:00		
,4-Dimethylphenol	ND	mg/kg	0.40	1		11/01/22 17:00		
0i-n-butylphthalate	ND	mg/kg	0.40	1		11/01/22 17:00		
,4-Dinitrophenol	ND	mg/kg	1.9	1		11/01/22 17:00		
,4-Dinitrotoluene	ND	mg/kg	0.40	1		11/01/22 17:00		
,6-Dinitrotoluene	ND	mg/kg	0.40	1		11/01/22 17:00		
0i-n-octylphthalate	ND	mg/kg	0.40	1		11/01/22 17:00		
is(2-Ethylhexyl)phthalate	ND	mg/kg	0.40	1		11/01/22 17:00		
luoranthene	ND	mg/kg	0.40	1		11/01/22 17:00		
luorene	ND	mg/kg	0.40	1		11/01/22 17:00		
lexachlorocyclopentadiene	ND	mg/kg	0.40	1		11/01/22 17:00		
lexachloroethane	ND	mg/kg	0.40	1	10/27/22 13:45	11/01/22 17:00	67-72-1	
ndeno(1,2,3-cd)pyrene	ND	mg/kg	0.40	1		11/01/22 17:00		
sophorone	ND	mg/kg	0.40	1	10/27/22 13:45	11/01/22 17:00	78-59-1	
?-Methylnaphthalene	ND	mg/kg	0.40	1	10/27/22 13:45	11/01/22 17:00	91-57-6	
!-Methylphenol(o-Cresol)	ND	mg/kg	0.40	1	10/27/22 13:45	11/01/22 17:00	95-48-7	
&4-Methylphenol(m&p Cresol)	ND	mg/kg	0.80	1	10/27/22 13:45	11/01/22 17:00		
laphthalene	ND	mg/kg	0.40	1	10/27/22 13:45	11/01/22 17:00	91-20-3	
litrobenzene	ND	mg/kg	0.40	1	10/27/22 13:45	11/01/22 17:00	98-95-3	
I-Nitroso-di-n-propylamine	ND	mg/kg	0.40	1	10/27/22 13:45	11/01/22 17:00	621-64-7	
I-Nitrosodiphenylamine	ND	mg/kg	0.40	1	10/27/22 13:45	11/01/22 17:00	86-30-6	
Phenanthrene	ND	mg/kg	0.40	1	10/27/22 13:45	11/01/22 17:00	85-01-8	
Phenol	ND	mg/kg	0.40	1	10/27/22 13:45	11/01/22 17:00	108-95-2	
Pyrene	ND	mg/kg	0.40	1	10/27/22 13:45	11/01/22 17:00	129-00-0	
2,4,5-Trichlorophenol	ND	mg/kg	0.40	1	10/27/22 13:45	11/01/22 17:00	95-95-4	
2.4.6-Trichlorophenol	ND	mg/kg	0.40	1	10/27/22 13:45	11/01/22 17:00	88-06-2	



Project: **LRN005** 

Naphthalene

Date: 11/04/2022 05:02 PM

Pace Project No.: 50329250 Sample: LRN005:VMW-2:S000020 Collected: 10/25/22 08:55 Received: 10/26/22 09:30 Lab ID: 50329250001 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 8270 SVOC SS Soil Analytical Method: EPA 8270 Preparation Method: EPA 3546 Pace Analytical Services - Indianapolis Surrogates Nitrobenzene-d5 (S) 56 %. 35-110 1 10/27/22 13:45 11/01/22 17:00 4165-60-0 Phenol-d5 (S) 67 %. 35-115 10/27/22 13:45 11/01/22 17:00 4165-62-2 1 2-Fluorophenol (S) 64 %. 22-114 10/27/22 13:45 11/01/22 17:00 367-12-4 1 2,4,6-Tribromophenol (S) 53 0/6 10-123 10/27/22 13:45 11/01/22 17:00 118-79-6 1 2-Fluorobiphenyl (S) 58 %. 36-100 10/27/22 13:45 11/01/22 17:00 321-60-8 1 p-Terphenyl-d14 (S) 62 %. 29-117 1 10/27/22 13:45 11/01/22 17:00 1718-51-0 8260 MSV 5035A VOA Analytical Method: EPA 8260 Pace Analytical Services - Indianapolis Acetone ND mg/kg 0.11 1 10/31/22 22:58 67-64-1 Benzene ND mg/kg 0.0053 1 10/28/22 16:47 71-43-2 Bromodichloromethane ND mg/kg 0.0053 10/28/22 16:47 75-27-4 1 Bromoform ND mg/kg 0.0053 10/28/22 16:47 75-25-2 1 Bromomethane ND mg/kg 0.0053 1 10/28/22 16:47 74-83-9 2-Butanone (MEK) ND mg/kg 0.026 1 10/28/22 16:47 78-93-3 Carbon disulfide ND mg/kg 0.011 1 10/28/22 16:47 75-15-0 Carbon tetrachloride ND mg/kg 0.0053 10/28/22 16:47 56-23-5 1 Chlorobenzene ND mg/kg 0.0053 10/28/22 16:47 108-90-7 1 10/28/22 16:47 75-00-3 Chloroethane ND mg/kg 0.0053 1 ND Chloroform mg/kg 0.0053 1 10/28/22 16:47 67-66-3 10/28/22 16:47 74-87-3 Chloromethane ND mg/kg 0.0053 1 Dibromochloromethane ND mg/kg 0.0053 1 10/28/22 16:47 124-48-1 1,2-Dibromoethane (EDB) ND mg/kg 0.00079 10/28/22 16:47 106-93-4 Dibromomethane ND mg/kg 0.0053 10/28/22 16:47 74-95-3 1 1,2-Dichlorobenzene 0.0053 ND mg/kg 1 10/28/22 16:47 95-50-1 1,4-Dichlorobenzene ND mg/kg 0.0053 1 10/28/22 16:47 106-46-7 Dichlorodifluoromethane ND mg/kg 0.0053 1 10/28/22 16:47 75-71-8 1.1-Dichloroethane ND mg/kg 0.0053 10/28/22 16:47 75-34-3 1 ND mg/kg 0.0053 10/28/22 16:47 107-06-2 1,2-Dichloroethane 1 ND 0.0053 10/28/22 16:47 75-35-4 1,1-Dichloroethene mg/kg 1 ND 10/28/22 16:47 156-59-2 cis-1,2-Dichloroethene 0.0053 mg/kg 1 ND 0.0053 10/28/22 16:47 156-60-5 trans-1,2-Dichloroethene mg/kg 1 1,2-Dichloropropane ND mg/kg 0.0053 1 10/28/22 16:47 78-87-5 1,3-Dichloropropane ND mg/kg 0.0053 10/28/22 16:47 142-28-9 cis-1,3-Dichloropropene ND mg/kg 0.0053 10/28/22 16:47 10061-01-5 ND 0.0053 10/28/22 16:47 10061-02-6 trans-1,3-Dichloropropene mg/kg 1 Ethylbenzene ND mg/kg 0.0053 1 10/28/22 16:47 100-41-4 Ethyl methacrylate ND mg/kg 0.11 10/28/22 16:47 97-63-2 1 n-Hexane ND mg/kg 0.0053 10/28/22 16:47 110-54-3 1 Isopropylbenzene (Cumene) ND mg/kg 0.0053 10/28/22 16:47 98-82-8 1 mg/kg Methylene Chloride ND 0.022 1 10/31/22 22:58 75-09-2 4-Methyl-2-pentanone (MIBK) ND mg/kg 0.026 10/28/22 16:47 108-10-1 1 Methyl-tert-butyl ether ND mg/kg 0.0053 1 10/28/22 16:47 1634-04-4 10/28/22 16:47 91-20-3

### REPORT OF LABORATORY ANALYSIS

0.0053

ND

mg/kg



Project:

LRN005

Pace Project No.:

Date: 11/04/2022 05:02 PM

50329250

Sample: LRN005:VMW-2:S000020

Lab ID: 50329250001

Collected: 10/25/22 08:55 Received: 10/26/22 09:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
8260 MSV 5035A VOA	Analytical Meth	nod: EPA 8260	j					
	Pace Analytica	l Services - Ir	idianapolis					
Styrene	ND	mg/kg	0.0053	1		10/28/22 16:47	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0053	1		10/28/22 16:47	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0053	1		10/28/22 16:47	79-34-5	
Tetrachloroethene	ND	mg/kg	0.0053	1		10/28/22 16:47	127-18-4	
Toluene	ND	mg/kg	0.0053	1		10/28/22 16:47	108-88-3	
1,2,4-Trichlorobenzene	ND	mg/kg	0.0053	1		10/28/22 16:47	120-82-1	
1,1,1-Trichloroethane	ND	mg/kg	0.0053	1		10/28/22 16:47	71-55-6	
1,1,2-Trichloroethane	ND	mg/kg	0.0053	1		10/28/22 16:47	79-00-5	
Trichloroethene	ND	mg/kg	0.0053	1		10/28/22 16:47	79-01-6	
Trichlorofluoromethane	ND	mg/kg	0.0053	1		10/28/22 16:47	75-69-4	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0053	1		10/28/22 16:47	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0053	1		10/28/22 16:47	108-67-8	
Vinyl acetate	ND	mg/kg	0.11	1		10/28/22 16:47	108-05-4	
Vinyl chloride	ND	mg/kg	0.0053	1		10/28/22 16:47	75-01-4	
Xylene (Total)	ND	mg/kg	0.011	1		10/28/22 16:47	1330-20-7	
Surrogates		0 0						
Dibromofluoromethane (S)	105	%.	62-146	1		10/28/22 16:47	1868-53-7	
Toluene-d8 (S)	98	%.	68-143	1		10/28/22 16:47	2037-26-5	
4-Bromofluorobenzene (S)	99	%.	63-129	1		10/28/22 16:47	460-00-4	
Percent Moisture	Analytical Meth	nod: SM 2540	G					
	Pace Analytica	l Services - Ir	idianapolis					
Percent Moisture	17.8	%	0.10	1		10/29/22 11:19		N2



Project: LRN005
Pace Project No.: 50329250

Date: 11/04/2022 05:02 PM

Sample: LRN005:VMW-2:S020025 Collected: 10/25/22 08:55 Received: 10/26/22 09:30 Lab ID: 50329250002 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 Prepared Analyzed CAS No. Qual 8015 TPH Ohio Microwave Analytical Method: EPA 8015 Mod Ext Preparation Method: EPA 3546 Pace Analytical Services - Indianapolis ND 24.7 10/31/22 13:55 11/01/22 18:43 Total Petroleum Hydrocarbons mg/kg TPH (C10-C20) ND mg/kg 12.3 1 10/31/22 13:55 11/01/22 18:43 TPH (C20-C34) ND mg/kg 12.3 10/31/22 13:55 11/01/22 18:43 Surrogates 85 %. 10-157 10/31/22 13:55 11/01/22 18:43 629-99-2 n-Pentacosane (S) Analytical Method: EPA 8082 Preparation Method: EPA 3546 8082 PCB Solids Pace Analytical Services - Indianapolis PCB-1016 (Aroclor 1016) ND 0.12 10/26/22 13:47 10/27/22 20:39 12674-11-2 mg/kg 1 PCB-1221 (Aroclor 1221) ND mg/kg 0.12 10/26/22 13:47 10/27/22 20:39 11104-28-2 1 PCB-1232 (Aroclor 1232) ND mg/kg 0.12 1 10/26/22 13:47 10/27/22 20:39 11141-16-5 10/26/22 13:47 10/27/22 20:39 53469-21-9 PCB-1242 (Aroclor 1242) ND mg/kg 0.12 1 PCB-1248 (Aroclor 1248) ND mg/kg 0.12 10/26/22 13:47 10/27/22 20:39 12672-29-6 1 PCB-1254 (Aroclor 1254) ND mg/kg 0.12 10/26/22 13:47 10/27/22 20:39 11097-69-1 1 PCB-1260 (Aroclor 1260) ND mg/kg 0.12 1 10/26/22 13:47 10/27/22 20:39 11096-82-5 Surrogates 36-112 68 10/26/22 13:47 10/27/22 20:39 877-09-8 Tetrachloro-m-xylene (S) %. 1 Analytical Method: EPA 8015D 8015D Gasoline Range Organics Pace Analytical Services - Indianapolis TPH (C06-C12) ND 1.2 10/28/22 06:16 mg/kg 1 Surrogates 4-Bromofluorobenzene (S) 96 %. 17-148 10/28/22 06:16 460-00-4 Analytical Method: EPA 6010 Preparation Method: EPA 3050 **6010 MET ICP** Pace Analytical Services - Indianapolis Antimony ND mg/kg 1.1 1 11/02/22 12:18 11/04/22 01:42 7440-36-0 10.1 11/04/22 01:42 7440-38-2 Arsenic mg/kg 1.1 1 11/02/22 12:18 Barium 67.3 mg/kg 1.1 11/02/22 12:18 11/04/22 01:42 7440-39-3 1 mg/kg Beryllium 0.89 0.55 11/02/22 12:18 11/04/22 01:42 7440-41-7 1 Cadmium 0.56 mg/kg 0.55 11/02/22 12:18 11/04/22 01:42 7440-43-9 1 Chromium 13.7 11/02/22 12:18 11/04/22 01:42 7440-47-3 mg/kg 1.1 1 Cobalt 7.8 1.1 11/02/22 12:18 11/04/22 01:42 7440-48-4 mg/kg 1 19.1 11/02/22 12:18 11/04/22 01:42 7439-92-1 Lead mg/kg 1.1 1 Nickel 26.4 mg/kg 1.1 11/02/22 12:18 11/04/22 01:42 7440-02-0 Selenium ND mg/kg 1.1 11/02/22 12:18 11/04/22 01:42 7782-49-2 Silver ND mg/kg 0.55 11/02/22 12:18 11/04/22 01:42 7440-22-4 Thallium ND mg/kg 1.1 11/02/22 12:18 11/04/22 01:42 7440-28-0 Vanadium 21.2 mg/kg 1.1 1 11/02/22 12:18 11/04/22 01:42 7440-62-2 Zinc 75.8 mg/kg 1.1 1 11/02/22 12:18 11/04/22 01:42 7440-66-6 7471 Mercury Analytical Method: EPA 7471 Preparation Method: EPA 7471 Pace Analytical Services - Indianapolis ND 10/30/22 19:15 10/31/22 11:55 7439-97-6 Mercury mg/kg 0.26



Project: LRN005
Pace Project No.: 50329250

Date: 11/04/2022 05:02 PM

Sample: LRN005:VMW-2:S020025 Lab ID: 50329250002 Collected: 10/25/22 08:55 Received: 10/26/22 09:30 Matrix: Solid

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
3270 SVOC SS Soil	Analytical Met	nod: EPA 827	0 Preparation Meth	nod: EP	A 3546			
	Pace Analytica							
Acenaphthene	ND	mg/kg	0.42	1	11/03/22 16:32	11/03/22 22:15	83-32-9	
Acenaphthylene	ND	mg/kg	0.42	1	11/03/22 16:32	11/03/22 22:15	208-96-8	R1
Anthracene	ND	mg/kg	0.42	1	11/03/22 16:32	11/03/22 22:15	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.42	1	11/03/22 16:32	11/03/22 22:15	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.42	1	11/03/22 16:32	11/03/22 22:15	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.42	1	11/03/22 16:32	11/03/22 22:15	205-99-2	R1
Benzo(g,h,i)perylene	ND	mg/kg	0.42	1	11/03/22 16:32	11/03/22 22:15	191-24-2	
Benzo(k)fluoranthene	ND	mg/kg	0.42	1	11/03/22 16:32	11/03/22 22:15	207-08-9	
Butylbenzylphthalate	ND	mg/kg	0.42	1	11/03/22 16:32	11/03/22 22:15	85-68-7	
-Chloro-3-methylphenol	ND	mg/kg	0.83	1	11/03/22 16:32	11/03/22 22:15	59-50-7	
-Chloroaniline	ND	mg/kg	0.83	1	11/03/22 16:32	11/03/22 22:15	106-47-8	
is(2-Chloroethoxy)methane	ND	mg/kg	0.42	1	11/03/22 16:32	11/03/22 22:15	111-91-1	
is(2-Chloroethyl) ether	ND	mg/kg	0.42	1		11/03/22 22:15		
is(2chloro1methylethyl) ether	ND	mg/kg	0.42	1	11/03/22 16:32	11/03/22 22:15	108-60-1	
-Chloronaphthalene	ND	mg/kg	0.42	1		11/03/22 22:15		
-Chlorophenol	ND	mg/kg	0.42	1	11/03/22 16:32	11/03/22 22:15	95-57-8	
Chrysene	ND	mg/kg	0.42	1	100,000	11/03/22 22:15		
Dibenz(a,h)anthracene	ND	mg/kg	0.42	1		11/03/22 22:15		
,4-Dichlorophenol	ND	mg/kg	0.42	1		11/03/22 22:15		
Diethylphthalate	ND	mg/kg	0.42	1		11/03/22 22:15		
,4-Dimethylphenol	ND	mg/kg	0.42	1		11/03/22 22:15		
Di-n-butylphthalate	ND	mg/kg	0.42	1		11/03/22 22:15		
2,4-Dinitrophenol	ND	mg/kg	2.0	1		11/03/22 22:15		
2,4-Dinitrotoluene	ND	mg/kg	0.42	1		11/03/22 22:15		
,,- Dinitrotoluene	ND	mg/kg	0.42	1		11/03/22 22:15		
0i-n-octylphthalate	ND	mg/kg	0.42	1		11/03/22 22:15		
is(2-Ethylhexyl)phthalate	ND	mg/kg	0.42	1		11/03/22 22:15		
luoranthene	ND	mg/kg	0.42	1		11/03/22 22:15		
luorene	ND	mg/kg	0.42	1		11/03/22 22:15		
lexachlorocyclopentadiene	ND	mg/kg	0.42	1		11/03/22 22:15		
lexachloroethane	ND	mg/kg	0.42	1		11/03/22 22:15		
ndeno(1,2,3-cd)pyrene	ND	mg/kg	0.42	1		11/03/22 22:15		
sophorone	ND	mg/kg	0.42	1		11/03/22 22:15		
-Methylnaphthalene	ND	mg/kg	0.42	1		11/03/22 22:15		
?-Methylphenol(o-Cresol)	ND	mg/kg	0.42	1		11/03/22 22:15		
&4-Methylphenol(m&p Cresol)	ND	mg/kg	0.42	1		11/03/22 22:15	35-46-7	
laphthalene	ND		0.42	1		11/03/22 22:15	01 20 2	
		mg/kg		1		11/03/22 22:15		
litrobenzene I-Nitroso-di-n-propylamine	ND ND	mg/kg	0.42 0.42	1		11/03/22 22:15		
	ND ND	mg/kg	0.42	1		11/03/22 22:15		
I-Nitrosodiphenylamine		mg/kg						
Phenanthrene	ND ND	mg/kg	0.42	1		11/03/22 22:15		
Phenol	ND ND	mg/kg	0.42	1		11/03/22 22:15		
Pyrene	ND ND	mg/kg	0.42	1		11/03/22 22:15 11/03/22 22:15		
2,4,5-Trichlorophenol 2,4,6-Trichlorophenol	ND ND	mg/kg mg/kg	0.42 0.42	1		11/03/22 22:15		



Project: LRN005

Naphthalene

Date: 11/04/2022 05:02 PM

Pace Project No.: 50329250 Sample: LRN005:VMW-2:S020025 Lab ID: 50329250002 Collected: 10/25/22 08:55 Received: 10/26/22 09:30 Matrix: Solid Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions. **Parameters** Results Units Report Limit DF Prepared Analyzed CAS No. Qual 8270 SVOC SS Soil Analytical Method: EPA 8270 Preparation Method: EPA 3546 Pace Analytical Services - Indianapolis Surrogates Nitrobenzene-d5 (S) 33 %. 35-110 1 11/03/22 16:32 11/03/22 22:15 4165-60-0 **S8** Phenol-d5 (S) 50 %. 35-115 11/03/22 16:32 11/03/22 22:15 4165-62-2 1 2-Fluorophenol (S) 46 %. 22-114 11/03/22 16:32 11/03/22 22:15 367-12-4 1 2,4,6-Tribromophenol (S) 30 0/6 10-123 1 11/03/22 16:32 11/03/22 22:15 118-79-6 2-Fluorobiphenyl (S) 40 %. 36-100 11/03/22 16:32 11/03/22 22:15 321-60-8 1 p-Terphenyl-d14 (S) 36 %. 29-117 1 11/03/22 16:32 11/03/22 22:15 1718-51-0 8260 MSV 5035A VOA Analytical Method: EPA 8260 Pace Analytical Services - Indianapolis Acetone ND mg/kg 0.11 1 10/31/22 23:32 67-64-1 0.0067 Benzene ND mg/kg 1 10/28/22 17:21 71-43-2 Bromodichloromethane ND mg/kg 0.0067 10/28/22 17:21 75-27-4 Bromoform ND mg/kg 0.0067 10/28/22 17:21 75-25-2 1 Bromomethane ND mg/kg 0.0067 1 10/28/22 17:21 74-83-9 2-Butanone (MEK) ND mg/kg 0.034 1 10/28/22 17:21 78-93-3 Carbon disulfide ND mg/kg 0.013 1 10/28/22 17:21 75-15-0 Carbon tetrachloride ND mg/kg 0.0067 10/28/22 17:21 56-23-5 1 Chlorobenzene ND mg/kg 0.0067 10/28/22 17:21 108-90-7 1 ND Chloroethane mg/kg 0.0067 1 10/28/22 17:21 75-00-3 10/28/22 17:21 67-66-3 ND Chloroform mg/kg 0.0067 1 Chloromethane ND 10/28/22 17:21 74-87-3 mg/kg 0.0067 1 Dibromochloromethane ND mg/kg 0.0067 1 10/28/22 17:21 124-48-1 1,2-Dibromoethane (EDB) ND mg/kg 0.0010 10/28/22 17:21 106-93-4 1 Dibromomethane ND mg/kg 0.0067 10/28/22 17:21 74-95-3 1 1,2-Dichlorobenzene 0.0067 95-50-1 ND mg/kg 1 10/28/22 17:21 1,4-Dichlorobenzene ND mg/kg 0.0067 1 10/28/22 17:21 106-46-7 Dichlorodifluoromethane ND mg/kg 0.0067 1 10/28/22 17:21 75-71-8 1.1-Dichloroethane ND mg/kg 0.0067 10/28/22 17:21 75-34-3 1 ND mg/kg 0.0067 10/28/22 17:21 107-06-2 1,2-Dichloroethane 1 ND 0.0067 10/28/22 17:21 75-35-4 1,1-Dichloroethene mg/kg 1 ND 10/28/22 17:21 156-59-2 cis-1,2-Dichloroethene mg/kg 0.0067 1 ND 10/28/22 17:21 156-60-5 trans-1,2-Dichloroethene mg/kg 0.0067 1 1,2-Dichloropropane ND mg/kg 0.0067 1 10/28/22 17:21 78-87-5 1,3-Dichloropropane ND mg/kg 0.0067 10/28/22 17:21 142-28-9 cis-1,3-Dichloropropene ND mg/kg 0.0067 10/28/22 17:21 10061-01-5 ND 0.0067 10/28/22 17:21 10061-02-6 trans-1,3-Dichloropropene mg/kg 1 Ethylbenzene ND mg/kg 0.0067 1 10/28/22 17:21 100-41-4 Ethyl methacrylate ND mg/kg 0.13 10/28/22 17:21 97-63-2 1 n-Hexane ND mg/kg 0.0067 10/28/22 17:21 110-54-3 1 Isopropylbenzene (Cumene) ND mg/kg 0.0067 10/28/22 17:21 98-82-8 1 ND mg/kg Methylene Chloride 0.023 10/31/22 23:32 75-09-2 1 4-Methyl-2-pentanone (MIBK) ND mg/kg 0.034 10/28/22 17:21 108-10-1 1 Methyl-tert-butyl ether ND mg/kg 0.0067 1 10/28/22 17:21 1634-04-4

#### **REPORT OF LABORATORY ANALYSIS**

0.0067

ND

mg/kg

10/28/22 17:21 91-20-3



Project:

LRN005

Pace Project No.:

Date: 11/04/2022 05:02 PM

50329250

Sample: LRN005:VMW-2:S020025

Lab ID: 50329250002 Collected: 10/25/22 08:55 Received: 10/26/22 09:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
8260 MSV 5035A VOA	Analytical Meth	nod: EPA 8260	j					
	Pace Analytica	l Services - In	idianapolis					
Styrene	ND	mg/kg	0.0067	1		10/28/22 17:21	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0067	1		10/28/22 17:21	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0067	1		10/28/22 17:21	79-34-5	
Tetrachloroethene	ND	mg/kg	0.0067	1		10/28/22 17:21	127-18-4	
Toluene	ND	mg/kg	0.0067	1		10/28/22 17:21	108-88-3	
1,2,4-Trichlorobenzene	ND	mg/kg	0.0067	1		10/28/22 17:21	120-82-1	
1,1,1-Trichloroethane	ND	mg/kg	0.0067	1		10/28/22 17:21	71-55-6	
I,1,2-Trichloroethane	ND	mg/kg	0.0067	1		10/28/22 17:21	79-00-5	
Frichloroethene	ND	mg/kg	0.0067	1		10/28/22 17:21	79-01-6	
Frichlorofluoromethane	ND	mg/kg	0.0067	1		10/28/22 17:21	75-69-4	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0067	1		10/28/22 17:21	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0067	1		10/28/22 17:21	108-67-8	
/inyl acetate	ND	mg/kg	0.13	1		10/28/22 17:21	108-05-4	
/inyl chloride	ND	mg/kg	0.0067	1		10/28/22 17:21	75-01-4	
Kylene (Total)	ND	mg/kg	0.013	1		10/28/22 17:21	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	105	%.	62-146	1		10/28/22 17:21	1868-53-7	
Toluene-d8 (S)	98	%.	68-143	1		10/28/22 17:21	2037-26-5	
4-Bromofluorobenzene (S)	101	%.	63-129	1		10/28/22 17:21	460-00-4	
Percent Moisture	Analytical Meth	nod: SM 2540	G					
	Pace Analytica	l Services - Ir	idianapolis					
Percent Moisture	21.1	%	0.10	1		10/29/22 11:20		N2



Project: LRN005
Pace Project No.: 50329250

Date: 11/04/2022 05:02 PM

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
8260 MSV 5035A VOA	Analytical Met	hod: EPA 826	0					
	Pace Analytica	l Services - Ir	ndianapolis					
Acetone	ND	mg/kg	0.10	1		10/31/22 16:45	67-64-1	
3enzene	ND	mg/kg	0.0050	1		10/28/22 15:40		
Bromodichloromethane	ND	mg/kg	0.0050	1		10/28/22 15:40		
Bromoform	ND	mg/kg	0.0050	1		10/28/22 15:40		
Bromomethane	ND	mg/kg	0.0050	1		10/28/22 15:40		
-Butanone (MEK)	ND	mg/kg	0.025	1		10/28/22 15:40		
arbon disulfide	ND	mg/kg	0.010	1		10/28/22 15:40		
arbon tetrachloride	ND	mg/kg	0.0050	1		10/28/22 15:40		
hlorobenzene	ND	mg/kg	0.0050	1		10/28/22 15:40		
hloroethane	ND	mg/kg	0.0050	1		10/28/22 15:40		
hloroform	ND	mg/kg	0.0050	1		10/28/22 15:40		
Chloromethane	ND ND		0.0050	1		10/28/22 15:40		
Dibromochloromethane	ND ND	mg/kg	0.0050	1		10/28/22 15:40		
		mg/kg	0.00075	1		10/28/22 15:40		
,2-Dibromoethane (EDB) Dibromomethane	ND ND	mg/kg						
	ND	mg/kg	0.0050	1		10/28/22 15:40		
,2-Dichlorobenzene	ND	mg/kg	0.0050	1		10/28/22 15:40		
4-Dichlorobenzene	ND	mg/kg	0.0050	1		10/28/22 15:40		
ichlorodifluoromethane	ND	mg/kg	0.0050	1		10/28/22 15:40		
1-Dichloroethane	ND	mg/kg	0.0050	1		10/28/22 15:40		
,2-Dichloroethane	ND	mg/kg	0.0050	1		10/28/22 15:40		
1-Dichloroethene	ND	mg/kg	0.0050	1		10/28/22 15:40		
s-1,2-Dichloroethene	ND	mg/kg	0.0050	1		10/28/22 15:40		
ans-1,2-Dichloroethene	ND	mg/kg	0.0050	1		10/28/22 15:40		
,2-Dichloropropane	ND	mg/kg	0.0050	1		10/28/22 15:40	78-87-5	
,3-Dichloropropane	ND	mg/kg	0.0050	1		10/28/22 15:40	142-28-9	
is-1,3-Dichloropropene	ND	mg/kg	0.0050	1		10/28/22 15:40		
ans-1,3-Dichloropropene	ND	mg/kg	0.0050	1		10/28/22 15:40	10061-02-6	
thylbenzene	ND	mg/kg	0.0050	1		10/28/22 15:40	100-41-4	
thyl methacrylate	ND	mg/kg	0.10	1		10/28/22 15:40	97-63-2	
-Hexane	ND	mg/kg	0.0050	1		10/28/22 15:40	110-54-3	
sopropylbenzene (Cumene)	ND	mg/kg	0.0050	1		10/28/22 15:40	98-82-8	
lethylene Chloride	ND	mg/kg	0.020	1		10/31/22 16:45	75-09-2	
-Methyl-2-pentanone (MIBK)	ND	mg/kg	0.025	1		10/28/22 15:40	108-10-1	
lethyl-tert-butyl ether	ND	mg/kg	0.0050	1		10/28/22 15:40	1634-04-4	
aphthalene	ND	mg/kg	0.0050	1		10/28/22 15:40	91-20-3	
tyrene	ND	mg/kg	0.0050	1		10/28/22 15:40	100-42-5	
1,1,2-Tetrachloroethane	ND	mg/kg	0.0050	1		10/28/22 15:40		
1,2,2-Tetrachloroethane	ND	mg/kg	0.0050	1		10/28/22 15:40		
etrachloroethene	ND	mg/kg	0.0050	1		10/28/22 15:40		
oluene	ND	mg/kg	0.0050	1		10/28/22 15:40		
,2,4-Trichlorobenzene	ND	mg/kg	0.0050	1		10/28/22 15:40		
1,1-Trichloroethane	ND	mg/kg	0.0050	1		10/28/22 15:40		
,1,2-Trichloroethane	ND	mg/kg	0.0050	1		10/28/22 15:40		
richloroethene	ND	mg/kg	0.0050	1		10/28/22 15:40		
richlorofluoromethane	ND	mg/kg	0.0050	1		10/28/22 15:40		



Project:

LRN005

Pace Project No.:

Date: 11/04/2022 05:02 PM

50329250

Sample: LRN005:TB-2:W102522

Lab ID: 50329250003

Collected: 10/25/22 08:00 Received: 10/26/22 09:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
8260 MSV 5035A VOA	Analytical Met	hod: EPA 8260	o .					
	Pace Analytica	al Services - In	dianapolis					
1,2,4-Trimethylbenzene	ND	mg/kg	0.0050	1		10/28/22 15:40	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0050	1		10/28/22 15:40	108-67-8	
Vinyl acetate	ND	mg/kg	0.10	1		10/28/22 15:40	108-05-4	
Vinyl chloride	ND	mg/kg	0.0050	1		10/28/22 15:40	75-01-4	
Xylene (Total)	ND	mg/kg	0.010	1		10/28/22 15:40	1330-20-7	
Surrogates		11/2						
Dibromofluoromethane (S)	105	%.	62-146	1		10/28/22 15:40	1868-53-7	
Toluene-d8 (S)	97	%.	68-143	1		10/28/22 15:40	2037-26-5	
4-Bromofluorobenzene (S)	100	%.	63-129	1		10/28/22 15:40	460-00-4	



Project:

LRN005

Pace Project No.:

50329250

QC Batch:

703053

Analysis Method:

**EPA 8015D** 

QC Batch Method:

**EPA 8015D** 

Analysis Description:

8015 Solid GCV

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

50329250001, 50329250002

METHOD BLANK: 3232042

Matrix: Solid

Associated Lab Samples:

50329250001, 50329250002

Blank Result Reporting Limit

Analyzed

Qualifiers

TPH (C06-C12)

4-Bromofluorobenzene (S)

mg/kg %.

ND 76

10/28/22 01:16 0.96 17-148 10/28/22 01:16

LABORATORY CONTROL SAMPLE:

Parameter

Parameter

3232043

Spike Conc.

LCS Result

LCS % Rec % Rec Limits

55-140

17-148

Qualifiers

TPH (C06-C12) 4-Bromofluorobenzene (S) mg/kg %.

50329130005

Units

Units

9.8

9.4

95 113

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3232044

MSD Spike 3232045 MS MSD

MS

MSD

% Rec Max

**RPD** RPD 32

Qual

20 R1

Parameter Units % Rec Result Conc. Conc. Result Result % Rec mg/kg TPH (C06-C12) ND 10.2 10.4 7.4 5.4 72 4-Bromofluorobenzene (S) %.

MS

Spike

103

51 10-173 93 17-148

Limits

Date: 11/04/2022 05:02 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:

LRN005

Pace Project No.:

50329250

QC Batch:

703228

Analysis Method:

**EPA 7471** 

QC Batch Method:

**EPA 7471** 

Analysis Description:

7471 Mercury

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

50329250001, 50329250002

Matrix: Solid

Associated Lab Samples:

Date: 11/04/2022 05:02 PM

METHOD BLANK: 3232834

50329250001, 50329250002

Blank Result

Reporting Limit

Qualifiers

Parameter

Mercury

Units mg/kg

ND

0.20 10/31/22 11:34

Analyzed

LABORATORY CONTROL SAMPLE:

3232835

Spike Conc.

LCS Result

LCS % Rec % Rec Limits

Qualifiers

Parameter Units Mercury 0.5 0.50 100 mg/kg

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3232836

3232837 MSD

50329520003 Parameter Units Result

MS Spike Conc.

MS Result

MS % Rec

MSD % Rec

80-120

% Rec Limits

Max **RPD** 

1.5 Mercury mg/kg 0.57 0.55

Spike Conc.

MSD Result

**RPD** 

Qual

308 20 P6 3.2 2.7 214 75-125 19

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



Project:

LRN005

Pace Project No.:

50329250

QC Batch:

703338

Analysis Method:

EPA 6010

QC Batch Method: **EPA 3050**  Analysis Description:

6010 MET

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

50329250001, 50329250002

METHOD BLANK: 3233675

Matrix: Solid

Associated Lab Samples:

Date: 11/04/2022 05:02 PM

50329250001, 50329250002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	mg/kg	ND ND	1.0	11/04/22 01:30	
Arsenic	mg/kg	ND	1.0	11/04/22 01:30	
Barium	mg/kg	ND	1.0	11/04/22 01:30	
Beryllium	mg/kg	ND	0.50	11/04/22 01:30	
Cadmium	mg/kg	ND	0.50	11/04/22 01:30	
Chromium	mg/kg	ND	1.0	11/04/22 01:30	
Cobalt	mg/kg	ND	1.0	11/04/22 01:30	
Lead	mg/kg	ND	1.0	11/04/22 01:30	
Nickel	mg/kg	ND	1.0	11/04/22 01:30	
Selenium	mg/kg	ND	1.0	11/04/22 01:30	
Silver	mg/kg	ND	0.50	11/04/22 01:30	
Thallium	mg/kg	ND	1.0	11/04/22 01:30	
Vanadium	mg/kg	ND	1.0	11/04/22 01:30	
Zinc	mg/kg	ND	1.0	11/04/22 01:30	

LABORATORY CONTROL SAMPLE:	3233676					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Antimony	mg/kg	50	52.8	106	80-120	
Arsenic	mg/kg	50	51.6	103	80-120	
Barium	mg/kg	50	52.6	105	80-120	
Beryllium	mg/kg	50	53.6	107	80-120	
Cadmium	mg/kg	50	51.8	104	80-120	
Chromium	mg/kg	50	54.6	109	80-120	
Cobalt	mg/kg	50	51.0	102	80-120	
Lead	mg/kg	50	52.6	105	80-120	
Nickel	mg/kg	50	54.0	108	80-120	
Selenium	mg/kg	50	52.0	104	80-120	
Silver	mg/kg	25	26.7	107	80-120	
Thallium	mg/kg	50	50.8	102	80-120	
Vanadium	mg/kg	50	53.4	107	80-120	
Zinc	mg/kg	50	52.5	105	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: LRN005
Pace Project No.: 50329250

Date: 11/04/2022 05:02 PM

MATRIX SPIKE & MATRIX	SPIKE DUPLIC	CATE: 3233	677		3233678							
			MS	MSD								
	5	0329629001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qua
Antimony	mg/kg	ND	50.7	50.6	35.4	33.6	70	66	75-125	5	20	МЗ
Arsenic	mg/kg	1.5	50.7	50.6	51.4	50.5	98	97	75-125	2	20	
Barium	mg/kg	7.3	50.7	50.6	54.8	54.6	94	93	75-125	0	20	
Beryllium	mg/kg	ND	50.7	50.6	46.8	46.3	92	91	75-125	1	20	
Cadmium	mg/kg	ND	50.7	50.6	50.0	49.0	98	97	75-125	2	20	
Chromium	mg/kg	4.4	50.7	50.6	53.4	53.4	97	97	75-125	0	20	
Cobalt	mg/kg	2.6	50.7	50.6	45.7	45.5	85	85	75-125	0	20	
Lead	mg/kg	2.0	50.7	50.6	47.3	46.9	89	89	75-125	1	20	
Nickel	mg/kg	5.6	50.7	50.6	51.5	51.1	91	90	75-125	1	20	
Selenium	mg/kg	ND	50.7	50.6	49.4	48.8	97	96	75-125	1	20	
Silver	mg/kg	ND	25.4	25.4	27.2	26.8	107	106	75-125	2	20	
Thallium	mg/kg	ND	50.7	50.6	43.8	43.0	86	85	75-125	2	20	
Vanadium	mg/kg	6.2	50.7	50.6	53.9	55.1	94	96	75-125	2	20	
Zinc	mg/kg	10.5	50.7	50.6	53.5	54.9	85	88	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: LRN005
Pace Project No.: 50329250

Date: 11/04/2022 05:02 PM

QC Batch: 703261 Analysis Method: EPA 8260

QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50329250001, 50329250002, 50329250003

METHOD BLANK: 3233054 Matrix: Solid

Associated Lab Samples: 50329250001, 50329250002, 50329250003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	mg/kg	ND	0.0050	10/28/22 14:32	
1,1,1-Trichloroethane	mg/kg	ND	0.0050	10/28/22 14:32	
1,1,2,2-Tetrachloroethane	mg/kg	ND	0.0050	10/28/22 14:32	
1,1,2-Trichloroethane	mg/kg	ND	0.0050	10/28/22 14:32	
1,1-Dichloroethane	mg/kg	ND	0.0050	10/28/22 14:32	
1,1-Dichloroethene	mg/kg	ND	0.0050	10/28/22 14:32	
1,2,4-Trichlorobenzene	mg/kg	ND	0.0050	10/28/22 14:32	
1,2,4-Trimethylbenzene	mg/kg	ND	0.0050	10/28/22 14:32	
1,2-Dibromoethane (EDB)	mg/kg	ND	0.00075	10/28/22 14:32	
1,2-Dichlorobenzene	mg/kg	ND	0.0050	10/28/22 14:32	
1,2-Dichloroethane	mg/kg	ND	0.0050	10/28/22 14:32	
1,2-Dichloropropane	mg/kg	ND	0.0050	10/28/22 14:32	
1,3,5-Trimethylbenzene	mg/kg	ND	0.0050	10/28/22 14:32	
1,3-Dichloropropane	mg/kg	ND	0.0050	10/28/22 14:32	
1,4-Dichlorobenzene	mg/kg	ND	0.0050	10/28/22 14:32	
2-Butanone (MEK)	mg/kg	ND	0.025	10/28/22 14:32	
1-Methyl-2-pentanone (MIBK)	mg/kg	ND	0.025	10/28/22 14:32	
Acetone	mg/kg	ND	0.10	10/28/22 14:32	
Benzene	mg/kg	ND	0.0050	10/28/22 14:32	
Bromodichloromethane	mg/kg	ND	0.0050	10/28/22 14:32	
3romoform Stromoform S	mg/kg	ND	0.0050	10/28/22 14:32	
Bromomethane	mg/kg	ND	0.0050	10/28/22 14:32	
Carbon disulfide	mg/kg	ND	0.010	10/28/22 14:32	
Carbon tetrachloride	mg/kg	ND	0.0050	10/28/22 14:32	
Chlorobenzene	mg/kg	ND	0.0050	10/28/22 14:32	
Chloroethane	mg/kg	ND	0.0050	10/28/22 14:32	
Chloroform	mg/kg	ND	0.0050	10/28/22 14:32	
Chloromethane	mg/kg	ND	0.0050	10/28/22 14:32	
cis-1,2-Dichloroethene	mg/kg	ND	0.0050	10/28/22 14:32	
cis-1,3-Dichloropropene	mg/kg	ND	0.0050	10/28/22 14:32	
Dibromochloromethane	mg/kg	ND	0.0050	10/28/22 14:32	
Dibromomethane	mg/kg	ND	0.0050	10/28/22 14:32	
Dichlorodifluoromethane	mg/kg	ND	0.0050	10/28/22 14:32	
Ethyl methacrylate	mg/kg	ND	0.10	10/28/22 14:32	
Ethylbenzene	mg/kg	ND	0.0050	10/28/22 14:32	
sopropylbenzene (Cumene)	mg/kg	ND	0.0050	10/28/22 14:32	
Methyl-tert-butyl ether	mg/kg	ND	0.0050	10/28/22 14:32	
Methylene Chloride	mg/kg	ND	0.020	10/28/22 14:32	
n-Hexane	mg/kg	ND	0.0050	10/28/22 14:32	
Naphthalene	mg/kg	ND	0.0050	10/28/22 14:32	

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



Project: LRN005
Pace Project No.: 50329250

Date: 11/04/2022 05:02 PM

METHOD BLANK: 3233054 Matrix: Solid

Associated Lab Samples: 50329250001, 50329250002, 50329250003

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Styrene	mg/kg	ND	0.0050	10/28/22 14:32	
Tetrachloroethene	mg/kg	ND	0.0050	10/28/22 14:32	
Toluene	mg/kg	ND	0.0050	10/28/22 14:32	
trans-1,2-Dichloroethene	mg/kg	ND	0.0050	10/28/22 14:32	
trans-1,3-Dichloropropene	mg/kg	ND	0.0050	10/28/22 14:32	
Trichloroethene	mg/kg	ND	0.0050	10/28/22 14:32	
Trichlorofluoromethane	mg/kg	ND	0.0050	10/28/22 14:32	
Vinyl acetate	mg/kg	ND	0.10	10/28/22 14:32	
Vinyl chloride	mg/kg	ND	0.0050	10/28/22 14:32	
Xylene (Total)	mg/kg	ND	0.010	10/28/22 14:32	
4-Bromofluorobenzene (S)	%.	101	63-129	10/28/22 14:32	
Dibromofluoromethane (S)	%.	105	62-146	10/28/22 14:32	1d
Toluene-d8 (S)	%.	96	68-143	10/28/22 14:32	

LABORATORY CONTROL SAMPLE:	3233055					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
1,1,1,2-Tetrachloroethane	mg/kg	0.05	0.045	89	73-121	
1,1,1-Trichloroethane	mg/kg	0.05	0.040	81	60-122	
1,1,2,2-Tetrachloroethane	mg/kg	0.05	0.044	87	60-129	
1,1,2-Trichloroethane	mg/kg	0.05	0.045	90	69-126	
1,1-Dichloroethane	mg/kg	0.05	0.040	80	62-124	
1,1-Dichloroethene	mg/kg	0.05	0.040	80	57-133	
1,2,4-Trichlorobenzene	mg/kg	0.05	0.044	89	46-131	
1,2,4-Trimethylbenzene	mg/kg	0.05	0.043	87	57-119	
1,2-Dibromoethane (EDB)	mg/kg	0.05	0.046	92	62-134	
1,2-Dichlorobenzene	mg/kg	0.05	0.043	86	65-116	
1,2-Dichloroethane	mg/kg	0.05	0.041	83	63-127	
1,2-Dichloropropane	mg/kg	0.05	0.041	82	64-124	
1,3,5-Trimethylbenzene	mg/kg	0.05	0.042	83	58-118	
1,3-Dichloropropane	mg/kg	0.05	0.045	90	74-123	
1,4-Dichlorobenzene	mg/kg	0.05	0.043	86	59-117	
2-Butanone (MEK)	mg/kg	0.25	0.21	83	53-123	
4-Methyl-2-pentanone (MIBK)	mg/kg	0.25	0.25	102	54-130	
Acetone	mg/kg	0.25	0.18	73	21-145	
Benzene	mg/kg	0.05	0.040	80	65-124	
Bromodichloromethane	mg/kg	0.05	0.042	83	71-121	
Bromoform	mg/kg	0.05	0.043	86	65-120	
Bromomethane	mg/kg	0.05	0.041	81	35-155	
Carbon disulfide	mg/kg	0.05	0.037	74	50-125	
Carbon tetrachloride	mg/kg	0.05	0.042	83	63-129	
Chlorobenzene	mg/kg	0.05	0.041	83	64-118	
Chloroethane	mg/kg	0.05	0.041	82	41-144	
Chloroform	mg/kg	0.05	0.037	75	60-118	

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: LRN005
Pace Project No.: 50329250

Date: 11/04/2022 05:02 PM

LABORATORY CONTROL SAMPLE:	3233055					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Chloromethane	mg/kg	0.05	0.047	94	34-127	
cis-1,2-Dichloroethene	mg/kg	0.05	0.040	79	65-121	
cis-1,3-Dichloropropene	mg/kg	0.05	0.046	91	69-124	
Dibromochloromethane	mg/kg	0.05	0.045	89	69-126	
Dibromomethane	mg/kg	0.05	0.041	82	71-120	
Dichlorodifluoromethane	mg/kg	0.05	0.054	107	10-134	
Ethyl methacrylate	mg/kg	0.05	.044J	87	63-123	
Ethylbenzene	mg/kg	0.05	0.042	84	63-119	
Isopropylbenzene (Cumene)	mg/kg	0.05	0.042	85	61-122	
Methyl-tert-butyl ether	mg/kg	0.05	0.043	87	63-128	
Methylene Chloride	mg/kg	0.05	0.032	64	54-141	
n-Hexane	mg/kg	0.05	0.039	79	49-119	
Naphthalene	mg/kg	0.05	0.039	78	56-124	
Styrene	mg/kg	0.05	0.043	87	65-119	
Tetrachloroethene	mg/kg	0.05	0.043	85	60-122	
Toluene	mg/kg	0.05	0.040	81	61-117	
trans-1,2-Dichloroethene	mg/kg	0.05	0.039	79	61-121	
trans-1,3-Dichloropropene	mg/kg	0.05	0.045	90	68-122	
Trichloroethene	mg/kg	0.05	0.042	83	63-123	
Trichlorofluoromethane	mg/kg	0.05	0.046	92	44-137	
Vinyl acetate	mg/kg	0.2	0.18	92	36-96	
Vinyl chloride	mg/kg	0.05	0.048	97	37-136	
Xylene (Total)	mg/kg	0.15	0.12	82	61-120	
4-Bromofluorobenzene (S)	%.			98	63-129	
Dibromofluoromethane (S)	%.			92	62-146	
Toluene-d8 (S)	%.			101	68-143	

Results presented on 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:

LRN005

Pace Project No.:

50329250

QC Batch:

703553

Analysis Method:

EPA 8015 Mod Ext

QC Batch Method: EPA 3546 Analysis Description:

EPA 8015 TPH Ohio

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

50329250001, 50329250002

METHOD BLANK: 3234481

Matrix: Solid

Associated Lab Samples:

Date: 11/04/2022 05:02 PM

50329250001, 50329250002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/kg	ND	19.9	10/31/22 23:24	
TPH (C10-C20)	mg/kg	ND	10	10/31/22 23:24	
TPH (C20-C34)	mg/kg	ND	10	10/31/22 23:24	
n-Pentacosane (S)	%.	97	10-157	10/31/22 23:24	2d

LABORATORY CONTROL SAMPLE:

3234482

		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/kg	81.7	66.8	82	45-114	
n-Pentacosane (S)	%.			104	10-157	

Results presented on 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:

LRN005

Pace Project No.:

50329250

QC Batch:

702711

**EPA 3546** 

Analysis Method:

EPA 8082

QC Batch Method:

Analysis Description:

8082 PCB Solids

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

Date: 11/04/2022 05:02 PM

50329250001, 50329250002

METHOD BLANK: 3230208

Matrix: Solid

Associated Lab Samples: 50329250001, 50329250002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	mg/kg	ND	0.097	10/27/22 20:54	
PCB-1221 (Aroclor 1221)	mg/kg	ND	0.097	10/27/22 20:54	
PCB-1232 (Aroclor 1232)	mg/kg	ND	0.097	10/27/22 20:54	
PCB-1242 (Aroclor 1242)	mg/kg	ND	0.097	10/27/22 20:54	
PCB-1248 (Aroclor 1248)	mg/kg	ND	0.097	10/27/22 20:54	
PCB-1254 (Aroclor 1254)	mg/kg	ND	0.097	10/27/22 20:54	
PCB-1260 (Aroclor 1260)	mg/kg	ND	0.097	10/27/22 20:54	
Tetrachloro-m-xylene (S)	%.	77	36-112	10/27/22 20:54	

LABORATORY CONTROL SAMPLE: 3230209

ENSOLUTION CONTROL OF WIN EE.	0200200	Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
PCB-1016 (Aroclor 1016)	mg/kg	0.32	0.31	95	52-128	
PCB-1260 (Aroclor 1260)	mg/kg	0.32	0.33	102	30-128	
Tetrachloro-m-xylene (S)	%.			84	36-112	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3230210 3230211

	5	0329217012	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)	mg/kg	ND	0.36	0.37	0.16	0.27	45	72	10-150	50	20	R1
PCB-1260 (Aroclor 1260)	mg/kg	ND	0.36	0.37	0.16	0.28	42	73	10-140	56	20	R1
Tetrachloro-m-xylene (S)	%.						46	63	36-112			

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Project:

LRN005

Pace Project No.:

50329250

QC Batch:

702988

Analysis Method:

EPA 8270

QC Batch Method:

EPA 3546

Analysis Description:

8270 Solid MSSV Microwave Short Spike

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

METHOD BLANK: 3231659

Matrix: Solid

Associated Lab Samples:

Date: 11/04/2022 05:02 PM

50329250001

50329250001

		Blank	Reporting		-10
Parameter	Units	Result	Limit	Analyzed	Qualifiers
2,4,5-Trichlorophenol	mg/kg	ND	0.33	10/27/22 18:05	
2,4,6-Trichlorophenol	mg/kg	ND	0.33	10/27/22 18:05	
2,4-Dichlorophenol	mg/kg	ND	0.33	10/27/22 18:05	
2,4-Dimethylphenol	mg/kg	ND	0.33	10/27/22 18:05	
2,4-Dinitrophenol	mg/kg	ND	1.6	10/27/22 18:05	
2,4-Dinitrotoluene	mg/kg	ND	0.33	10/27/22 18:05	
2,6-Dinitrotoluene	mg/kg	ND	0.33	10/27/22 18:05	
2-Chloronaphthalene	mg/kg	ND	0.33	10/27/22 18:05	
2-Chlorophenol	mg/kg	ND	0.33	10/27/22 18:05	
2-Methylnaphthalene	mg/kg	ND	0.33	10/27/22 18:05	
2-Methylphenol(o-Cresol)	mg/kg	ND	0.33	10/27/22 18:05	
3&4-Methylphenol(m&p Cresol)	mg/kg	ND	0.65	10/27/22 18:05	
1-Chloro-3-methylphenol	mg/kg	ND	0.65	10/27/22 18:05	
I-Chloroaniline	mg/kg	ND	0.65	10/27/22 18:05	
Acenaphthene	mg/kg	ND	0.33	10/27/22 18:05	
Acenaphthylene	mg/kg	ND	0.33	10/27/22 18:05	
Anthracene	mg/kg	ND	0.33	10/27/22 18:05	
Benzo(a)anthracene	mg/kg	ND	0.33	10/27/22 18:05	
Benzo(a)pyrene	mg/kg	ND	0.33	10/27/22 18:05	
Benzo(b)fluoranthene	mg/kg	ND	0.33	10/27/22 18:05	
Benzo(g,h,i)perylene	mg/kg	ND	0.33	10/27/22 18:05	
Benzo(k)fluoranthene	mg/kg	ND	0.33	10/27/22 18:05	
ois(2-Chloroethoxy)methane	mg/kg	ND	0.33	10/27/22 18:05	
ois(2-Chloroethyl) ether	mg/kg	ND	0.33	10/27/22 18:05	
ois(2-Ethylhexyl)phthalate	mg/kg	ND	0.33	10/27/22 18:05	
ois(2chloro1methylethyl) ether	mg/kg	ND	0.33	10/27/22 18:05	
Butylbenzylphthalate	mg/kg	ND	0.33	10/27/22 18:05	
Chrysene	mg/kg	ND	0.33	10/27/22 18:05	
Di-n-butylphthalate	mg/kg	ND	0.33	10/27/22 18:05	
Di-n-octylphthalate	mg/kg	ND	0.33	10/27/22 18:05	
Dibenz(a,h)anthracene	mg/kg	ND	0.33	10/27/22 18:05	
Diethylphthalate	mg/kg	ND	0.33	10/27/22 18:05	
Fluoranthene	mg/kg	ND	0.33	10/27/22 18:05	
Fluorene	mg/kg	ND	0.33	10/27/22 18:05	
Hexachlorocyclopentadiene	mg/kg	ND	0.33	10/27/22 18:05	
Hexachloroethane	mg/kg	ND	0.33	10/27/22 18:05	
ndeno(1,2,3-cd)pyrene	mg/kg	ND	0.33	10/27/22 18:05	
sophorone	mg/kg	ND	0.33	10/27/22 18:05	
N-Nitroso-di-n-propylamine	mg/kg	ND	0.33	10/27/22 18:05	
N-Nitrosodiphenylamine	mg/kg	ND	0.33	10/27/22 18:05	

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



Project: LRN005 Pace Project No.: 50329250

METHOD BLANK: 3231659

Date: 11/04/2022 05:02 PM

Matrix: Solid

Associated Lab Samples: 50329250001

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Naphthalene	mg/kg	ND	0.33	10/27/22 18:05	
Nitrobenzene	mg/kg	ND	0.33	10/27/22 18:05	
Phenanthrene	mg/kg	ND	0.33	10/27/22 18:05	
Phenol	mg/kg	ND	0.33	10/27/22 18:05	
Pyrene	mg/kg	ND	0.33	10/27/22 18:05	
2,4,6-Tribromophenol (S)	%.	75	10-123	10/27/22 18:05	
2-Fluorobiphenyl (S)	%.	66	36-100	10/27/22 18:05	
2-Fluorophenol (S)	%.	72	22-114	10/27/22 18:05	
Nitrobenzene-d5 (S)	%.	64	35-110	10/27/22 18:05	
p-Terphenyl-d14 (S)	%.	85	29-117	10/27/22 18:05	
Phenol-d5 (S)	%.	72	35-115	10/27/22 18:05	

LABORATORY CONTROL SAMPLE:	3231660					
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,4-Dinitrotoluene	mg/kg	1.6	1.5	95	57-115	200000000000000000000000000000000000000
2-Chlorophenol	mg/kg	1.6	1.3	79	55-103	
2-Methylnaphthalene	mg/kg	1.6	1.2	76	53-108	
4-Chloro-3-methylphenol	mg/kg	1.6	1.5	90	60-121	
Acenaphthene	mg/kg	1.6	1.3	81	57-102	
Acenaphthylene	mg/kg	1.6	1.3	81	56-103	
Anthracene	mg/kg	1.6	1.3	81	62-106	
Benzo(a)anthracene	mg/kg	1.6	1.4	86	63-110	
Benzo(a)pyrene	mg/kg	1.6	1.4	85	60-114	
Benzo(b)fluoranthene	mg/kg	1.6	1.3	78	61-119	
Benzo(g,h,i)perylene	mg/kg	1.6	1.4	83	62-109	
Benzo(k)fluoranthene	mg/kg	1.6	1.5	91	59-115	
Chrysene	mg/kg	1.6	1.4	88	61-109	
Dibenz(a,h)anthracene	mg/kg	1.6	1.4	83	62-111	
Fluoranthene	mg/kg	1.6	1.5	93	65-113	
Fluorene	mg/kg	1.6	1.4	87	60-109	
Indeno(1,2,3-cd)pyrene	mg/kg	1.6	1.4	85	62-111	
N-Nitroso-di-n-propylamine	mg/kg	1.6	1.2	74	51-105	
Naphthalene	mg/kg	1.6	1.2	74	53-103	
Phenanthrene	mg/kg	1.6	1.4	84	62-108	
Phenol	mg/kg	1.6	1.3	78	45-112	
Pyrene	mg/kg	1.6	1.4	86	61-113	
2,4,6-Tribromophenol (S)	%.			79	10-123	
2-Fluorobiphenyl (S)	%.			73	36-100	
2-Fluorophenol (S)	%.			82	22-114	
Nitrobenzene-d5 (S)	%.			73	35-110	
p-Terphenyl-d14 (S)	%.			91	29-117	
Phenol-d5 (S)	%.			84	35-115	

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### **REPORT OF LABORATORY ANALYSIS**

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Project:

LRN005

Pace Project No.:

50329250

QC Batch:

704284

Analysis Method:

EPA 8270

QC Batch Method: EPA 3546

Analysis Description:

8270 Solid MSSV Microwave Short Spike

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples: 50329250002

METHOD BLANK: 3237680

Matrix: Solid

Associated Lab Samples:

Date: 11/04/2022 05:02 PM

50329250002

Matrix: Solid

D	I forther	Blank	Reporting		Qualifiara	
Parameter	Units	Result	Limit	Analyzed	Qualifiers	
2,4,5-Trichlorophenol	mg/kg	ND	0.33	11/03/22 21:42		
2,4,6-Trichlorophenol	mg/kg	ND	0.33	11/03/22 21:42		
2,4-Dichlorophenol	mg/kg	ND	0.33	11/03/22 21:42		
2,4-Dimethylphenol	mg/kg	ND	0.33	11/03/22 21:42		
2,4-Dinitrophenol	mg/kg	ND	1.6	11/03/22 21:42		
2,4-Dinitrotoluene	mg/kg	ND	0.33	11/03/22 21:42		
2,6-Dinitrotoluene	mg/kg	ND	0.33	11/03/22 21:42		
2-Chloronaphthalene	mg/kg	ND	0.33	11/03/22 21:42		
2-Chlorophenol	mg/kg	ND	0.33	11/03/22 21:42		
2-Methylnaphthalene	mg/kg	ND	0.33	11/03/22 21:42		
2-Methylphenol(o-Cresol)	mg/kg	ND	0.33	11/03/22 21:42		
3&4-Methylphenol(m&p Cresol)	mg/kg	ND	0.66	11/03/22 21:42		
4-Chloro-3-methylphenol	mg/kg	ND	0.66	11/03/22 21:42		
4-Chloroaniline	mg/kg	ND	0.66	11/03/22 21:42		
Acenaphthene	mg/kg	ND	0.33	11/03/22 21:42		
Acenaphthylene	mg/kg	ND	0.33	11/03/22 21:42		
Anthracene	mg/kg	ND	0.33	11/03/22 21:42		
Benzo(a)anthracene	mg/kg	ND	0.33	11/03/22 21:42		
Benzo(a)pyrene	mg/kg	ND	0.33	11/03/22 21:42		
Benzo(b)fluoranthene	mg/kg	ND	0.33	11/03/22 21:42		
Benzo(g,h,i)perylene	mg/kg	ND	0.33	11/03/22 21:42		
Benzo(k)fluoranthene	mg/kg	ND	0.33	11/03/22 21:42		
bis(2-Chloroethoxy)methane	mg/kg	ND	0.33	11/03/22 21:42		
bis(2-Chloroethyl) ether	mg/kg	ND	0.33	11/03/22 21:42		
bis(2-Ethylhexyl)phthalate	mg/kg	ND	0.33	11/03/22 21:42		
bis(2chloro1methylethyl) ether	mg/kg	ND	0.33	11/03/22 21:42		
Butylbenzylphthalate	mg/kg	ND	0.33	11/03/22 21:42		
Chrysene	mg/kg	ND	0.33	11/03/22 21:42		
Di-n-butylphthalate	mg/kg	ND	0.33	11/03/22 21:42		
Di-n-octylphthalate	mg/kg	ND	0.33	11/03/22 21:42		
Dibenz(a,h)anthracene	mg/kg	ND	0.33	11/03/22 21:42		
Diethylphthalate	mg/kg	ND	0.33	11/03/22 21:42		
Fluoranthene	mg/kg	ND	0.33	11/03/22 21:42		
Fluorene	mg/kg	ND	0.33	11/03/22 21:42		
Hexachlorocyclopentadiene	mg/kg	ND	0.33	11/03/22 21:42		
Hexachloroethane	mg/kg	ND	0.33	11/03/22 21:42		
Indeno(1,2,3-cd)pyrene	mg/kg	ND	0.33	11/03/22 21:42		
Isophorone	mg/kg	ND	0.33	11/03/22 21:42		
N-Nitroso-di-n-propylamine	mg/kg	ND	0.33	11/03/22 21:42		
N-Nitrosodiphenylamine	mg/kg	ND	0.33	11/03/22 21:42		

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Project: LRN005 50329250 Pace Project No.:

METHOD BLANK: 3237680

Date: 11/04/2022 05:02 PM

Matrix: Solid

Associated Lab Samples: 50329250002

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Naphthalene	mg/kg	ND	0.33	11/03/22 21:42	
Nitrobenzene	mg/kg	ND	0.33	11/03/22 21:42	
Phenanthrene	mg/kg	ND	0.33	11/03/22 21:42	
Phenol	mg/kg	ND	0.33	11/03/22 21:42	
Pyrene	mg/kg	ND	0.33	11/03/22 21:42	
2,4,6-Tribromophenol (S)	%.	63	10-123	11/03/22 21:42	
2-Fluorobiphenyl (S)	%.	71	36-100	11/03/22 21:42	
2-Fluorophenol (S)	%.	77	22-114	11/03/22 21:42	
Nitrobenzene-d5 (S)	%.	67	35-110	11/03/22 21:42	
p-Terphenyl-d14 (S)	%.	78	29-117	11/03/22 21:42	
Phenol-d5 (S)	%.	82	35-115	11/03/22 21:42	

LABORATORY CONTROL SAMPLE:	3237681					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
2,4-Dinitrotoluene	mg/kg	1.6	1.2	74	57-115	
2-Chlorophenol	mg/kg	1.6	1.4	83	55-103	
2-Methylnaphthalene	mg/kg	1.6	1.3	80	53-108	
4-Chloro-3-methylphenol	mg/kg	1.6	1.5	89	60-121	
Acenaphthene	mg/kg	1.6	1.4	82	57-102	
Acenaphthylene	mg/kg	1.6	1.4	83	56-103	
Anthracene	mg/kg	1.6	1.3	82	62-106	
Benzo(a)anthracene	mg/kg	1.6	1.4	86	63-110	
Benzo(a)pyrene	mg/kg	1.6	1.4	82	60-114	
Benzo(b)fluoranthene	mg/kg	1.6	1.3	79	61-119	
Benzo(g,h,i)perylene	mg/kg	1.6	1.4	83	62-109	
Benzo(k)fluoranthene	mg/kg	1.6	1.4	84	59-115	
Chrysene	mg/kg	1.6	1.4	87	61-109	
Dibenz(a,h)anthracene	mg/kg	1.6	1.4	83	62-111	
Fluoranthene	mg/kg	1.6	1.4	82	65-113	
Fluorene	mg/kg	1.6	1.4	85	60-109	
Indeno(1,2,3-cd)pyrene	mg/kg	1.6	1.4	86	62-111	
N-Nitroso-di-n-propylamine	mg/kg	1.6	1.2	72	51-105	
Naphthalene	mg/kg	1.6	1.2	75	53-103	
Phenanthrene	mg/kg	1.6	1.3	82	62-108	
Phenol	mg/kg	1.6	1.3	81	45-112	
Pyrene	mg/kg	1.6	1.5	93	61-113	
2,4,6-Tribromophenol (S)	%.			70	10-123	
2-Fluorobiphenyl (S)	%.			75	36-100	
2-Fluorophenol (S)	%.			84	22-114	
Nitrobenzene-d5 (S)	%.			72	35-110	
p-Terphenyl-d14 (S)	%.			83	29-117	
Phenol-d5 (S)	%.			89	35-115	

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### **REPORT OF LABORATORY ANALYSIS**

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Project: LRN005
Pace Project No.: 50329250

Date: 11/04/2022 05:02 PM

MATRIX SPIKE & MATRIX SF	IKE DUPLIC	ATE: 3237	682 MS	MSD	3237683							
	50	0329250002	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qua
2,4-Dinitrotoluene	mg/kg	ND.	2	2.2	.37J	0.86	18	41	10-126		20	
2-Chlorophenol	mg/kg	ND	2	2.2	1.2	1.2	56	59	15-119	5	20	
2-Methylnaphthalene	mg/kg	ND	2	2.2	1.2	1.3	56	61	24-122	9	20	
4-Chloro-3-methylphenol	mg/kg	ND	2	2.2	1.3	1.3	61	62	20-139	2	20	
Acenaphthene	mg/kg	ND	2	2.2	1.1	1.2	54	59	18-123	10	20	
Acenaphthylene	mg/kg	ND	2	2.2	0.95	1.2	46	57	17-120	23	20	R1
Anthracene	mg/kg	ND	2	2.2	1.0	1.1	49	54	16-126	9	20	
Benzo(a)anthracene	mg/kg	ND	2	2.2	1.0	1.1	49	54	10-145	10	20	
Benzo(a)pyrene	mg/kg	ND	2	2.2	0.83	1.0	40	48	10-136	18	20	
Benzo(b)fluoranthene	mg/kg	ND	2	2.2	0.85	1.1	41	52	10-147	24	20	R1
Benzo(g,h,i)perylene	mg/kg	ND	2	2.2	0.78	0.95	37	45	10-128	20	20	
Benzo(k)fluoranthene	mg/kg	ND	2	2.2	0.92	0.94	44	45	10-137	2	20	
Chrysene	mg/kg	ND	2	2.2	0.97	1.1	47	51	10-141	10	20	
Dibenz(a,h)anthracene	mg/kg	ND	2	2.2	0.82	0.96	40	46	10-130	16	20	
Fluoranthene	mg/kg	ND	2	2.2	1.1	1.1	51	53	10-151	4	20	
Fluorene	mg/kg	ND	2	2.2	1.1	1.2	55	59	17-131	7	20	
ndeno(1,2,3-cd)pyrene	mg/kg	ND	2	2.2	0.82	1.0	39	48	10-132	20	20	
N-Nitroso-di-n-propylamine	mg/kg	ND	2	2.2	1.0	1.1	50	54	21-118	8	20	
Naphthalene	mg/kg	ND	2	2.2	1.1	1.2	51	59	21-122	15	20	
Phenanthrene	mg/kg	ND	2	2.2	1.1	1.2	55	57	10-141	4	20	
Phenol	mg/kg	ND	2	2.2	1.2	1.2	59	59	17-120	0	20	
Pyrene	mg/kg	ND	2	2.2	1.2	1.3	56	60	10-150	7	20	
2,4,6-Tribromophenol (S)	%.						39	45	10-123			
2-Fluorobiphenyl (S)	%.						49	56	36-100			
2-Fluorophenol (S)	%.						55	59	22-114			
Nitrobenzene-d5 (S)	%.						38	50	35-110			
p-Terphenyl-d14 (S)	%.						47	50	29-117			
Phenol-d5 (S)	%.						61	63	35-115			

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Project:

LRN005

Pace Project No.:

50329250

QC Batch:

703358

Analysis Method:

SM 2540G

QC Batch Method:

SM 2540G

Analysis Description:

Dry Weight/Percent Moisture

Laboratory: 50329250001, 50329250002

Pace Analytical Services - Indianapolis

SAMPLE DUPLICATE: 3233736

Associated Lab Samples:

Parameter

Parameter

50329442002 Result

Dup

Max

Qualifiers

Percent Moisture

Percent Moisture

Units %

%

12.9

Result 13.5

5 N2

**RPD** 

SAMPLE DUPLICATE: 3233737

50329442003 Result

Dup Result

**RPD** 

**RPD** 

Max

Qualifiers

Date: 11/04/2022 05:02 PM

Units

12.3

11.8

**RPD** 

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: LRN005
Pace Project No.: 50329250

#### **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.

re-extraction and/or re-analysis)

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**

**S8** 

Date: 11/04/2022 05:02 PM

1d	A matrix spike/matrix spike duplicate could not be performed for this batch due to insufficient sample volume.
2d	A matrix spike/matrix spike duplicate was not performed due to insufficient volume
М3	Matrix spike recovery was outside laboratory control limits due to matrix interferences.
N2	The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.
P6	Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.
R1	RPD value was outside control limits.

Surrogate recovery outside laboratory control limits due to matrix interferences (confirmed by similar results from sample



# **METHOD CROSS REFERENCE TABLE**

Project: LRN005
Pace Project No.: 50329250

Parameter	Matrix	<b>Analytical Method</b>	Preparation Method
6010 MET ICP	Solid	SW-846 6010B	SW-846 3050B
7471 Mercury	Solid	SW-846 7471A	SW-846 7471A
8015 TPH Ohio Microwave	Solid	SW-846 8015D	SW-846 3546
8015D Gasoline Range Organics	Solid	SW-846 8015A	SW-846 5030A
8082 PCB Solids	Solid	SW-846 8082A	SW-846 3546
8260 MSV 5035A VOA	Solid	SW-846 8260C	SW-846 5035A
8270 SVOC SS Soil	Solid	SW-846 8270C	SW-846 3546



# **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: LRN005
Pace Project No.: 50329250

Date: 11/04/2022 05:02 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50329250001	LRN005:VMW-2:S000020	EPA 3546	703553	EPA 8015 Mod Ext	703633
50329250002	LRN005:VMW-2:S020025	EPA 3546	703553	EPA 8015 Mod Ext	703633
50329250001	LRN005:VMW-2:S000020	EPA 3546	702711	EPA 8082	702943
50329250002	LRN005:VMW-2:S020025	EPA 3546	702711	EPA 8082	702943
50329250001	LRN005:VMW-2:S000020	EPA 8015D	703053		
50329250002	LRN005:VMW-2:S020025	EPA 8015D	703053		
50329250001	LRN005:VMW-2:S000020	EPA 3050	703338	EPA 6010	704360
50329250002	LRN005:VMW-2:S020025	EPA 3050	703338	EPA 6010	704360
50329250001	LRN005:VMW-2:S000020	EPA 7471	703228	EPA 7471	703446
50329250002	LRN005:VMW-2:S020025	EPA 7471	703228	EPA 7471	703446
50329250001	LRN005:VMW-2:S000020	EPA 3546	702988	EPA 8270	703081
50329250002	LRN005:VMW-2:S020025	EPA 3546	704284	EPA 8270	704355
50329250001	LRN005:VMW-2:S000020	EPA 8260	703261		
50329250002	LRN005:VMW-2:S020025	EPA 8260	703261		
50329250003	LRN005:TB-2:W102522	EPA 8260	703261		
50329250001	LRN005:VMW-2:S000020	SM 2540G	703358		
50329250002	LRN005:VMW-2:S020025	SM 2540G	703358		



# CHAIN OF CUSTOR

WO#:50329250



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NO. 2187

Bublin, OH         Newark, OH           6397 Emerald Pkwy         59 Grant St.           Suite 200         Newark, OH 43055           Dublin, OH 43016         P: (740) 344-5451           P: (614) 793-8777         P: (740) 344-5451	Mason, OH	10ledo, OH 219 S. Erie St. Toledo, OH 43604 P: (419) 385-2018	St. Clairsville, OH 156 Woodrow Avenue Suite 3 St. Clairsville, OH 43950 P: (740) 217-2460	Pitts burgh, PA 300 Merchant Ln., Suite 307 Pittsburgh, PA 15205 P: (412) 446-0315	PRESE	RVATIVE	REPOR	RT TO:			ANALYSE		Ewin!	g.datadpun
Client: City of Lov Site: St. Joe's h Project #: Soll Samplers: J. Belopoto S Purchase Order # 16011 - 00	ospital Phase: #	SAMPLE MATRIX  AAAMBIENT AIR C-ASBESTOS D-SEDIMENT G-GROUNDWATER IA-INDOOR AIR L-LEACHATE P-PRODUCT S-SOIL SG-SOIL GAS SS-SUBSLAB VAPOR W-WATER X-CONCRETE	A-Cool only, <4 deg. C B-HNO <sub>3</sub> pH-2 C-H <sub>2</sub> SO <sub>4</sub> pH<2 D-NaOH pH>12 E-ZnAcetate + NaOH, pH>5 F-Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> (0.008%) G-HCL pH <2	H-EDTA I-5ml 1:1 HCL J-none K-Stored in dark L-NH4CI M-Methanol S-Sodium	METALS N - Not filtered F45u- filtered with 0.45 micron F5u- filtered with 5 micron		5/2	Some	of portale	PCBS	IPH DRO	THE GRO		
PROJECT NO.: SAMPLE LOC	ATION : SAMPLE MATRIX & ID	NO. OF CONT.	SAMPLE TYPE (discrete, composite)	COLLECTION DATE/TIME	METALS	/ -	7	1	7_	/ '	7 -	7	_	COMMENTS
LRNOOS MW-2	5000 020	6	D	10/25/22/8:55		X	X	X	X	X	(			001
LRNCOS MW-2	5020025	6	P	0/25/22/8:55		Y	X	X	X	X	X			002
LRN003: TB-2	W102572	3	4,000	10/25/20/-		Y								003
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RELINQUISHED BY	100000	RECEIVED BY:		10105.0										
11Mm	DATE: 10/25/20 TIME: 16'.00	FEOLEX		TIME: 18:00	2	D	-		Par	n 1.	110		179	20.1
RELINQUISHED BY	DATE: 10/26/22	RECEIVED BY:		DATE: 10/26/22		Deliver Method	of Delive	erv.	Fee		ndia	napa	112,	N4
fedex	TIME: 0930	ambert	ardin	TIME: 0930		Airbill N		J. J.	100	375	-73	311-	920	8-
RELINQUISHED BY:	DATE:	RECEIVED BY:		DATE:		1	ory Prog	ram:		10 V				
	TIME:			TIME:		Require	d Limits:							
COOLER TEMPERATURE AS RECEIVED	0.5 <sub>°C</sub>	DISTRIBUTION:	WHITE YELLOW PINK	-LAB USE (MUST BE RETURNE -LAB USE -RETAINED BY HULL	D WITH REPOR	T)	NOTES	S: AROUNE		ice	profil		G78	Page 42 of 44



# SAMPLE CONDITION UPON RECEIPT FORM

1								
Date/Time and Initials of person examining contents	: 10/20	122	11:13 AH		_			
1. Courier: SFED EX UPS CLIENT PAGE	CE 🗆 U	JSPS 🗆	OTHER	5. Packing Material:	☑ Bubble Wrap	Bubbl	e Bags	
2. Custody Seal on Cooler/Box Present: Y	□ No				□ None	Other		
(If yes)Seals Intact: 🗹 Yes 🗆 No (leave blank	if no seals	were prese	ent)					
3. Thermometer: 123456 ABCDEF				6. Ice Type: Wet	☐ Blue ☐ None	1		
4. Cooler Temperature(s): 0.4/0.5				7. If temp. is over 6°C or u	nder 0°C, was the PM	notified?:	☐ Yes	□ No
(Initial/Corrected) RECORD TEMPS OF ALL COOLERS RECEI	VED (use Co	mments belov	w to add more)	Cooler tem	should be above free	zing to 6°0		
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?: Excel	ling acid/base preservation h ptions: VOA, coliform, LLHg, a septum cap or preserved wit	O&G, RAD CHEM, and			
Short Hold Time Analysis (48 hours or less)? Analysis:	/			e to pH recommendations will be			6	
Time 5035A TC placed in Freezer or Short Holds To Lab	Time: [[:	11	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 Wiscon	sin Sulfide?				/
Containers Intact?:	1		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?:			/	
COMMENTS: Label for Sample Pt L	RNOOS	TB-2	: 4/02522	was Placed on o	utside of by	bble b	9,1	/ia15
were not labeled. (AH lo/25/22)								
	Add V	in front of I	MW per S. Ewing er	mail. 10/27/22tms				
					,			

Page 43 of 44

\*\* Place a RED dot on containers

that are out of conformance \*\*

																															oomormar	
		MeOH (only)													1														Nitric	Sulfuric	Sodium Hydroxide	Sodium Hydroxide/ ZnAc
		SBS		V	IALS					AMB	ER G	LASS			4 %			, P	LAST	IC					ОТН	IER			Red	Yellow	Green	Black
COC Line Item	WGFU		DG9H VG9H	VOA VIAL HS (>6mm)	VG9U	DG90	VG9T	AGOU	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	вРзи	BP3N	BP3F	BP3S	ВРЗВ	BP3Z	сезн	Syringe Kit			Matrix	HNO3 <2	H2SO4 <2	NaOH >10	NaOH/Zn Ac >9
1	2	4															,							2				SL				
2	2	4																										1				
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9																																
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11					- 1													1														
12													3																			

**Container Codes** 

	Glas	SS	And the state of t			P	lastic
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		Miscellaneous
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac		Miscellatieous
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic	Syringe	Kit LL Cr+6 sampling kit
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic	ZPLC	Ziploc Bag
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic	R	Terracore Kit
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic	SP5T	120mL Coliform Sodium Thiosulfate
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac	Т	Tedlar Bag (air sample)
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic	U	Summa Can (air sample)
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic	WT	Water
CG3H	250mL clear glass HCI	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered	SL	Solid Solid
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic	OL:	Oil
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic	NAL	Non-aqueous liquid
GN	General	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic	WP	Wipe

# **Affidavit of VAP Certified Laboratory**

[For VAP certified laboratories to attest to "certified data" under OAC 3745-300-04(A) and OAC 3745-300-13. Note that Ohio EPA is to receive a legible copy of the CL's affidavit. The entity that received the CL's analytical report under affidavit may retain the CL's affidavit original.]

State of	Indiana	)
		) ss
County of	Marion	)

- I, <u>Anne Troyer</u>, being first duly sworn according to law, state that, to the best of my knowledge, information and belief:
- 1. I am an adult over the age of eighteen years old and competent to testify herein.
- 2. I am employed by <u>Pace Analytical Services Indianapolis</u> ("the laboratory") as Quality Manager. I am authorized to submit this affidavit on behalf of the laboratory.
- 3. The purpose of this submission is to support a request for a no further action letter or other aspects of a voluntary action, under Ohio's Voluntary Action Program (VAP) as set forth in Ohio Revised Code Chapter 3746 and Ohio Administrative Code (OAC) Chapter 3745-300.
- 4. <u>Pace Analytical Services Indianapolis</u> performed analyses for <u>Verdantas</u> for a voluntary action at property known as LRN005 / St. Joe's Hospital, Lorain.
- 5. This affidavit applies to and is submitted with the following information, data, documents or reports for the property:

Document ID 50329250 Date of Document November 4, 2022

- 6. <u>Pace Analytical Services Indianapolis</u> was a VAP certified laboratory pursuant to OAC 3745-300-04 when it performed the analyses referenced herein.
- 7. All analyses under this affidavit consist of VAP "certified data" as described in OAC 3745-300-04(A) - unless paragraph b., below, specifies the exceptions:
  - a. The laboratory performed the analyses within its current VAP certification, number CL0065. The laboratory was certified for each analyte, parameter group and method used at the time that it performed the analyses see Method Cross Reference Table. The analyses were performed consistent with the laboratory's standard operating procedures and quality assurance program plan as approved under OAC 3745-300-04.
  - b. Exceptions, if any: Any soil moisture performed by method SM 2540G used for dry weight correction of data or any analysis used for batch QC on matrix spikes, matrix spike duplicates or sample duplicates that are not associated with the referenced project number identified in item 5 above.
- 8. The information, data, documents and reports identified under this affidavit are true, accurate and complete.

Certified Lab Affidavit Pursuant to OAC 3745-300-13(P) Page 2	
50329250	
Further affiant sayeth naught.	
	anne Troype
	Signature of Affiant
Sworn to before me and subscribed in my presence	this <u>28th</u> day of <u>November</u> , 2022.
Melissa Lynn Albertson Notary Public Seal State of Indiana Marion County Commission # 710839 My Commission Expires 02/25/2026	Melisia I atturbox
	Notary Public





November 10, 2022

Hien Pham Verdantas 4 Hemisphere Way Bedford, OH 44146

RE: Project: LRN005

Pace Project No.: 50329655

#### Dear Hien Pham:

Enclosed are the analytical results for sample(s) received by the laboratory on October 29, 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,

Tina Sayer tina.sayer@pacelabs.com

Tina Sayer

(317)228-3100 Project Manager

Enclosures

cc: Verdantas Data/EDD Admin Ms. Sarah Ewing, Verdantas







### **CERTIFICATIONS**

Project: LRN005
Pace Project No.: 50329655

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: LRN005
Pace Project No.: 50329655

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50329655001	LRN005:VMW-1:G102822	Water	10/28/22 10:45	10/29/22 09:15
50329655002	LRN005:VMW-2:G102822	Water	10/28/22 10:10	10/29/22 09:15
50329655003	LRN005:VMW-3:G102822	Water	10/28/22 13:50	10/29/22 09:15
50329655004	LRN005:VMW-4:G102822	Water	10/28/22 12:50	10/29/22 09:15
50329655005	LRN005:VMW-5:G102822	Water	10/28/22 11:58	10/29/22 09:15
50329655006	LRN005:EB:W102822	Water	10/28/22 14:00	10/29/22 09:15
50329655007	LRN005:Trip Blank:W102822	Water	10/28/22 08:00	10/29/22 09:15



# **SAMPLE ANALYTE COUNT**

Project:

LRN005

Pace Project No.:

50329655

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50329655001	LRN005:VMW-1:G102822	EPA 6010		13	PASI-I
		EPA 6020	CAW	1	PASI-I
		EPA 7470	ILP	1	PASI-I
		EPA 8270 by SIM	GRM	19	PASI-I
		EPA 8270	GRM	32	PASI-I
		EPA 8260	TLS1	53	PASI-I
0329655002	LRN005:VMW-2:G102822	EPA 6010	MTM	13	PASI-I
		EPA 6020	CAW	1	PASI-I
		EPA 7470	ILP	1	PASI-I
		EPA 8270 by SIM	GRM	19	PASI-I
		EPA 8270	GRM	32	PASI-I
		EPA 8260	TLS1	53	PASI-I
0329655003	LRN005:VMW-3:G102822	EPA 6010	MTM	13	PASI-I
		EPA 6020	CAW	1	PASI-I
		EPA 7470	ILP	1	PASI-I
		EPA 8270 by SIM	GRM	19	PASI-I
		EPA 8270	GRM	32	PASI-I
		EPA 8260	TLS1	53	PASI-I
0329655004	LRN005:VMW-4:G102822	EPA 6010	MTM	13	PASI-I
		EPA 6020	CAW	1	PASI-I
		EPA 7470	ILP	1	PASI-I
		EPA 8270 by SIM	GRM	19	PASI-I
		EPA 8270	GRM	32	PASI-I
		EPA 8260	TLS1	53	PASI-I
0329655005	LRN005:VMW-5:G102822	EPA 6010	MTM	13	PASI-I
		EPA 6020	CAW	1	PASI-I
		EPA 7470	ILP	1	PASI-I
		EPA 8270 by SIM	GRM	19	PASI-I
		EPA 8270	GRM	32	PASI-I
		EPA 8260	TLS1	53	PASI-I
0329655006	LRN005:EB:W102822	EPA 6010	MTM	13	PASI-I
		EPA 6020	CAW	1	PASI-I
		EPA 7470	ILP	1	PASI-I
		EPA 8270 by SIM	GRM	19	PASI-I
		EPA 8270	GRM	32	PASI-I
		EPA 8260	TLS1	53	PASI-I
0329655007	LRN005:Trip Blank:W102822	EPA 8260	TLS1	53	PASI-I

# **REPORT OF LABORATORY ANALYSIS**

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





### **SAMPLE ANALYTE COUNT**

Project:

LRN005

Pace Project No.:

50329655

Lab ID

Sample ID

Method

Analysts

Analytes Reported

Laboratory

PASI-I = Pace Analytical Services - Indianapolis



# **SUMMARY OF DETECTION**

Project: LRN005
Pace Project No.: 50329655

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50329655001	LRN005:VMW-1:G102822					
EPA 6010	Barium	108	ug/L	5.0	11/09/22 11:26	
EPA 6010	Cadmium	1.2	ug/L	1.0	11/09/22 11:26	
EPA 6010	Chromium	115	ug/L	4.0	11/09/22 11:26	
EPA 6010	Cobalt	11.6	ug/L	3.0	11/09/22 11:26	
EPA 6010	Lead	6.5	ug/L	5.0	11/09/22 11:26	
EPA 6010	Nickel	98.2	ug/L	3.0	11/09/22 11:26	
EPA 6010	Selenium	11.4	ug/L	10.0	11/09/22 11:26	
EPA 6010	Vanadium	38.6	ug/L	10.0	11/09/22 11:26	
EPA 6010	Zinc	62.4	ug/L	10.0	11/09/22 11:26	
EPA 6020	Thallium	1.9	ug/L	0.10	11/04/22 16:58	
50329655002	LRN005:VMW-2:G102822					
EPA 6010	Barium	76.8	ug/L	5.0	11/09/22 11:28	
EPA 6010	Zinc	11.9	ug/L	10.0	11/09/22 11:28	
50329655003	LRN005:VMW-3:G102822					
EPA 6010	Barium	39.9	ug/L	5.0	11/09/22 11:30	
EPA 6010	Cadmium	1.1	ug/L	1.0	11/09/22 11:30	
EPA 6010	Nickel	8.8	ug/L	3.0	11/09/22 11:30	
EPA 6010	Zinc	12.0	ug/L	10.0	11/09/22 11:30	
EPA 6020	Thallium	0.13	ug/L	0.10	11/04/22 17:13	
60329655004	LRN005:VMW-4:G102822					
EPA 6010	Barium	37.1	ug/L	5.0	11/09/22 11:32	
EPA 6010	Cobalt	6.3	ug/L	3.0	11/09/22 11:32	
EPA 6010	Nickel	55.8	ug/L	3.0	11/09/22 11:32	
EPA 6010	Selenium	35.0	ug/L	10.0	11/09/22 11:32	
EPA 6010	Zinc	10.2	ug/L	10.0	11/09/22 11:32	
50329655005	LRN005:VMW-5:G102822					
EPA 6010	Barium	33.2	ug/L	5.0	11/09/22 11:34	
EPA 6010	Cadmium	7.1	ug/L	1.0	11/09/22 11:34	
EPA 6010	Cobalt	49.0	ug/L	3.0	11/09/22 11:34	
EPA 6010	Nickel	234	ug/L	3.0	11/09/22 11:34	
EPA 6010	Zinc	96.0	ug/L	10.0	11/09/22 11:34	
EPA 6020	Thallium	0.81	ug/L	0.10	11/04/22 17:32	





Project: LRN005
Pace Project No.: 50329655

Method: EPA 6010

Description: 6010 MET ICP

Client: Verdantas Bedford

Date: November 10, 2022

#### **General Information:**

6 samples were analyzed for EPA 6010 by Pace Analytical Services Indianapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### **Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Sample Preparation:

The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

#### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### **Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### **Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### **Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.





Project: LRN005
Pace Project No.: 50329655

Method: EPA 6020

Description: 6020 MET ICPMS
Client: Verdantas Bedford
Date: November 10, 2022

#### **General Information:**

6 samples were analyzed for EPA 6020 by Pace Analytical Services Indianapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### **Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Sample Preparation:

The samples were prepared in accordance with EPA 200.2 with any exceptions noted below.

#### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### **Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

### Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### **Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### **Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.





Project: LRN005
Pace Project No.: 50329655

Method: EPA 7470
Description: 7470 Mercury
Client: Verdantas Bedford
Date: November 10, 2022

#### **General Information:**

6 samples were analyzed for EPA 7470 by Pace Analytical Services Indianapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### **Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Sample Preparation:

The samples were prepared in accordance with EPA 7470 with any exceptions noted below.

#### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### **Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### **Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### **Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.



Project: LRN005 Pace Project No.: 50329655

Method: EPA 8270 by SIM

Description: 8270 100mL Combo RV

Client: Verdantas Bedford

Date: November 10, 2022

#### **General Information:**

6 samples were analyzed for EPA 8270 by SIM by Pace Analytical Services Indianapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### **Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Sample Preparation:

The samples were prepared in accordance with EPA 3510 with any exceptions noted below.

#### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### **Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

#### Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

#### Surrogates:

All surrogates were within QC limits with any exceptions noted below.

QC Batch: 703575

S3: Surrogate recovery exceeded laboratory control limits. Analyte presence below reporting limits in associated sample.

- BLANK (Lab ID: 3234550)
  - p-Terphenyl-d14 (S)
- LRN005:VMW-2:G102822 (Lab ID: 50329655002)
  - p-Terphenyl-d14 (S)

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### **Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### **Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 703575

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 50329514002

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- · MS (Lab ID: 3234552)
  - 2-Methylnaphthalene





Project: LRN005 Pace Project No.: 50329655

Method: EPA 8270 by SIM

Description: 8270 100mL Combo RV

Client: Verdantas Bedford

Date: November 10, 2022

QC Batch: 703575

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 50329514002

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- Anthracene
- · Benzo(a)anthracene
- Chrysene
- Fluoranthene
- Fluorene
- Naphthalene
- Phenanthrene
- Pyrene
- MSD (Lab ID: 3234553)
  - · 2-Methylnaphthalene
  - Anthracene
  - Benzo(a)anthracene
  - Chrysene
  - Fluoranthene
  - Fluorene
  - Phenanthrene
  - Pyrene





Project: LRN005
Pace Project No.: 50329655

Method: EPA 8270

Description: 8270 SVOC Combo Water
Client: Verdantas Bedford
Date: November 10, 2022

#### **General Information:**

6 samples were analyzed for EPA 8270 by Pace Analytical Services Indianapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### **Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Sample Preparation:

The samples were prepared in accordance with EPA 3510 with any exceptions noted below.

#### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### **Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

### Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

#### Surrogates:

All surrogates were within QC limits with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

#### **Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### **Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.





Project: LRN005
Pace Project No.: 50329655

Method:EPA 8260Description:8260/5030 MSVClient:Verdantas BedfordDate:November 10, 2022

#### **General Information:**

7 samples were analyzed for EPA 8260 by Pace Analytical Services Indianapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### **Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

#### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### **Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

#### Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

#### Surrogates:

All surrogates were within QC limits with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### **Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### **Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

#### **Additional Comments:**

This data package has been reviewed for quality and completeness and is approved for release.



Project: LRN005
Pace Project No.: 50329655

Date: 11/10/2022 11:45 AM

Sample: LRN005:VMW-1:G102822	Lab ID: 50	329655001	Collected:	10/28/2	2 10:45	Received: 1	0/29/22 09:15	Matrix: Water	
Parameters	Results	Units	Report	Limit	DF	Prepared	Analyzed	CAS No.	Qua
6010 MET ICP	Analytical Me	thod: EPA 60	010 Preparati	ion Meth	nod: EPA	3010			
	Pace Analytic	al Services -	Indianapolis						
Antimony	ND	ug/L		6.0	1	11/05/22 13:44	11/09/22 11:26	7440-36-0	
Arsenic	ND	ug/L		10.0	1	11/05/22 13:44	11/09/22 11:26	7440-38-2	
Barium	108	ug/L		5.0	1	11/05/22 13:44	11/09/22 11:26	7440-39-3	
Beryllium	ND	ug/L		4.0	1	11/05/22 13:44	11/09/22 11:26	7440-41-7	
admium	1.2	ug/L		1.0	1	11/05/22 13:44	11/09/22 11:26	7440-43-9	
Chromium	115	ug/L		4.0	1	11/05/22 13:44	11/09/22 11:26	7440-47-3	
Cobalt	11.6	ug/L		3.0	1	11/05/22 13:44	11/09/22 11:26	7440-48-4	
ead	6.5	ug/L		5.0	1		11/09/22 11:26		
lickel	98.2	ug/L		3.0	1		11/09/22 11:26		
Selenium	11.4	ug/L		10.0	1		11/09/22 11:26		
Silver	ND	ug/L		10.0	1		11/09/22 11:26		
/anadium	38.6	ug/L		10.0	1		11/09/22 11:26		
Zinc	62.4	ug/L		10.0	1		11/09/22 11:26		
		<del>-</del>							
6020 MET ICPMS	Analytical Me	thod: EPA 60	020 Preparati	ion Meth	nod: EPA	200.2			
	Pace Analytic	al Services -	Indianapolis						
hallium	1.9	ug/L		0.10	1	10/31/22 16:20	11/04/22 16:58	3 7440-28-0	
470 Mercury	Analytical Me	thod: EPA 74	70 Preparati	ion Meth	nod: EPA	7470			
-	Pace Analytic	al Services -	Indianapolis						
Mercury	ND	ug/L		0.20	1	10/31/22 19:06	11/01/22 09:22	7439-97-6	
3270 100mL Combo RV	Analytical Me	thod: EPA 82	270 by SIM P	reparati	on Meth	od: EPA 3510			
	Pace Analytic								
Acenaphthene	ND	ug/L		1.0	1	10/31/22 00:00	11/01/22 20:05	5 83-32-9	
cenaphthylene	ND	ug/L		1.0	1		11/01/22 20:05		
Anthracene	ND	ug/L		0.10	1		11/01/22 20:05		
Benzo(a)anthracene	ND	ug/L		0.10	1		11/01/22 20:05		
Benzo(a)pyrene	ND	ug/L		0.10	1		11/01/22 20:05		
Benzo(b)fluoranthene	ND	ug/L		0.10	1		11/01/22 20:05		
Benzo(g,h,i)perylene	ND	ug/L		0.10	1		11/01/22 20:05		
Benzo(k)fluoranthene	ND	ug/L		0.10	1		11/01/22 20:05		
Chrysene	ND	ug/L		0.50	1		11/01/22 20:05		
Dibenz(a,h)anthracene	ND	ug/L		0.092	1		11/01/22 20:05		
luoranthene	ND	ug/L		1.0	1		11/01/22 20:05		
luorene	ND	ug/L		1.0	1		11/01/22 20:05		
ndeno(1,2,3-cd)pyrene	ND	ug/L		0.10	1		11/01/22 20:05		
-Methylnaphthalene	ND	ug/L		1.0	1		11/01/22 20:05		
laphthalene	ND	ug/L		1.0	1		11/01/22 20:05		
henanthrene	ND	ug/L		1.0	1		11/01/22 20:05		
Pyrene	ND	ug/L		1.0	1		11/01/22 20:05		
Surrogates	IND	ug/L		1.0		13/3 1/22 00:00	11/01/22 20.00	7 120-00-0	
P-Fluorobiphenyl (S)	75	%.		13-97	1	10/31/22 00:00	11/01/22 20:05	5 321-60-8	
o-Terphenyl-d14 (S)	96	%.		29-110	1		11/01/22 20:05		



Project: LRN005
Pace Project No.: 50329655

Date: 11/10/2022 11:45 AM

Sample: LRN005:VMW-1:G102822	Lab ID: 503	29655001	Collected: 10/28/2	2 10:45	Received: 10	1/29/22 09:15 I	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
8270 SVOC Combo Water	Analytical Met	hod: EPA 82	270 Preparation Meth	nod: EPA	A 3510			
	Pace Analytica	al Services -	· Indianapolis					
Butylbenzylphthalate	ND	ug/L	8.7	1	10/31/22 17:55	11/01/22 22:46	85-68-7	
4-Chloro-3-methylphenol	ND	ug/L	8.7	1	10/31/22 17:55	11/01/22 22:46	59-50-7	
4-Chloroaniline	ND	ug/L	8.7	1	10/31/22 17:55	11/01/22 22:46	106-47-8	
bis(2-Chloroethoxy)methane	ND	ug/L	8.7	1	10/31/22 17:55	11/01/22 22:46	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/L	8.7	1		11/01/22 22:46		
bis(2chloro1methylethyl) ether	ND	ug/L	8.7	1		11/01/22 22:46		
2-Chloronaphthalene	ND	ug/L	8.7	1		11/01/22 22:46		
2-Chlorophenol	ND	ug/L	8.7	1		11/01/22 22:46		
2,4-Dichlorophenol	ND	ug/L	8.7	1		11/01/22 22:46		
Diethylphthalate	ND	ug/L	8.7	1		11/01/22 22:46		
2,4-Dimethylphenol	ND ND	ug/L ug/L	8.7	1		11/01/22 22:46		
	ND ND		8.7	1		11/01/22 22:46		
Di-n-butylphthalate	ND ND	ug/L	43.5	1		11/01/22 22:46		
2,4-Dinitrophenol		ug/L						
2,4-Dinitrotoluene	ND	ug/L	8.7	1		11/01/22 22:46		
2,6-Dinitrotoluene	ND	ug/L	8.7	1		11/01/22 22:46		
Di-n-octylphthalate	ND	ug/L	8.7	1		11/01/22 22:46		
ois(2-Ethylhexyl)phthalate	ND	ug/L	4.3	1		11/01/22 22:46		
Hexachlorocyclopentadiene	ND	ug/L	8.7	1		11/01/22 22:46		
Hexachloroethane	ND	ug/L	8.7	1		11/01/22 22:46		
sophorone	ND	ug/L	8.7	1		11/01/22 22:46		
2-Methylphenol(o-Cresol)	ND	ug/L	8.7	1		11/01/22 22:46		
3&4-Methylphenol(m&p Cresol)	ND	ug/L	8.7	1		11/01/22 22:46		
Nitrobenzene	ND	ug/L	4.3	1		11/01/22 22:46		
N-Nitroso-di-n-propylamine	ND	ug/L	43.5	1	10/31/22 17:55	11/01/22 22:46	621-64-7	
N-Nitrosodiphenylamine	ND	ug/L	8.7	1	10/31/22 17:55	11/01/22 22:46	86-30-6	
Phenol	ND	ug/L	8.7	1	10/31/22 17:55	11/01/22 22:46	108-95-2	
2,4,5-Trichlorophenol	ND	ug/L	8.7	1	10/31/22 17:55	11/01/22 22:46	95-95-4	
2,4,6-Trichlorophenol	ND	ug/L	7.8	1	10/31/22 17:55	11/01/22 22:46	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	59	%.	17-127	1	10/31/22 17:55	11/01/22 22:46	4165-60-0	
Phenol-d5 (S)	43	%.	10-65	1	10/31/22 17:55	11/01/22 22:46	4165-62-2	
2-Fluorophenol (S)	53	%.	10-84	1	10/31/22 17:55	11/01/22 22:46	367-12-4	
2,4,6-Tribromophenol (S)	89	%.	37-160	1	10/31/22 17:55	11/01/22 22:46	118-79-6	
8260/5030 MSV	Analytical Met	hod: EPA 82	260					
	Pace Analytica	al Services -	· Indianapolis					
Acetone	ND	ug/L	100	1		11/09/22 15:44		
Benzene	ND	ug/L	5.0	1		11/09/22 15:44	71-43-2	
Bromodichloromethane	ND	ug/L	5.0	1		11/09/22 15:44	75-27-4	
Bromoform	ND	ug/L	5.0	1		11/09/22 15:44	75-25-2	
Bromomethane	ND	ug/L	5.0	1		11/09/22 15:44	74-83-9	
2-Butanone (MEK)	ND	ug/L	25.0	1		11/09/22 15:44	78-93-3	
Carbon disulfide	ND	ug/L	10.0	1		11/09/22 15:44	75-15-0	
Carbon tetrachloride	ND	ug/L	5.0	1		11/09/22 15:44	56-23-5	
Chlorobenzene	ND	ug/L	5.0	1		11/09/22 15:44		
Chloroethane	ND	ug/L	5.0	1		11/09/22 15:44		



Project: LRN005
Pace Project No.: 50329655

Date: 11/10/2022 11:45 AM

Sample: LRN005:VMW-1:G102822	Lab ID:	50329655001	Collected: 10/28/	22 10:45	Received:	10/29/22 09:15	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua			
8260/5030 MSV	Analytical	Analytical Method: EPA 8260									
	Pace Anal	ytical Services -	Indianapolis								
Chloroform	NE	O ug/L	5.0	1		11/09/22 15:44	67-66-3				
Chloromethane	N		5.0	1		11/09/22 15:44	74-87-3				
Dibromochloromethane	N		5.0	1		11/09/22 15:44	1 124-48-1				
1,2-Dibromoethane (EDB)	NE		5.0	1		11/09/22 15:44	106-93-4				
Dibromomethane	NE		5.0	1		11/09/22 15:44	74-95-3				
1.2-Dichlorobenzene	NE		5.0	1		11/09/22 15:44					
1,4-Dichlorobenzene	NE		5.0	1		11/09/22 15:44					
Dichlorodifluoromethane	NE		5.0	1		11/09/22 15:44					
1,1-Dichloroethane	NE		5.0	1		11/09/22 15:44					
1,2-Dichloroethane	NE		5.0	1		11/09/22 15:44					
1,1-Dichloroethene	NI	V III	5.0	1		11/09/22 15:44					
cis-1,2-Dichloroethene	NE		5.0	1		11/09/22 15:44					
trans-1,2-Dichloroethene	NI		5.0	1		11/09/22 15:44					
1,2-Dichloropropane	NE		5.0	1		11/09/22 15:44					
1,3-Dichloropropane	NI		5.0	1		11/09/22 15:44					
cis-1,3-Dichloropropene	NI		4.1	1		11/09/22 15:44					
trans-1,3-Dichloropropene	NI	•	4.1	1		11/09/22 15:44					
Ethylbenzene	NE		5.0	1		11/09/22 15:44					
Ethyl methacrylate	NI		100	1		11/09/22 15:44					
n-Hexane	NE		5.0	1		11/09/22 15:44					
			5.0	1		11/09/22 15:44					
Isopropylbenzene (Cumene)	NE		5.0	1							
Methylene Chloride	NI NI					11/09/22 15:44					
4-Methyl-2-pentanone (MIBK)	NE		25.0	1		11/09/22 15:44					
Methyl-tert-butyl ether	NE		4.0	1		11/09/22 15:44					
Naphthalene	NI		1.4	1		11/09/22 15:44					
Styrene	NI		5.0	1		11/09/22 15:44					
1,1,1,2-Tetrachloroethane	NI		5.0	1		11/09/22 15:44					
1,1,2,2-Tetrachloroethane	NI		5.0	1		11/09/22 15:44					
Tetrachloroethene	NI		5.0	1		11/09/22 15:44					
Toluene	NI		5.0	1		11/09/22 15:44					
1,2,4-Trichlorobenzene	NI		5.0	1		11/09/22 15:44					
1,1,1-Trichloroethane	N		5.0	1		11/09/22 15:44					
1,1,2-Trichloroethane	NE		5.0	1		11/09/22 15:44					
Trichloroethene	N	O ug/L	5.0	1		11/09/22 15:44	79-01-6				
Trichlorofluoromethane	NI		5.0	1		11/09/22 15:44					
1,2,4-Trimethylbenzene	N	· · · · · · · · · · · · · · · · · · ·	5.0	1		11/09/22 15:44					
1,3,5-Trimethylbenzene	NE		5.0	1		11/09/22 15:44					
Vinyl acetate	N		50.0	1		11/09/22 15:44					
Vinyl chloride	N		2.0	1		11/09/22 15:44					
Xylene (Total)	N	) ug/L	10.0	1		11/09/22 15:44	1 1330-20-7				
Surrogates											
Dibromofluoromethane (S)	100		82-128	1		11/09/22 15:44					
4-Bromofluorobenzene (S)	10:		79-124	1		11/09/22 15:44					
Toluene-d8 (S)	104	4 %.	73-122	1		11/09/22 15:44	2037-26-5				



Project: LRN005
Pace Project No.: 50329655

Date: 11/10/2022 11:45 AM

Sample: LRN005:VMW-2:G102822	Lab ID: 50	329655002	Collected:	10/28/2	2 10:10	Received: 10	)/29/22 09:15	Matrix: Water		
Parameters	Results	Units	Repor	t Limit	DF	Prepared	Analyzed	CAS No.	Qua	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010									
	Pace Analytic	cal Services -	Indianapolis							
Antimony	ND	ug/L		6.0	1	11/05/22 13:44	11/09/22 11:28	7440-36-0		
Arsenic	ND	ug/L		10.0	1	11/05/22 13:44	11/09/22 11:28	7440-38-2		
3arium	76.8	ug/L		5.0	1	11/05/22 13:44	11/09/22 11:28	7440-39-3		
Beryllium	ND	ug/L		4.0	1		11/09/22 11:28			
Cadmium	ND	ug/L		1.0	1	11/05/22 13:44	11/09/22 11:28	7440-43-9		
Chromium	ND	ug/L		4.0	1	11/05/22 13:44	11/09/22 11:28	7440-47-3		
Cobalt	ND	ug/L		3.0	1		11/09/22 11:28			
.ead	ND	ug/L		5.0	1		11/09/22 11:28			
lickel	ND	ug/L		3.0	1		11/09/22 11:28			
Selenium	ND	ug/L		10.0	1		11/09/22 11:28			
Silver	ND	ug/L		10.0	1		11/09/22 11:28			
/anadium	ND	ug/L		10.0	1		11/09/22 11:28			
Zinc	11.9	ug/L		10.0	1		11/09/22 11:28			
		<del>-</del>					11/05/22 11.20	7 1440 00 0		
6020 MET ICPMS	Analytical Me	ethod: EPA 60	020 Preparat	tion Meth	od: EPA	200.2				
	Pace Analytic	cal Services -	Indianapolis							
hallium	ND	ug/L		0.10	1	10/31/22 16:20	11/04/22 17:08	3 7440-28-0		
470 Mercury	Analytical Me	ethod: EPA 74	170 Preparat	tion Meth	od: EPA	7470				
•	Pace Analytic	cal Services -	Indianapolis							
Mercury	ND	ug/L		0.20	1	10/31/22 19:06	11/01/22 09:30	7439-97-6		
3270 100mL Combo RV	Analytical Me	ethod: EPA 82	270 by SIM F	Preparatio	on Meth	od: EPA 3510				
	Pace Analytic									
Acenaphthene	ND	ug/L		0.83	1	10/31/22 17:55	11/01/22 20:17	7 83-32-9		
Acenaphthylene	ND	ug/L		0.83	1	10/31/22 17:55	11/01/22 20:17	7 208-96-8		
Anthracene	ND	ug/L		0.083	1	10/31/22 17:55	11/01/22 20:17	7 120-12-7		
Benzo(a)anthracene	ND	ug/L		0.083	1		11/01/22 20:17			
Senzo(a)pyrene	ND	ug/L		0.083	1		11/01/22 20:17			
senzo(b)fluoranthene	ND	ug/L		0.083	1		11/01/22 20:17			
Benzo(g,h,i)perylene	ND	ug/L		0.083	1		11/01/22 20:17			
Benzo(k)fluoranthene	ND	ug/L		0.083	1		11/01/22 20:17			
Chrysene	ND	ug/L		0.42	1		11/01/22 20:17			
Dibenz(a,h)anthracene	ND	ug/L		0.077	1		11/01/22 20:17			
Fluoranthene	ND	ug/L		0.83	1		11/01/22 20:17			
Fluorene	ND	ug/L ug/L		0.83	1		11/01/22 20:17			
ndeno(1,2,3-cd)pyrene	ND	ug/L		0.083	1		11/01/22 20:17			
-Methylnaphthalene	ND	ug/L		0.83	1		11/01/22 20:17			
laphthalene	ND	ug/L ug/L		0.83	1		11/01/22 20:17			
Phenanthrene	ND	ug/L ug/L		0.83	1		11/01/22 20:17			
Pyrene	ND			0.83	1		11/01/22 20:17			
Surrogates	IND	ug/L		0.03		10/3 1/22 17.00	11/01/22 20:11	125-00-0		
P-Fluorobiphenyl (S)	82	%.		13-97	1	10/31/22 17:55	11/01/22 20:17	7 321-60-8		
- 1.00.00ipiloliyi (0)	UZ.	70.		10 01		. 5/0 //22 17.00	22 20.11	02 1 00-0		



Project: LRN005
Pace Project No.: 50329655

Date: 11/10/2022 11:45 AM

Sample: LRN005:VMW-2:G102822	Lab ID: 503	29033002	Collected: 10/28/2	.2 10.10	Received: 10	729722 03.10 N	fatrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 SVOC Combo Water	Analytical Met	hod: EPA 82	270 Preparation Meth	nod: EP/	A 3510			
	Pace Analytica	al Services -	Indianapolis					
Butylbenzylphthalate	ND	ug/L	8.3	1	10/31/22 17:55	11/01/22 23:02	85-68-7	
4-Chloro-3-methylphenol	ND	ug/L	8.3	1	10/31/22 17:55	11/01/22 23:02	59-50-7	
4-Chloroaniline	ND	ug/L	8.3	1	10/31/22 17:55	11/01/22 23:02	106-47-8	
ois(2-Chloroethoxy)methane	ND	ug/L	8.3	1	10/31/22 17:55	11/01/22 23:02	111-91-1	
ois(2-Chloroethyl) ether	ND	ug/L	8.3	1	10/31/22 17:55	11/01/22 23:02	111-44-4	
ois(2chloro1methylethyl) ether	ND	ug/L	8.3	1	10/31/22 17:55	11/01/22 23:02	108-60-1	
2-Chloronaphthalene	ND	ug/L	8.3	1		11/01/22 23:02		
2-Chlorophenol	ND	ug/L	8.3	1		11/01/22 23:02		
2,4-Dichlorophenol	ND	ug/L	8.3	1		11/01/22 23:02		
Diethylphthalate	ND	ug/L	8.3	1		11/01/22 23:02		
2,4-Dimethylphenol	ND	ug/L	8.3	1		11/01/22 23:02		
Di-n-butylphthalate	ND	ug/L	8.3	1		11/01/22 23:02		
2,4-Dinitrophenol	ND	ug/L	41.7	1		11/01/22 23:02		
2,4-Dinitrotoluene	ND		8.3	1		11/01/22 23:02		
2,6-Dinitrotoluene	ND	ug/L	8.3	1		11/01/22 23:02		
	ND	ug/L	8.3	1		11/01/22 23:02		
Di-n-octylphthalate		ug/L	4.2			11/01/22 23:02		
vis(2-Ethylhexyl)phthalate	ND	ug/L		1				
lexachlorocyclopentadiene	ND	ug/L	8.3	1		11/01/22 23:02		
	ND	ug/L	8.3	1		11/01/22 23:02		
sophorone	ND	ug/L	8.3	1		11/01/22 23:02		
2-Methylphenol(o-Cresol)	ND	ug/L	8.3	1		11/01/22 23:02	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	ug/L	8.3	1		11/01/22 23:02		
Nitrobenzene	ND	ug/L	4.2	1		11/01/22 23:02		
N-Nitroso-di-n-propylamine	ND	ug/L	41.7	1	10/31/22 17:55	11/01/22 23:02	621-64-7	
N-Nitrosodiphenylamine	ND	ug/L	8.3	1	10/31/22 17:55	11/01/22 23:02	86-30-6	
Phenol	ND	ug/L	8.3	1	10/31/22 17:55	11/01/22 23:02	108-95-2	
2,4,5-Trichlorophenol	ND	ug/L	8.3	1	10/31/22 17:55	11/01/22 23:02	95-95-4	
2,4,6-Trichlorophenol	ND	ug/L	7.5	1	10/31/22 17:55	11/01/22 23:02	88-06-2	
Surrogates	07	0/	47 407		40/04/00 47-55	44/04/00 00:00	4405.00.0	
Nitrobenzene-d5 (S)	67	%.	17-127	1		11/01/22 23:02		
Phenol-d5 (S)	36	%.	10-65	1		11/01/22 23:02		
2-Fluorophenol (S) 2,4,6-Tribromophenol (S)	51 105	%. %.	10-84 37-160	1		11/01/22 23:02 11/01/22 23:02		
				•	TOTO ITEL TITLO	11/01/22 20:02		
3260/5030 MSV	Analytical Met Pace Analytica							
Acetone	ND	ug/L	100	1		11/09/22 23:09	67-64-1	
Benzene	ND	ug/L	5.0	1		11/09/22 23:09	71-43-2	
Bromodichloromethane	ND	ug/L	5.0	1		11/09/22 23:09	75-27-4	
3romoform	ND	ug/L	5.0	1		11/09/22 23:09		
3romomethane	ND	ug/L	5.0	1		11/09/22 23:09		
2-Butanone (MEK)	ND	ug/L	25.0	1		11/09/22 23:09		
Carbon disulfide	ND	ug/L	10.0	1		11/09/22 23:09		
Carbon tetrachloride	ND	ug/L	5.0	1		11/09/22 23:09		
Chlorobenzene	ND	ug/L	5.0	1		11/09/22 23:09		
Chloroethane	ND	ug/L ug/L	5.0	1		11/09/22 23:09		

### **REPORT OF LABORATORY ANALYSIS**

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Project: LRN005
Pace Project No.: 50329655

Date: 11/10/2022 11:45 AM

Sample: LRN005:VMW-2:G102822	Lab ID:	50329655002	Collected: 10/28/2	22 10:10	Received:	10/29/22 09:15	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
8260/5030 MSV	Analytical	Method: EPA 82	260					
	Pace Anal	ytical Services -	Indianapolis					
Chloroform	NE	O ug/L	5.0	1		11/09/22 23:09	9 67-66-3	
Chloromethane	NE		5.0	1		11/09/22 23:09	74-87-3	
Dibromochloromethane	NE		5.0	1		11/09/22 23:09	124-48-1	
1,2-Dibromoethane (EDB)	NE		5.0	1		11/09/22 23:09	9 106-93-4	
Dibromomethane	NE	) ug/L	5.0	1		11/09/22 23:09	74-95-3	
1,2-Dichlorobenzene	NE	) ug/L	5.0	1		11/09/22 23:09	9 95-50-1	
1,4-Dichlorobenzene	NE		5.0	1		11/09/22 23:09	9 106-46-7	
Dichlorodifluoromethane	NE		5.0	1		11/09/22 23:09	9 75-71-8	
1,1-Dichloroethane	NE		5.0	1		11/09/22 23:09		
1,2-Dichloroethane	NE		5.0	1		11/09/22 23:09		
1,1-Dichloroethene	NE		5.0	1		11/09/22 23:09		
cis-1,2-Dichloroethene	NE		5.0	1		11/09/22 23:09		
trans-1,2-Dichloroethene	NE		5.0	1		11/09/22 23:09		
1,2-Dichloropropane	NE		5.0	1		11/09/22 23:09		
1,3-Dichloropropane	NE		5.0	1		11/09/22 23:0		
cis-1,3-Dichloropropene	NE		4.1	1			9 10061-01-5	
rans-1,3-Dichloropropene	NE		4.1	1		11/09/22 23:0		
Ethylbenzene	NE		5.0	1		11/09/22 23:0		
Ethyl methacrylate	NE		100	1		11/09/22 23:0		
n-Hexane	NE		5.0	1		11/09/22 23:0		
sopropylbenzene (Cumene)	NE		5.0	1		11/09/22 23:0		
Methylene Chloride	NE		5.0	1		11/09/22 23:0		
4-Methyl-2-pentanone (MIBK)	NE		25.0	1		11/09/22 23:0		
Methyl-tert-butyl ether	NE		4.0	1		11/09/22 23:0		
Naphthalene	NE		1.4	1		11/09/22 23:09		
Styrene	NE		5.0	1		11/09/22 23:0		
1,1,1,2-Tetrachloroethane	NE		5.0	1		11/09/22 23:0		
1,1,2,2-Tetrachioroethane	NE		5.0	1		11/09/22 23:0		
Tetrachloroethene	NE		5.0	1		11/09/22 23:0		
Toluene	NE		5.0	1		11/09/22 23:0		
	NE		5.0	1		11/09/22 23:09		
1,2,4-Trichlorobenzene	NE		5.0	1		11/09/22 23:0		
1,1,1-Trichloroethane								
1,1,2-Trichloroethane Trichloroethene	NE NE		5.0 5.0	1		11/09/22 23:09 11/09/22 23:09		
Frichlorofluoromethane	NE		5.0	1		11/09/22 23:09		
1,2,4-Trimethylbenzene	NE		5.0	1		11/09/22 23:09		
1,3,5-Trimethylbenzene	NE		5.0	1		11/09/22 23:09		
Vinyl acetate	NE		50.0	1		11/09/22 23:09		
Vinyl chloride	NE	_	2.0	1		11/09/22 23:09		
Xylene (Total)	NE	O ug/L	10.0	1		11/09/22 23:09	9 1330-20-7	
Surrogates	0.0	n 0/	00 400	4		44/00/00 00:00	1060 52 7	
Dibromofluoromethane (S)	99		82-128	1		11/09/22 23:09		
4-Bromofluorobenzene (S)	10		79-124	1		11/09/22 23:09		
Toluene-d8 (S)	10:	3 %.	73-122	1		11/09/22 23:09	2037-26-5	



Project: LRN005
Pace Project No.: 50329655

Date: 11/10/2022 11:45 AM

Sample: LRN005:VMW-3:G102822	Lab ID: 50	329655003	Collected:	10/28/2	2 13:50	Received: 1	0/29/22 09:15	Matrix: Water	
Parameters	Results	Units	Report	t Limit	DF	Prepared	Analyzed	CAS No.	Qua
6010 MET ICP	Analytical Me	thod: EPA 60	010 Preparat	ion Meth	nod: EPA	3010			
	Pace Analytic	al Services -	· Indianapolis						
Antimony	ND	ug/L		6.0	1	11/05/22 13:44	11/09/22 11:30	7440-36-0	
Arsenic	ND	ug/L		10.0	1	11/05/22 13:44	11/09/22 11:30	7440-38-2	
3arium -	39.9	ug/L		5.0	1	11/05/22 13:44	11/09/22 11:30	7440-39-3	
3eryllium 3 common a	ND	ug/L		4.0	1	11/05/22 13:44	11/09/22 11:30	7440-41-7	
Cadmium	1.1	ug/L		1.0	1	11/05/22 13:44	11/09/22 11:30	7440-43-9	
Chromium	ND	ug/L		4.0	1	11/05/22 13:44	11/09/22 11:30	7440-47-3	
Cobalt	ND	ug/L		3.0	1	11/05/22 13:44	11/09/22 11:30	7440-48-4	
_ead	ND	ug/L		5.0	1	11/05/22 13:44	11/09/22 11:30	7439-92-1	
Nickel	8.8	ug/L		3.0	1		11/09/22 11:30		
Selenium	ND	ug/L		10.0	1		11/09/22 11:30		
Silver	ND	ug/L		10.0	1		11/09/22 11:30		
/anadium	ND	ug/L		10.0	1		11/09/22 11:30		
Zinc	12.0	ug/L		10.0	1		11/09/22 11:30		
5020 MET ICPMS	Analytical Me	thod: EPA 60	020 Preparat	ion Meth	nod: EPA	200.2			
	Pace Analytic	al Services -	Indianapolis						
Thallium Thallium	0.13	ug/L		0.10	1	10/31/22 16:20	11/04/22 17:13	7440-28-0	
7470 Mercury	Analytical Me	thod: EPA 74	470 Preparat	ion Meth	nod: EPA	7470			
,	Pace Analytic								
Mercury	ND	ug/L		0.20	1	10/31/22 19:06	11/01/22 09:32	7439-97-6	
3270 100mL Combo RV	Analytical Me	thod: EPA 82	270 by SIM F	Preparati	on Meth	od: EPA 3510			
	Pace Analytic								
Acenaphthene	ND	ug/L		1.2	1	10/31/22 17:55	11/01/22 20:28	83-32-9	
Acenaphthylene	ND	ug/L		1.2	1		11/01/22 20:28		
Anthracene	ND	ug/L		0.12	1		11/01/22 20:28		
Benzo(a)anthracene	ND	ug/L		0.12	1		11/01/22 20:28		
Benzo(a)pyrene	ND	ug/L		0.12	1		11/01/22 20:28		
Benzo(b)fluoranthene	ND	ug/L		0.12	1		11/01/22 20:28		
Benzo(g,h,i)perylene	ND	ug/L		0.12	1		11/01/22 20:28		
Benzo(k)fluoranthene	ND	ug/L		0.12	1		11/01/22 20:28		
Chrysene	ND	ug/L		0.59	1		11/01/22 20:28		
Dibenz(a,h)anthracene	ND	ug/L		0.11	1		11/01/22 20:28		
Fluoranthene	ND	ug/L		1.2	1		11/01/22 20:28		
Fluorene	ND	ug/L		1.2	1		11/01/22 20:28		
ndeno(1,2,3-cd)pyrene	ND	ug/L		0.12	1		11/01/22 20:28		
2-Methylnaphthalene	ND	ug/L		1.2	1		5 11/01/22 20:28 5 11/01/22 20:28		
Naphthalene	ND	ug/L ug/L		1.2	1		11/01/22 20:28		
vapntnaiene Phenanthrene	ND ND			1.2	1		11/01/22 20:28		
		ug/L		1.2	1				
Pyrene S <i>urrogates</i>	ND	ug/L		1.2	1.	10/31/22 17:55	11/01/22 20:28	128-00-0	
Jui i Ogales		4.2				40/04/00 47-55	11/01/22 20:28	004.00.0	
2-Fluorobiphenyl (S)	74	%.		13-97	1	711/37/22 77/55	ヘーコフクロファンツ シロッツ	( 377-KH-X	



Project: LRN005
Pace Project No.: 50329655

Date: 11/10/2022 11:45 AM

Sample: LRN005:VMW-3:G102822	Lab ID:	50329655003	Collected:	10/28/2	2 13:50	Received: 1	0/29/22 09:15	Matrix: Water	
Parameters	Results	Units	Repor	t Limit	DF	Prepared	Analyzed	CAS No.	Qua
270 SVOC Combo Water	Analytical	Method: EPA 82	270 Preparat	tion Meth	nod: EPA	3510			
	Pace Anal	ytical Services -	Indianapolis						
Butylbenzylphthalate	NE	O ug/L		11.8	1	10/31/22 17:5	5 11/01/22 23:1	8 85-68-7	
-Chloro-3-methylphenol	NE			11.8	1	10/31/22 17:55	5 11/01/22 23:1	8 59-50-7	
-Chloroaniline	N			11.8	1	10/31/22 17:55	5 11/01/22 23:1	8 106-47-8	
is(2-Chloroethoxy)methane	NE	) ug/L		11.8	1	10/31/22 17:55	5 11/01/22 23:1	8 111-91-1	
ois(2-Chloroethyl) ether	NE	) ug/L		11.8	1	10/31/22 17:55	5 11/01/22 23:1	8 111-44-4	
is(2chloro1methylethyl) ether	NE	) ug/L		11.8	1	10/31/22 17:55	5 11/01/22 23:1	8 108-60-1	
-Chloronaphthalene	NE	O ug/L		11.8	1	10/31/22 17:55	5 11/01/22 23:1	8 91-58-7	
-Chlorophenol	NE			11.8	1	10/31/22 17:55	5 11/01/22 23:1	8 95-57-8	
,4-Dichlorophenol	NE	) ug/L		11.8	1	10/31/22 17:55	5 11/01/22 23:1	8 120-83-2	
Diethylphthalate	NE			11.8	1	10/31/22 17:55	5 11/01/22 23:1	8 84-66-2	
,4-Dimethylphenol	NE			11.8	1	10/31/22 17:55	5 11/01/22 23:1	8 105-67-9	
Di-n-butylphthalate	NE			11.8	1	10/31/22 17:55	5 11/01/22 23:1	8 84-74-2	
,4-Dinitrophenol	NE			58.8	1	10/31/22 17:5	5 11/01/22 23:1	8 51-28-5	
4-Dinitrotoluene	NE			11.8	1		5 11/01/22 23:1		
,6-Dinitrotoluene	NE			11.8	1		5 11/01/22 23:1		
)i-n-octylphthalate	NE	•		11.8	1		5 11/01/22 23:1		
is(2-Ethylhexyl)phthalate	NE	•		5.9	1		5 11/01/22 23:1		
lexachlorocyclopentadiene	NE			11.8	1		5 11/01/22 23:1		
lexachloroethane	N			11.8	1		5 11/01/22 23:1		
sophorone	N			11.8	1		5 11/01/22 23:1		
-Methylphenol(o-Cresol)	N			11.8	1		5 11/01/22 23:1		
&4-Methylphenol(m&p Cresol)	NE			11.8	1		5 11/01/22 23:1		
litrobenzene	NI	· · · · · · · · · · · · · · · · · · ·		5.9	1		5 11/01/22 23:1		
I-Nitroso-di-n-propylamine	N			58.8	1		5 11/01/22 23:1		
I-Nitrosodiphenylamine	NI			11.8	1		5 11/01/22 23:1		
Phenol	NI	_		11.8	1		5 11/01/22 23:1		
4,4,5-Trichlorophenol	NI			11.8	1		5 11/01/22 23:1		
,4,6-Trichlorophenol	NI			10.6	1		5 11/01/22 23:1		
Surrogates		- ug/-						0 00 00 1	
litrobenzene-d5 (S)	6	6 %.		17-127	1	10/31/22 17:55	5 11/01/22 23:1	8 4165-60-0	
henol-d5 (S)	3:			10-65	1		5 11/01/22 23:1		
-Fluorophenol (S)	4	7 %.		10-84	1	10/31/22 17:5	5 11/01/22 23:1	8 367-12-4	
,4,6-Tribromophenol (S)	9			37-160	1		5 11/01/22 23:1		
260/5030 MSV	Analytical	Method: EPA 82	260						
	Pace Anal	ytical Services -	Indianapolis						
cetone	NE	O ug/L		100	1		11/09/22 16:1	5 67-64-1	
Benzene	NE	O ug/L		5.0	1		11/09/22 16:1	5 71-43-2	
Bromodichloromethane	NE			5.0	1		11/09/22 16:1	5 75-27-4	
Bromoform	NE			5.0	1		11/09/22 16:1	5 75-25-2	
Bromomethane	NE			5.0	1		11/09/22 16:1	5 74-83-9	
-Butanone (MEK)	NE			25.0	1		11/09/22 16:1	5 78-93-3	
Carbon disulfide	NE			10.0	1		11/09/22 16:1		
Carbon tetrachloride	NE			5.0	1		11/09/22 16:1		
Chlorobenzene	NI			5.0	1		11/09/22 16:1		
Chloroethane	NE			5.0	1		11/09/22 16:1		

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Project: LRN005
Pace Project No.: 50329655

Date: 11/10/2022 11:45 AM

Sample: LRN005:VMW-3:G102822	Lab ID:	50329655003	Collected: 10/28/	22 13:50	Received:	10/29/22 09:15	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
3260/5030 MSV	Analytical	Method: EPA 82	260					
	Pace Anal	ytical Services -	Indianapolis					
Chloroform	NI	O ug/L	5.0	1		11/09/22 16:1	5 67-66-3	
Chloromethane	NI		5.0	1		11/09/22 16:1	5 74-87-3	
Dibromochloromethane	NI	O ug/L	5.0	1		11/09/22 16:1	5 124-48-1	
1,2-Dibromoethane (EDB)	NI		5.0	1		11/09/22 16:1	5 106-93-4	
Dibromomethane	NI		5.0	1		11/09/22 16:1	5 74-95-3	
1,2-Dichlorobenzene	NI	O ug/L	5.0	1		11/09/22 16:1	5 95-50-1	
1,4-Dichlorobenzene	NI		5.0	1		11/09/22 16:1	5 106-46-7	
Dichlorodifluoromethane	NI		5.0	1		11/09/22 16:19	5 75-71-8	
1,1-Dichloroethane	NI		5.0	1		11/09/22 16:19	5 75-34-3	
1,2-Dichloroethane	NI		5.0	1		11/09/22 16:19		
1,1-Dichloroethene	NI	_	5.0	1		11/09/22 16:1		
cis-1,2-Dichloroethene	NI		5.0	1		11/09/22 16:19		
rans-1,2-Dichloroethene	NI		5.0	1		11/09/22 16:1		
1,2-Dichloropropane	NI		5.0	1		11/09/22 16:1		
1,3-Dichloropropane	NI		5.0	1		11/09/22 16:1		
cis-1,3-Dichloropropene	NI		4.1	1			5 10061-01-5	
rans-1,3-Dichloropropene	NI		4.1	1			5 10061-02-6	
Ethylbenzene	NI		5.0	1		11/09/22 16:1		
Ethyl methacrylate	NI		100	1		11/09/22 16:1		
n-Hexane	NI		5.0	1		11/09/22 16:1		
sopropylbenzene (Cumene)	NI		5.0	1		11/09/22 16:1		
Methylene Chloride	NI		5.0	1		11/09/22 16:1		
4-Methyl-2-pentanone (MIBK)	NI		25.0	1		11/09/22 16:1		
Methyl-tert-butyl ether	NI		4.0	1		11/09/22 16:1		
Naphthalene	NI		1.4	1		11/09/22 16:1		
Styrene	NI		5.0	1		11/09/22 16:1		
1,1,1,2-Tetrachloroethane	NI		5.0	1		11/09/22 16:1		
1,1,2,2-Tetrachloroethane	NI		5.0	1		11/09/22 16:1		
Tetrachloroethene	NI		5.0	1		11/09/22 16:1		
Toluene	NI		5.0	1		11/09/22 16:1		
1,2,4-Trichlorobenzene	NI		5.0	1		11/09/22 16:1		
				1				
1,1,1-Trichloroethane	NI		5.0	1		11/09/22 16:1		
1,1,2-Trichloroethane	NI		5.0 5.0			11/09/22 16:1		
Trichloroethene	NI			1		11/09/22 16:1		
Trichlorofluoromethane	NI		5.0	1		11/09/22 16:1:		
1,2,4-Trimethylbenzene	NI	· ·	5.0	1		11/09/22 16:1		
1,3,5-Trimethylbenzene	NI		5.0	1		11/09/22 16:1		
/inyl acetate	NI		50.0	1		11/09/22 16:1		
Vinyl chloride	NI		2.0	1		11/09/22 16:1:		
Xylene (Total)	NI	D ug/L	10.0	1		11/09/22 16:1	5 1330-20-7	
Surrogates	40		00.400			44/00/00 40 4	4000 50 7	
Dibromofluoromethane (S)	10		82-128	1		11/09/22 16:1: 11/09/22 16:1:		
4-Bromofluorobenzene (S)	10		79-124	1				



Project: LRN005
Pace Project No.: 50329655

Date: 11/10/2022 11:45 AM

Sample: LRN005:VMW-4:G102822	Lab ID: 503	329655004	Collected:	10/28/2	2 12:50	Received: 1	0/29/22 09:15	Matrix: Water	
Parameters	Results	Units	Report	Limit	DF	Prepared	Analyzed	CAS No.	Qua
6010 MET ICP	Analytical Met	hod: EPA 60	010 Preparat	ion Meth	nod: EPA	3010			
	Pace Analytic	al Services -	Indianapolis						
Antimony	ND	ug/L		6.0	1	11/05/22 13:44	11/09/22 11:32	7440-36-0	
Arsenic	ND	ug/L		10.0	1	11/05/22 13:44	11/09/22 11:32	7440-38-2	
Barium	37.1	ug/L		5.0	1	11/05/22 13:44	11/09/22 11:32	7440-39-3	
Beryllium	ND	ug/L		4.0	1	11/05/22 13:44	11/09/22 11:32	7440-41-7	
Cadmium	ND	ug/L		1.0	1	11/05/22 13:44	11/09/22 11:32	7440-43-9	
Chromium	ND	ug/L		4.0	1	11/05/22 13:44	11/09/22 11:32	7440-47-3	
Cobalt	6.3	ug/L		3.0	1	11/05/22 13:44	11/09/22 11:32	7440-48-4	
_ead	ND	ug/L		5.0	1	11/05/22 13:44	11/09/22 11:32	7439-92-1	
Nickel	55.8	ug/L		3.0	1	11/05/22 13:44	11/09/22 11:32	7440-02-0	
Selenium	35.0	ug/L		10.0	1		11/09/22 11:32		
Silver	ND	ug/L		10.0	1	11/05/22 13:44	11/09/22 11:32	7440-22-4	
Vanadium Vanadium	ND	ug/L		10.0	1	11/05/22 13:44	11/09/22 11:32	7440-62-2	
Zinc	10.2	ug/L		10.0	1	11/05/22 13:44	11/09/22 11:32	7440-66-6	
6020 MET ICPMS	Analytical Met	hod: FPA 60	020 Preparat	ion Meth	nod: EPA	200.2			
3020 ME1 101 MO	Pace Analytic				iou. Li 7	200.2			
Fhallium	ND	ug/L		0.10	1	10/31/22 16:20	11/04/22 17:27	7440-28-0	
7470 Moroum	Analytical Met	had: EDA 7	170 Proporet	ion Moth	od: EDA	7470			
7470 Mercury	Pace Analytic				100. EPA	17470			
Mercury	ND	ug/L		0.20	1	10/31/22 19:06	11/01/22 09:35	7439-97-6	
8270 100mL Combo RV	Analytical Met	hod: EPA 82	270 by SIM F	Preparati	on Meth	od: EPA 3510			
	Pace Analytic	al Services -	Indianapolis						
Acenaphthene	ND	ug/L		0.83	1	10/31/22 17:55	11/01/22 20:39	83-32-9	
Acenaphthylene	ND	ug/L		0.83	1	10/31/22 17:55	11/01/22 20:39	208-96-8	
Anthracene	ND	ug/L		0.083	1	10/31/22 17:55	11/01/22 20:39	120-12-7	
Benzo(a)anthracene	ND	ug/L		0.083	1	10/31/22 17:55	11/01/22 20:39	56-55-3	
Benzo(a)pyrene	ND	ug/L		0.083	1	10/31/22 17:55	11/01/22 20:39	50-32-8	
Benzo(b)fluoranthene	ND	ug/L		0.083	1	10/31/22 17:55	11/01/22 20:39	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L		0.083	1	10/31/22 17:55	11/01/22 20:39	9 191-24-2	
Benzo(k)fluoranthene	ND	ug/L		0.083	1	10/31/22 17:55	11/01/22 20:39	207-08-9	
Chrysene	ND	ug/L		0.42	1	10/31/22 17:55	11/01/22 20:39	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L		0.077	1	10/31/22 17:55	11/01/22 20:39	53-70-3	
Fluoranthene	ND	ug/L		0.83	1	10/31/22 17:55	11/01/22 20:39	206-44-0	
Fluorene	ND	ug/L		0.83	1	10/31/22 17:55	11/01/22 20:39	86-73-7	
ndeno(1,2,3-cd)pyrene	ND	ug/L		0.083	1	10/31/22 17:55	11/01/22 20:39	193-39-5	
2-Methylnaphthalene	ND	ug/L		0.83	1	10/31/22 17:55	11/01/22 20:39	91-57-6	
Naphthalene	ND	ug/L		0.83	1	10/31/22 17:55	11/01/22 20:39	91-20-3	
Phenanthrene	ND	ug/L		0.83	1		11/01/22 20:39		
Pyrene	ND	ug/L		0.83	1		11/01/22 20:39		
Surrogates									
2-Fluorobiphenyl (S)	84	%.		13-97	1	10/31/22 17:55	11/01/22 20:39	321-60-8	
p-Terphenyl-d14 (S)	108	%.		29-110	1	10/31/22 17:55	11/01/22 20:39	1718-51-0	



Project: LRN005
Pace Project No.: 50329655

Date: 11/10/2022 11:45 AM

Sample: LRN005:VMW-4:G102822	Lab ID:	50329655004	Collected:	10/28/2	2 12:50	Received: 1	0/29/22 09:15	Matrix: Water	
Parameters	Results	Units	Repor	t Limit	DF	Prepared	Analyzed	CAS No.	Qua
270 SVOC Combo Water	Analytical	Method: EPA 82	270 Preparat	ion Meth	nod: EPA	3510			
	Pace Anal	ytical Services -	Indianapolis						
Butylbenzylphthalate	NI	O ug/L		8.3	1	10/31/22 17:5	5 11/01/22 23:3	4 85-68-7	
-Chloro-3-methylphenol	N			8.3	1	10/31/22 17:55	5 11/01/22 23:3	4 59-50-7	
-Chloroaniline	N			8.3	1	10/31/22 17:55	5 11/01/22 23:3	4 106-47-8	
is(2-Chloroethoxy)methane	N			8.3	1	10/31/22 17:55	5 11/01/22 23:3	4 111-91-1	
ois(2-Chloroethyl) ether	NI			8.3	1	10/31/22 17:55	5 11/01/22 23:3	4 111-44-4	
is(2chloro1methylethyl) ether	N			8.3	1	10/31/22 17:55	5 11/01/22 23:3	4 108-60-1	
-Chloronaphthalene	N			8.3	1	10/31/22 17:55	5 11/01/22 23:3	4 91-58-7	
-Chlorophenol	N			8.3	1	10/31/22 17:55	5 11/01/22 23:3	4 95-57-8	
,4-Dichlorophenol	N			8.3	1	10/31/22 17:55	5 11/01/22 23:3	4 120-83-2	
Diethylphthalate	NI			8.3	1	10/31/22 17:55	5 11/01/22 23:3	4 84-66-2	
,4-Dimethylphenol	NI			8.3	1	10/31/22 17:55	5 11/01/22 23:3	4 105-67-9	
Di-n-butylphthalate	N			8.3	1	10/31/22 17:5	5 11/01/22 23:3	4 84-74-2	
,4-Dinitrophenol	N			41.7	1		5 11/01/22 23:3		
,4-Dinitrotoluene	NI			8.3	1		5 11/01/22 23:3		
,6-Dinitrotoluene	N			8.3	1		5 11/01/22 23:3		
i-n-octylphthalate	NI	•		8.3	1		5 11/01/22 23:3		
is(2-Ethylhexyl)phthalate	NI	•		4.2	1		5 11/01/22 23:3		
lexachlorocyclopentadiene	NI			8.3	1		5 11/01/22 23:3		
lexachloroethane	NI			8.3	1		5 11/01/22 23:3		
sophorone	NI			8.3	1		5 11/01/22 23:3		
-Methylphenol(o-Cresol)	NI			8.3	1		5 11/01/22 23:3		
&4-Methylphenol(m&p Cresol)	NI			8.3	1		5 11/01/22 23:3		
litrobenzene	NI	· · · · · · · · · · · · · · · · · · ·		4.2	1		5 11/01/22 23:3		
I-Nitroso-di-n-propylamine	NI			41.7	1		5 11/01/22 23:3		
I-Nitrosodiphenylamine	NI			8.3	1		5 11/01/22 23:3		
Phenol	NI			8.3	1		5 11/01/22 23:3		
4,4,5-Trichlorophenol	NI			8.3	1		5 11/01/22 23:3		
,4,6-Trichlorophenol	NI			7.5	1		5 11/01/22 23:3		
Surrogates		- ug/ -						. 55 55 2	
litrobenzene-d5 (S)	7	1 %.		17-127	1	10/31/22 17:55	5 11/01/22 23:3	4 4165-60-0	
henol-d5 (S)	3			10-65	1	10/31/22 17:55	5 11/01/22 23:3	4 4165-62-2	
-Fluorophenol (S)	5	0 %.		10-84	1	10/31/22 17:55	5 11/01/22 23:3	4 367-12-4	
,4,6-Tribromophenol (S)	10		;	37-160	1		5 11/01/22 23:3		
260/5030 MSV	Analytical	Method: EPA 82	260						
	Pace Anal	ytical Services -	Indianapolis						
cetone	N	O ug/L		100	1		11/09/22 16:4	7 67-64-1	
Benzene	NI	O ug/L		5.0	1		11/09/22 16:4	7 71-43-2	
Bromodichloromethane	NI			5.0	1		11/09/22 16:4	7 75-27-4	
Bromoform	NI	O ug/L		5.0	1		11/09/22 16:4	7 75-25-2	
romomethane	N			5.0	1		11/09/22 16:4	7 74-83-9	
-Butanone (MEK)	NI			25.0	1		11/09/22 16:4	7 78-93-3	
Carbon disulfide	NI			10.0	1		11/09/22 16:4	7 75-15-0	
Carbon tetrachloride	NI			5.0	1		11/09/22 16:4		
Chlorobenzene	NI			5.0	1		11/09/22 16:4		
Chloroethane	NI	3 T T T T T T T T T T T T T T T T T T T		5.0	1		11/09/22 16:4		

## **REPORT OF LABORATORY ANALYSIS**

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Project: LRN005
Pace Project No.: 50329655

Date: 11/10/2022 11:45 AM

Sample: LRN005:VMW-4:G102822	Lab ID: §	50329655004	Collected: 10/28	/22 12:50	Received:	10/29/22 09:15	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
8260/5030 MSV	Analytical N	Method: EPA 82	260					
	Pace Analy	tical Services -	Indianapolis					
Chloroform	ND	ug/L	5.0	1		11/09/22 16:47	7 67-66-3	
Chloromethane	ND	· · · · · · · · · · · · · · · · · · ·	5.0	1		11/09/22 16:47	7 74-87-3	
Dibromochloromethane	ND		5.0	1		11/09/22 16:47	7 124-48-1	
1,2-Dibromoethane (EDB)	ND		5.0	1		11/09/22 16:47	7 106-93-4	
Dibromomethane	ND	ug/L	5.0	1		11/09/22 16:47	7 74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	1		11/09/22 16:47	7 95-50-1	
1,4-Dichlorobenzene	ND		5.0	1		11/09/22 16:47	7 106-46-7	
Dichlorodifluoromethane	ND		5.0	1		11/09/22 16:47	7 75-71-8	
1,1-Dichloroethane	ND		5.0	1		11/09/22 16:47	7 75-34-3	
1,2-Dichloroethane	ND		5.0			11/09/22 16:47		
1,1-Dichloroethene	ND	•	5.0			11/09/22 16:47		
cis-1,2-Dichloroethene	ND		5.0	1		11/09/22 16:47	7 156-59-2	
rans-1,2-Dichloroethene	ND		5.0	1		11/09/22 16:47		
1,2-Dichloropropane	ND		5.0	1		11/09/22 16:47	7 78-87-5	
1,3-Dichloropropane	ND		5.0			11/09/22 16:47		
cis-1,3-Dichloropropene	ND		4.1				7 10061-01-5	
rans-1,3-Dichloropropene	ND		4.1			11/09/22 16:47		
Ethylbenzene	ND		5.0			11/09/22 16:47		
Ethyl methacrylate	ND		100			11/09/22 16:47		
n-Hexane	ND		5.0			11/09/22 16:47		
sopropylbenzene (Cumene)	ND		5.0			11/09/22 16:47		
Methylene Chloride	ND		5.0			11/09/22 16:47		
4-Methyl-2-pentanone (MIBK)	ND		25.0			11/09/22 16:47		
Methyl-tert-butyl ether	ND		4.0			11/09/22 16:47		
Naphthalene	ND		1.4			11/09/22 16:47		
Styrene	ND		5.0			11/09/22 16:47		
1,1,1,2-Tetrachloroethane	ND	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	5.0			11/09/22 16:47		
1,1,2,2-Tetrachloroethane	ND		5.0			11/09/22 16:47		
Tetrachloroethene	ND		5.0			11/09/22 16:47		
Toluene	ND		5.0			11/09/22 16:47		
1,2,4-Trichlorobenzene	ND	•	5.0			11/09/22 16:47		
1,1,1-Trichloroethane	ND		5.0			11/09/22 16:47		
1,1,2-Trichloroethane	ND		5.0			11/09/22 16:47		
Trichloroethene	ND	_	5.0			11/09/22 16:47		
Trichlorofluoromethane	ND	· ·	5.0			11/09/22 16:47		
1,2,4-Trimethylbenzene	ND	_	5.0			11/09/22 16:47		
1,3,5-Trimethylbenzene	ND		5.0			11/09/22 16:47		
/inyl acetate	ND		50.0			11/09/22 16:47		
Vinyl chloride	ND		2.0			11/09/22 16:47		
Xylene (Total)	ND		10.0			11/09/22 16:47		
Surrogates	ND	ug/L	10.0			11,00/22 10.41	1000 20-1	
Dibromofluoromethane (S)	100	%.	82-128	1		11/09/22 16:47	7 1868-53-7	
4-Bromofluorobenzene (S)	101		79-124			11/09/22 16:47		
Toluene-d8 (S)	102		73-122			11/09/22 16:47		



Project: LRN005
Pace Project No.: 50329655

Date: 11/10/2022 11:45 AM

Sample: LRN005:VMW-5:G102822	Lab ID: 5	0329655005	Collected:	10/28/2	2 11:58	Received: 1	0/29/22 09:15	Matrix: Water	
Parameters	Results	Units	Repor	t Limit	DF	Prepared	Analyzed	CAS No.	Qua
6010 MET ICP	Analytical M	ethod: EPA 60	010 Preparat	tion Meth	od: EPA	3010			
	Pace Analyt	ical Services -	Indianapolis						
Antimony	ND	ug/L		6.0	1	11/05/22 13:44	11/09/22 11:34	7440-36-0	
Arsenic	ND	ug/L		10.0	1	11/05/22 13:44	11/09/22 11:34	7440-38-2	
Barium	33.2	ug/L		5.0	1	11/05/22 13:44	11/09/22 11:34	7440-39-3	
Beryllium	ND	ug/L		4.0	1	11/05/22 13:44	11/09/22 11:34	7440-41-7	
Cadmium	7.1	ug/L		1.0	1	11/05/22 13:44	11/09/22 11:34	7440-43-9	
Chromium	ND	ug/L		4.0	1	11/05/22 13:44	11/09/22 11:34	7440-47-3	
Cobalt	49.0	ug/L		3.0	1	11/05/22 13:44	11/09/22 11:34	7440-48-4	
ead	ND	ug/L		5.0	1	11/05/22 13:44	11/09/22 11:34	7439-92-1	
Nickel	234	ug/L		3.0	1	11/05/22 13:44	11/09/22 11:34	7440-02-0	
Selenium	ND	ug/L		10.0	1		11/09/22 11:34		
Silver	ND	ug/L		10.0	1	11/05/22 13:44	11/09/22 11:34	7440-22-4	
/anadium	ND	ug/L		10.0	1	11/05/22 13:44	11/09/22 11:34	7440-62-2	
linc	96.0	ug/L		10.0	1		11/09/22 11:34		
6020 MET ICPMS	Analytical M	ethod: EPA 60	120 Preparat	tion Meth	od: FPA	200.2			
NOZU MET TOT MO	The second secon	ical Services -			.OG. L. 7	1200.2			
hallium .	0.81	ug/L		0.10	1	10/31/22 16:20	11/04/22 17:3:	2 7440-28-0	
470 Mercury	Analytical M	ethod: EPA 74	I70 Preparat	tion Meth	od: EPA	7470			
470 Mercury		ical Services -			100. Li 7	11410			
Mercury	ND	ug/L		0.20	1	10/31/22 19:06	11/01/22 09:3	7 7439-97-6	
3270 100mL Combo RV	Analytical M	ethod: EPA 82	270 by SIM F	Preparati	on Meth	od: EPA 3510			
	Pace Analyti	ical Services -	Indianapolis						
Acenaphthene	ND	ug/L		1.1	1	10/31/22 17:55	11/01/22 20:5	1 83-32-9	
Acenaphthylene	ND	ug/L		1.1	1	10/31/22 17:55	11/01/22 20:5	1 208-96-8	
Anthracene	ND	ug/L		0.11	1	10/31/22 17:55	11/01/22 20:5	1 120-12-7	
Benzo(a)anthracene	ND	ug/L		0.11	1	10/31/22 17:55	11/01/22 20:5	1 56-55-3	
Benzo(a)pyrene	ND	ug/L		0.11	1	10/31/22 17:55	11/01/22 20:5	1 50-32-8	
Benzo(b)fluoranthene	ND	ug/L		0.11	1	10/31/22 17:55	11/01/22 20:5	1 205-99-2	
Benzo(g,h,i)perylene	ND	ug/L		0.11	1	10/31/22 17:55	11/01/22 20:5	1 191-24-2	
Benzo(k)fluoranthene	ND	ug/L		0.11	1	10/31/22 17:55	11/01/22 20:5	1 207-08-9	
Chrysene	ND	ug/L		0.56	1	10/31/22 17:55	11/01/22 20:5	1 218-01-9	
Dibenz(a,h)anthracene	ND	ug/L		0.10	1	10/31/22 17:55	11/01/22 20:5	1 53-70-3	
luoranthene	ND	ug/L		1.1	1	10/31/22 17:55	11/01/22 20:5	1 206-44-0	
luorene	ND	ug/L		1.1	1		11/01/22 20:5		
ndeno(1,2,3-cd)pyrene	ND	ug/L		0.11	1		11/01/22 20:5		
2-Methylnaphthalene	ND	ug/L		1.1	1		11/01/22 20:5		
Naphthalene	ND	ug/L		1.1	1	10/31/22 17:55	11/01/22 20:5	1 91-20-3	
Phenanthrene	ND	ug/L		1.1	1		11/01/22 20:5		
Pyrene	ND	ug/L		1.1	1	10/31/22 17:55	11/01/22 20:5	1 129-00-0	
Surrogates		•							
P-Fluorobiphenyl (S)	77	%.		13-97	1	10/31/22 17:55	11/01/22 20:5	1 321-60-8	
p-Terphenyl-d14 (S)	101	%.		29-110	1	10/31/22 17:55	11/01/22 20:5	1 1718-51-0	



Project: LRN005
Pace Project No.: 50329655

Date: 11/10/2022 11:45 AM

Sample: LRN005:VMW-5:G102822	Lab ID:	50329655005	Collected:	10/28/2	2 11:58	Received: 10	0/29/22 09:15	Matrix: Water	
Parameters	Results	Units	Report	t Limit	DF	Prepared	Analyzed	CAS No.	Qua
3270 SVOC Combo Water	Analytical	Method: EPA 82	270 Preparat	ion Meth	nod: EPA	3510			
	Pace Anal	ytical Services -	Indianapolis						
Butylbenzylphthalate	NI	O ug/L		11.1	1	10/31/22 17:55	11/01/22 23:5	1 85-68-7	
4-Chloro-3-methylphenol	NI			11.1	1		11/01/22 23:5		
4-Chloroaniline	NI	· ·		11.1	1		11/01/22 23:5		
ois(2-Chloroethoxy)methane	NI			11.1	1		11/01/22 23:5		
ois(2-Chloroethyl) ether	NI			11.1	1	10/31/22 17:55	11/01/22 23:5	1 111-44-4	
ois(2chloro1methylethyl) ether	NI			11.1	1		11/01/22 23:5		
2-Chloronaphthalene	NI			11.1	1		11/01/22 23:5		
2-Chlorophenol	NI			11.1	1		11/01/22 23:5		
2,4-Dichlorophenol	NI			11.1	1		11/01/22 23:5		
Diethylphthalate	NI			11.1	1		11/01/22 23:5		
2,4-Dimethylphenol	NI			11.1	1		11/01/22 23:5		
Di-n-butylphthalate	NI			11.1	1		11/01/22 23:5		
2,4-Dinitrophenol	NI NI			55.6	1		11/01/22 23:5		
2,4-Dinitrotoluene	NI			11.1	1		11/01/22 23:5		
2,6-Dinitrotoluene	NI			11.1	1		11/01/22 23:5		
Di-n-octylphthalate	NI			11.1	1		11/01/22 23:5		
is(2-Ethylhexyl)phthalate	NI	•		5.6	1		11/01/22 23:5		
lexachlorocyclopentadiene	NI			11.1	1		11/01/22 23:5		
lexachloroethane	NI			11.1	1		11/01/22 23:5		
sophorone	NI			11.1	1		11/01/22 23:5		
	NI			11.1	1		11/01/22 23:5		
?-Methylphenol(o-Cresol)				11.1	1				
&4-Methylphenol(m&p Cresol)	NI						11/01/22 23:5		
litrobenzene	NI			5.6 55.6	1		11/01/22 23:5		
I-Nitroso-di-n-propylamine	NI				1		11/01/22 23:5		
N-Nitrosodiphenylamine	NI	•		11.1	1		11/01/22 23:5		
Phenol	NI	•		11.1	1		11/01/22 23:5		
2,4,5-Trichlorophenol	NI	De		11.1	1		11/01/22 23:5		
2,4,6-Trichlorophenol	NI	O ug/L		10	1	10/31/22 17:55	11/01/22 23:5	1 88-06-2	
Surrogates Nitrobenzene-d5 (S)	6	4 %.		17-127	1	10/21/22 17:55	11/01/22 23:5	1 4165 60 0	
	3			10-65	1		11/01/22 23:5		
Phenol-d5 (S) P-Fluorophenol (S)	4			10-84	1		11/01/22 23:5		
2,4,6-Tribromophenol (S)	9		,	37-160	1		11/01/22 23:5		
260/5030 MSV	Analytical	Method: EPA 82	260						
		ytical Services -							
Acetone	NI	O ug/L		100	1		11/09/22 17:2	1 67-64-1	
Benzene	NI			5.0	1		11/09/22 17:2	1 71-43-2	
Bromodichloromethane	NI			5.0	1		11/09/22 17:2	1 75-27-4	
Bromoform	NI	O ug/L		5.0	1		11/09/22 17:2	1 75-25-2	
Bromomethane	NI			5.0	1		11/09/22 17:2	1 74-83-9	
-Butanone (MEK)	NI			25.0	1		11/09/22 17:2	1 78-93-3	
Carbon disulfide	NI			10.0	1		11/09/22 17:2	1 75-15-0	
Carbon tetrachloride	NI			5.0	1		11/09/22 17:2	1 56-23-5	
Chlorobenzene	NI			5.0	1		11/09/22 17:2		
Chloroethane	NI			5.0	1		11/09/22 17:2		

## **REPORT OF LABORATORY ANALYSIS**

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Project: LRN005
Pace Project No.: 50329655

Date: 11/10/2022 11:45 AM

Sample: LRN005:VMW-5:G102822	Lab ID:	50329655005	Collected: 10/28/	22 11:58	Received:	10/29/22 09:15	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
8260/5030 MSV	Analytical	Method: EPA 82	260					
	Pace Analy	tical Services -	Indianapolis					
Chloroform	NE	ug/L	5.0	1		11/09/22 17:2	1 67-66-3	
Chloromethane	NE		5.0	1		11/09/22 17:2	74-87-3	
Dibromochloromethane	NE		5.0	1		11/09/22 17:2	1 124-48-1	
1,2-Dibromoethane (EDB)	NE		5.0	1		11/09/22 17:2	1 106-93-4	
Dibromomethane	NE		5.0	1		11/09/22 17:2	74-95-3	
1,2-Dichlorobenzene	NE		5.0	1		11/09/22 17:2		
1,4-Dichlorobenzene	NE	7.7	5.0	1		11/09/22 17:2	1 106-46-7	
Dichlorodifluoromethane	NE		5.0	1		11/09/22 17:2		
1,1-Dichloroethane	NE		5.0	1		11/09/22 17:2		
1,2-Dichloroethane	NE		5.0	1		11/09/22 17:2		
1,1-Dichloroethene	NE		5.0	1		11/09/22 17:2		
cis-1,2-Dichloroethene	NE		5.0	1		11/09/22 17:2		
trans-1,2-Dichloroethene	NE		5.0	1		11/09/22 17:2		
1,2-Dichloropropane	NE		5.0	1		11/09/22 17:2		
1,3-Dichloropropane	NE		5.0	1		11/09/22 17:2		
cis-1,3-Dichloropropene	NE		4.1	1		11/09/22 17:2		
rans-1,3-Dichloropropene	NE		4.1	1		11/09/22 17:2		
Ethylbenzene	NE		5.0	1		11/09/22 17:2		
Ethyl methacrylate	NE		100	1		11/09/22 17:2		
n-Hexane	NE		5.0	1		11/09/22 17:2		
	NE		5.0	1		11/09/22 17:2		
lsopropylbenzene (Cumene) Methylene Chloride	NE NE		5.0	1		11/09/22 17:2		
	NE		25.0	1		11/09/22 17:2		
4-Methyl-2-pentanone (MIBK)		1 T		1		11/09/22 17:2		
Methyl-tert-butyl ether	NC NC		4.0	1		11/09/22 17:2		
Naphthalene	NE NE		1.4 5.0	1				
Styrene	NE	Y				11/09/22 17:21		
1,1,1,2-Tetrachloroethane	NC		5.0	1		11/09/22 17:2:		
1,1,2,2-Tetrachloroethane	NE		5.0	1		11/09/22 17:2		
Tetrachloroethene	NE		5.0	1		11/09/22 17:2		
Toluene	NE		5.0	1		11/09/22 17:2		
1,2,4-Trichlorobenzene	ND		5.0	1		11/09/22 17:2		
1,1,1-Trichloroethane	NE		5.0	1		11/09/22 17:2		
1,1,2-Trichloroethane	NE	· ·	5.0	1		11/09/22 17:2		
Trichloroethene	NE	ug/L	5.0	1		11/09/22 17:2		
Trichlorofluoromethane	NE		5.0	1		11/09/22 17:2		
1,2,4-Trimethylbenzene	NE		5.0	1		11/09/22 17:2		
1,3,5-Trimethylbenzene	NE		5.0	1		11/09/22 17:2		
Vinyl acetate	NE		50.0	1		11/09/22 17:2		
Vinyl chloride	NE	The second second	2.0	1		11/09/22 17:2		
Xylene (Total)	NE	) ug/L	10.0	1		11/09/22 17:2	1 1330-20-7	
Surrogates				- 2				
Dibromofluoromethane (S)	103		82-128	1		11/09/22 17:2		
4-Bromofluorobenzene (S)	103		79-124	1		11/09/22 17:2		
Toluene-d8 (S)	102	2 %.	73-122	1		11/09/22 17:2	2037-26-5	



Project: LRN005
Pace Project No.: 50329655

Date: 11/10/2022 11:45 AM

Sample: LRN005:EB:W102822	Lab ID: 50	329655006	Collected:	10/28/2	2 14:00	Received: 10	0/29/22 09:15	Matrix: Water	
Parameters	Results	Units	Repor	t Limit	DF	Prepared	Analyzed	CAS No.	Qua
6010 MET ICP	Analytical Me	ethod: EPA 60	010 Preparat	ion Meth	od: EPA	3010			
	Pace Analytic	cal Services -	Indianapolis						
Antimony	ND	ug/L		6.0	1	11/05/22 13:44	11/09/22 11:36	7440-36-0	
Arsenic	ND	ug/L		10.0	1	11/05/22 13:44	11/09/22 11:36	7440-38-2	
Barium	ND	ug/L		5.0	1	11/05/22 13:44	11/09/22 11:36	7440-39-3	
Beryllium	ND	ug/L		4.0	1	11/05/22 13:44	11/09/22 11:36	7440-41-7	
Cadmium	ND	ug/L		1.0	1	11/05/22 13:44	11/09/22 11:36	7440-43-9	
Chromium	ND	ug/L		4.0	1	11/05/22 13:44	11/09/22 11:36	7440-47-3	
Cobalt	ND	ug/L		3.0	1	11/05/22 13:44	11/09/22 11:36	7440-48-4	
₋ead	ND	ug/L		5.0	1	11/05/22 13:44	11/09/22 11:36	7439-92-1	
Nickel	ND	ug/L		3.0	1		11/09/22 11:36		
Selenium	ND	ug/L		10.0	1		11/09/22 11:36		
Silver	ND	ug/L		10.0	1		11/09/22 11:36		
Vanadium	ND	ug/L		10.0	1		11/09/22 11:36		
Zinc	ND	ug/L		10.0	1		11/09/22 11:36		
						000.0			
6020 MET ICPMS	Analytical Me				iod: EPA	200.2			
	Pace Analytic	cal Services -	Indianapolis						
Thallium	ND	ug/L		0.10	1	10/31/22 16:20	11/04/22 17:37	7 7440-28-0	
7470 Mercury	Analytical Me	thod: EPA 74	70 Preparat	ion Meth	od: EPA	7470			
·	Pace Analytic	cal Services -	Indianapolis						
Mercury	ND	ug/L		0.20	1	10/31/22 19:06	11/01/22 09:39	7439-97-6	
8270 100mL Combo RV	Analytical Me	ethod: EPA 82	270 by SIM F	Preparation	on Meth	od: EPA 3510			
	Pace Analytic								
Acenaphthene	ND	ug/L		0.83	1	10/31/22 17:55	11/01/22 21:02	2 83-32-9	
Acenaphthylene	ND	ug/L		0.83	1		11/01/22 21:02		
Anthracene	ND	ug/L		0.083	1		11/01/22 21:02		
Benzo(a)anthracene	ND	ug/L		0.083	1		11/01/22 21:02		
Benzo(a)pyrene	ND	ug/L		0.083	1		11/01/22 21:02		
Benzo(b)fluoranthene	ND	ug/L		0.083	1		11/01/22 21:02		
Benzo(g,h,i)perylene	ND	ug/L		0.083	1		11/01/22 21:02		
Benzo(k)fluoranthene	ND	ug/L		0.083	1		11/01/22 21:02		
Chrysene	ND	ug/L		0.42	1		11/01/22 21:02		
Dibenz(a,h)anthracene	ND	ug/L		0.077	1		11/01/22 21:02		
Fluoranthene	ND	ug/L		0.83	1		11/01/22 21:02		
Fluorene	ND	ug/L		0.83	1		11/01/22 21:02		
ndeno(1,2,3-cd)pyrene	ND	ug/L		0.083	1		11/01/22 21:02		
2-Methylnaphthalene	ND	ug/L		0.83	1		11/01/22 21:02		
Naphthalene	ND	ug/L		0.83	1		11/01/22 21:02		
Phenanthrene	ND	ug/L		0.83	1		11/01/22 21:02		
Pyrene	ND	ug/L		0.83	1		11/01/22 21:02		
Surrogates	ND	ug/L		0.00		.5,5 1,22 17.00	. 1/0 1/22 2 1.02	120 00-0	
2-Fluorobiphenyl (S)	78	%.		13-97	1	10/31/22 17:55	11/01/22 21:02	2 321-60-8	
p-Terphenyl-d14 (S)	103	%.		29-110	1	10/31/22 17:55			



Project: LRN005
Pace Project No.: 50329655

Date: 11/10/2022 11:45 AM

Sample: LRN005:EB:W102822	Lab ID:	50329655006	Collected:	10/28/2	2 14:00	Received: 1	0/29/22 09:15	Matrix: Water	
Parameters	Results	Units	Report	t Limit	DF	Prepared	Analyzed	CAS No.	Qua
3270 SVOC Combo Water	Analytical	Method: EPA 82	270 Preparat	ion Meth	od: EPA	3510			
	Pace Anal	ytical Services -	Indianapolis						
Butylbenzylphthalate	NI	O ug/L		8.3	1	10/31/22 17:55	11/02/22 00:0	7 85-68-7	
1-Chloro-3-methylphenol	N			8.3	1	10/31/22 17:55	11/02/22 00:0	7 59-50-7	
l-Chloroaniline	N			8.3	1		11/02/22 00:0		
ois(2-Chloroethoxy)methane	N			8.3	1	10/31/22 17:55	11/02/22 00:0	7 111-91-1	
ois(2-Chloroethyl) ether	N			8.3	1	10/31/22 17:55	11/02/22 00:0	7 111-44-4	
is(2chloro1methylethyl) ether	N			8.3	1	10/31/22 17:55	11/02/22 00:0	7 108-60-1	
-Chloronaphthalene	N			8.3	1		11/02/22 00:0		
-Chlorophenol	N			8.3	1		11/02/22 00:0		
,4-Dichlorophenol	NI			8.3	1		11/02/22 00:0		
Diethylphthalate	NI			8.3	1		11/02/22 00:0		
,4-Dimethylphenol	NI			8.3	1		11/02/22 00:0		
Di-n-butylphthalate	NI			8.3	1		11/02/22 00:0		
,4-Dinitrophenol	NI			41.7	1		11/02/22 00:0		
,4-Dinitrotoluene	NI			8.3	1		11/02/22 00:0		
,,- Dinitrotoluene	NI			8.3	1		11/02/22 00:0		
Di-n-octylphthalate	NI	•		8.3	1		11/02/22 00:0		
is(2-Ethylhexyl)phthalate	NI			4.2	1		11/02/22 00:0		
lexachlorocyclopentadiene	NI			8.3	1		5 11/02/22 00:0		
lexachloroethane	NI			8.3	1		5 11/02/22 00:0		
	NI			8.3	1		5 11/02/22 00:0		
sophorone				8.3	1				
-Methylphenol(o-Cresol)	NI				1		11/02/22 00:0		
&4-Methylphenol(m&p Cresol)	NI NI			8.3			11/02/22 00:0		
litrobenzene	NI			4.2	1		11/02/22 00:0		
I-Nitroso-di-n-propylamine	NI			41.7	1		11/02/22 00:0		
I-Nitrosodiphenylamine	NI			8.3	1		11/02/22 00:0		
Phenol	NI			8.3	1		11/02/22 00:0		
2,4,5-Trichlorophenol	NI			8.3	1		11/02/22 00:0		
2,4,6-Trichlorophenol Surrogates	N	O ug/L		7.5	1	10/31/22 17:55	11/02/22 00:0	7 88-06-2	
Jitrobenzene-d5 (S)	6	4 %.		17-127	1	10/21/22 17:55	11/02/22 00:0	7 4165 60 0	
	2			10-65	1		5 11/02/22 00:0		
Phenol-d5 (S)	3			10-84	1		5 11/02/22 00:0		
?-Fluorophenol (S) ?,4,6-Tribromophenol (S)	9:		,	37-160	1		5 11/02/22 00:0		
260/5030 MSV	Analytical	Method: EPA 82	260						
		ytical Services -							
Acetone	NI	O ug/L		100	1		11/09/22 17:5	2 67-64-1	
Benzene	N	O ug/L		5.0	1		11/09/22 17:5	2 71-43-2	
romodichloromethane	N			5.0	1		11/09/22 17:53	2 75-27-4	
Bromoform	N	O ug/L		5.0	1		11/09/22 17:5	2 75-25-2	
Bromomethane	N			5.0	1		11/09/22 17:5	2 74-83-9	
-Butanone (MEK)	NI	10.00		25.0	1		11/09/22 17:5	2 78-93-3	
Carbon disulfide	NI			10.0	1		11/09/22 17:5		
Carbon tetrachloride	NI			5.0	1		11/09/22 17:5		
Chlorobenzene	NI			5.0	1		11/09/22 17:5		
Chloroethane	NI			5.0	1		11/09/22 17:5		

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Project: LRN005
Pace Project No.: 50329655

Date: 11/10/2022 11:45 AM

Sample: LRN005:EB:W102822	Lab ID:	50329655006	Collected: 10/28/	22 14:00	Received:	10/29/22 09:15	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
B260/5030 MSV	Analytical	Method: EPA 82	260					
	Pace Anal	ytical Services -	Indianapolis					
Chloroform	NE	ug/L	5.0	1		11/09/22 17:52	2 67-66-3	
Chloromethane	NE		5.0	1		11/09/22 17:52	74-87-3	
Dibromochloromethane	NE		5.0	1		11/09/22 17:52	2 124-48-1	
1,2-Dibromoethane (EDB)	NE		5.0	1		11/09/22 17:52		
Dibromomethane	NE		5.0	1		11/09/22 17:52	74-95-3	
1,2-Dichlorobenzene	NE	_	5.0	1		11/09/22 17:52		
1,4-Dichlorobenzene	NE		5.0	1		11/09/22 17:52	2 106-46-7	
Dichlorodifluoromethane	NE		5.0	1		11/09/22 17:52		
1,1-Dichloroethane	NE		5.0	1		11/09/22 17:52		
1,2-Dichloroethane	NE		5.0	1		11/09/22 17:52		
1,1-Dichloroethene	NE	_	5.0	1		11/09/22 17:52		
cis-1,2-Dichloroethene	NE		5.0	1		11/09/22 17:52		
trans-1,2-Dichloroethene	NE		5.0	1		11/09/22 17:52		
1,2-Dichloropropane	NE		5.0	1		11/09/22 17:52		
1,3-Dichloropropane	NE		5.0	1		11/09/22 17:52		
cis-1,3-Dichloropropene	NE	_	4.1	1		11/09/22 17:52		
rans-1,3-Dichloropropene	NE		4.1	1		11/09/22 17:52		
Ethylbenzene	NE		5.0	1		11/09/22 17:52		
Ethyl methacrylate	NE		100	1		11/09/22 17:52		
n-Hexane	NE		5.0	1		11/09/22 17:52		
Isopropylbenzene (Cumene)	NE		5.0	1		11/09/22 17:52		
Methylene Chloride	NE		5.0	1		11/09/22 17:52		
4-Methyl-2-pentanone (MIBK)	NE		25.0	1		11/09/22 17:52		
Methyl-tert-butyl ether	NE		4.0	1		11/09/22 17:52		
Naphthalene	NE		1.4	1		11/09/22 17:52		
Styrene	NE		5.0	1		11/09/22 17:52		
1,1,1,2-Tetrachloroethane	NE		5.0	1		11/09/22 17:52		
1,1,2,2-Tetrachloroethane	NE		5.0	1		11/09/22 17:52		
Tetrachloroethene	NE NE		5.0	1		11/09/22 17:52		
Toluene	NE		5.0	1		11/09/22 17:52		
	NE		5.0	1		11/09/22 17:52		
1,2,4-Trichlorobenzene 1,1,1-Trichloroethane	NE NE	7	5.0	1		11/09/22 17:52		
	NE NE	90°	5.0	1		11/09/22 17:52		
1,1,2-Trichloroethane Trichloroethene				1				
	NE NE		5.0	4		11/09/22 17:52		
Trichlorofluoromethane	NE		5.0			11/09/22 17:52		
1,2,4-Trimethylbenzene	NE NE		5.0	1		11/09/22 17:52 11/09/22 17:52		
1,3,5-Trimethylbenzene	NE		5.0	1				
/inyl acetate	NE NE		50.0	1		11/09/22 17:52		
Vinyl chloride	NE	The second second	2.0	1		11/09/22 17:52		
Xylene (Total)	NE	) ug/L	10.0	1		11/09/22 17:52	1330-20-7	
Surrogates Dibromofluoromethane (S)	99	9 %.	82-128	4		11/09/22 17:52	1969 52 7	
Dibromofluoromethane (S) 4-Bromofluorobenzene (S)			79-124	1		11/09/22 17:52		
4-Bromotiuorobenzene (S) Toluene-d8 (S)	10: 104		79-124 73-122	1		11/09/22 17:52		



Project: LRN005 Pace Project No.: 50329655

Date: 11/10/2022 11:45 AM

Sample: LRN005:Trip Lab ID: 50329655007 Collected: 10/28/22 08:00 Received: 10/29/22 09:15 Matrix: Water Blank:W102822

Blank:W102822								
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
3260/5030 MSV	Analytical Met	hod: EPA 826	0					
	Pace Analytica	ıl Services - lı	ndianapolis					
Acetone	ND	ug/L	100	1		11/09/22 15:12	67-64-1	
Benzene	ND	ug/L	5.0	1		11/09/22 15:12	71-43-2	
Bromodichloromethane	ND	ug/L	5.0	1		11/09/22 15:12	75-27-4	
romoform	ND	ug/L	5.0	1		11/09/22 15:12	75-25-2	
romomethane	ND	ug/L	5.0	1		11/09/22 15:12	74-83-9	
-Butanone (MEK)	ND	ug/L	25.0	1		11/09/22 15:12	78-93-3	
arbon disulfide	ND	ug/L	10.0	1		11/09/22 15:12	75-15-0	
arbon tetrachloride	ND	ug/L	5.0	1		11/09/22 15:12	56-23-5	
hlorobenzene	ND	ug/L	5.0	1		11/09/22 15:12	108-90-7	
hloroethane	ND	ug/L	5.0	1		11/09/22 15:12		
hloroform	ND	ug/L	5.0	1		11/09/22 15:12		
hloromethane	ND	ug/L	5.0	1		11/09/22 15:12		
ibromochloromethane	ND	ug/L	5.0	1		11/09/22 15:12		
,2-Dibromoethane (EDB)	ND	ug/L	5.0	1		11/09/22 15:12		
ibromomethane	ND	ug/L	5.0	1		11/09/22 15:12		
,2-Dichlorobenzene	ND	ug/L	5.0	1		11/09/22 15:12		
4-Dichlorobenzene	ND	ug/L	5.0	1		11/09/22 15:12		
ichlorodifluoromethane	ND	ug/L	5.0	1		11/09/22 15:12		
1-Dichloroethane	ND	ug/L	5.0	1		11/09/22 15:12		
2-Dichloroethane	ND	ug/L	5.0	1		11/09/22 15:12		
1-Dichloroethene	ND	_	5.0	1		11/09/22 15:12		
s-1,2-Dichloroethene	ND	ug/L ug/L	5.0	1		11/09/22 15:12		
	ND		5.0	1				
ans-1,2-Dichloroethene		ug/L		1		11/09/22 15:12		
2-Dichloropropane	ND	ug/L	5.0	1		11/09/22 15:12		
,3-Dichloropropane	ND	ug/L	5.0			11/09/22 15:12		
s-1,3-Dichloropropene	ND	ug/L	4.1	1		11/09/22 15:12		
ans-1,3-Dichloropropene	ND	ug/L	4.1	1		11/09/22 15:12		
thylbenzene	ND	ug/L	5.0	1		11/09/22 15:12		
thyl methacrylate	ND	ug/L	100	1		11/09/22 15:12		
-Hexane	ND	ug/L	5.0	1		11/09/22 15:12		
opropylbenzene (Cumene)	ND	ug/L	5.0	1		11/09/22 15:12		
lethylene Chloride	ND	ug/L	5.0	1		11/09/22 15:12		
-Methyl-2-pentanone (MIBK)	ND	ug/L	25.0	1		11/09/22 15:12		
lethyl-tert-butyl ether	ND	ug/L	4.0	1		11/09/22 15:12		
aphthalene	ND	ug/L	1.4	1		11/09/22 15:12		
tyrene	ND	ug/L	5.0	1		11/09/22 15:12		
1,1,2-Tetrachloroethane	ND	ug/L	5.0	1		11/09/22 15:12		
1,2,2-Tetrachloroethane	ND	ug/L	5.0	1		11/09/22 15:12		
etrachloroethene	ND	ug/L	5.0	1		11/09/22 15:12		
oluene	ND	ug/L	5.0	1		11/09/22 15:12		
2,4-Trichlorobenzene	ND	ug/L	5.0	1		11/09/22 15:12	120-82-1	
1,1-Trichloroethane	ND	ug/L	5.0	1		11/09/22 15:12	71-55-6	
,1,2-Trichloroethane	ND	ug/L	5.0	1		11/09/22 15:12	79-00-5	
richloroethene	ND	ug/L	5.0	1		11/09/22 15:12	79-01-6	
richlorofluoromethane	ND	ug/L	5.0	1		11/09/22 15:12	75-69-4	

## **REPORT OF LABORATORY ANALYSIS**

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Project: LRN005
Pace Project No.: 50329655

Date: 11/10/2022 11:45 AM

Sample: LRN005:Trip Blank:W102822	Lab ID:	50329655007	Collected: 10/28/	/22 08:00	Received:	10/29/22 09:15	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260/5030 MSV	Analytical	Method: EPA 8	260					
	Pace Ana	lytical Services	- Indianapolis					
1,2,4-Trimethylbenzene	N	D ug/L	5.0	1		11/09/22 15:1:	2 95-63-6	
1,3,5-Trimethylbenzene	N	D ug/L	5.0	1		11/09/22 15:1:	2 108-67-8	
Vinyl acetate	N	D ug/L	50.0	1		11/09/22 15:1:	2 108-05-4	
Vinyl chloride	N	D ug/L	2.0	1		11/09/22 15:1:	2 75-01-4	
Xylene (Total)	N	D ug/L	10.0	1		11/09/22 15:1:	2 1330-20-7	
Surrogates								
Dibromofluoromethane (S)	10	1 %.	82-128	1		11/09/22 15:1:	2 1868-53-7	
4-Bromofluorobenzene (S)	10	3 %.	79-124	1		11/09/22 15:1:	2 460-00-4	
Toluene-d8 (S)	10	6 %.	73-122	1		11/09/22 15:1:	2 2037-26-5	



Project:

LRN005

Pace Project No.:

50329655

QC Batch:

703428

Analysis Method:

EPA 7470

QC Batch Method: **EPA 7470**  Analysis Description:

7470 Mercury

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

50329655001, 50329655002, 50329655003, 50329655004, 50329655005, 50329655006

METHOD BLANK: 3234065

Matrix: Water

Associated Lab Samples:

50329655001, 50329655002, 50329655003, 50329655004, 50329655005, 50329655006

Blank Result

Reporting

5.1

3234068

5.0

Parameter

Units

Limit Analyzed

Qualifiers

Mercury

ug/L

ND

0.20 11/01/22 08:43

LABORATORY CONTROL SAMPLE:

3234066

Spike

LCS

LCS % Rec % Rec Limits

Qualifiers

Parameter Mercury

Parameter

Date: 11/10/2022 11:45 AM

Units ug/L

Units

ug/L

Conc.

Result

102

80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3234067

5

MS

MSD Spike

MSD

MS

MSD

% Rec

Max

Mercury

50329306003 Result ND Spike Conc. Conc.

5

MS Result

Result

5.1

% Rec 100 % Rec

101

Limits **RPD** 

**RPD** 

Qual 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: LRN005 Pace Project No.: 50329655

Date: 11/10/2022 11:45 AM

QC Batch: 703779 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50329655001, 50329655002, 50329655003, 50329655004, 50329655005, 50329655006

METHOD BLANK: 3235328 Matrix: Water

Associated Lab Samples: 50329655001, 50329655002, 50329655003, 50329655004, 50329655005, 50329655006

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	6.0	11/09/22 11:19	
Arsenic	ug/L	ND	10.0	11/09/22 11:19	
Barium	ug/L	ND	5.0	11/09/22 11:19	
Beryllium	ug/L	ND	4.0	11/09/22 11:19	
Cadmium	ug/L	ND	1.0	11/09/22 11:19	
Chromium	ug/L	ND	4.0	11/09/22 11:19	
Cobalt	ug/L	ND	3.0	11/09/22 11:19	
Lead	ug/L	ND	5.0	11/09/22 11:19	
Nickel	ug/L	ND	3.0	11/09/22 11:19	
Selenium	ug/L	ND	10.0	11/09/22 11:19	
Silver	ug/L	ND	10.0	11/09/22 11:19	
Vanadium	ug/L	ND	10.0	11/09/22 11:19	
Zinc	ug/L	ND	10.0	11/09/22 11:19	

LABORATORY CONTROL SAMPLE:	3235329					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Antimony	ug/L	1000	1040	104	80-120	
Arsenic	ug/L	1000	1040	104	80-120	
Barium	ug/L	1000	1060	106	80-120	
Beryllium	ug/L	1000	1060	106	80-120	
Cadmium	ug/L	1000	1030	103	80-120	
Chromium	ug/L	1000	1060	106	80-120	
Cobalt	ug/L	1000	1020	102	80-120	
Lead	ug/L	1000	1020	102	80-120	
Nickel	ug/L	1000	1060	106	80-120	
Selenium	ug/L	1000	1030	103	80-120	
Silver	ug/L	500	535	107	80-120	
Vanadium	ug/L	1000	1060	106	80-120	
Zinc	ug/L	1000	1030	103	80-120	

MATRIX SPIKE & MATRIX	SPIKE DUPLI	CATE: 3235	330		3235331							
			MS	MSD	222			1002	-202			
		50329439019	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Antimony	ug/L	<6.0	1000	1000	1040	1040	104	104	75-125	1	20	
Arsenic	ug/L	<10.0	1000	1000	1060	1040	106	104	75-125	2	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: LRN005
Pace Project No.: 50329655

Date: 11/10/2022 11:45 AM

			MS	MSD								
		50329439019	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Barium	ug/L	65.7	1000	1000	1120	1110	106	105	75-125	1	20	
Beryllium	ug/L	<4.0	1000	1000	1070	1060	107	106	75-125	1	20	
Cadmium	ug/L	<2.0	1000	1000	1040	1030	104	103	75-125	1	20	
Chromium	ug/L	<10.0	1000	1000	1060	1050	106	105	75-125	1	20	
Cobalt	ug/L	<10.0	1000	1000	1010	1000	101	100	75-125	1	20	
Lead	ug/L	<10.0	1000	1000	1030	1020	103	102	75-125	1	20	
Nickel	ug/L	<10.0	1000	1000	1050	1040	105	104	75-125	1	20	
Selenium	ug/L	<10.0	1000	1000	1040	1040	104	104	75-125	1	20	
Silver	ug/L	<10.0	500	500	545	534	109	107	75-125	2	20	
Vanadium	ug/L	<10.0	1000	1000	1080	1070	107	107	75-125	1	20	
Zinc	ug/L	330	1000	1000	1370	1350	104	102	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:

LRN005

Pace Project No.:

50329655

QC Batch: QC Batch Method:

703422

Analysis Method:

EPA 6020

EPA 200.2

Analysis Description:

6020 MET

Laboratory:

Pace Analytical Services - Indianapolis

Associated Lab Samples:

50329655001, 50329655002, 50329655003, 50329655004, 50329655005, 50329655006

METHOD BLANK: 3234047

Matrix: Water

Associated Lab Samples:

50329655001, 50329655002, 50329655003, 50329655004, 50329655005, 50329655006

Blank Result Reporting Limit

Analyzed

Qualifiers

Thallium

Units ug/L

ND

0.10 11/04/22 16:48

LABORATORY CONTROL SAMPLE:

Parameter

3234048

Spike

LCS

LCS % Rec % Rec Limits

Qualifiers

Parameter Thallium

Date: 11/10/2022 11:45 AM

Units ug/L

Conc.

Result 41.5

104

80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3234049

MS

MSD Spike

40

MS

3234050

MSD

MS

MSD % Rec

% Rec

Max **RPD** 

Thallium

50329393006 Parameter Units Result ug/L

Spike Conc.

Conc.

Result

% Rec

104

Limits **RPD** 

Qual

ND

40

Result 42.3

41.6

106

75-125

2 20

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Project: LRN005 Pace Project No.: 50329655

Date: 11/10/2022 11:45 AM

QC Batch: 705046 Analysis Method: EPA 8260 QC Batch Method: **EPA 8260** Analysis Description: 8260 MSV

> Laboratory: Pace Analytical Services - Indianapolis

50329655001, 50329655002, 50329655003, 50329655004, 50329655005, 50329655006, 50329655007 Associated Lab Samples:

METHOD BLANK: 3241022 Matrix: Water

Associated Lab Samples: 

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	5.0	11/09/22 14:40	
1,1,1-Trichloroethane	ug/L	ND	5.0	11/09/22 14:40	
1,1,2,2-Tetrachloroethane	ug/L	ND	5.0	11/09/22 14:40	
1,1,2-Trichloroethane	ug/L	ND	5.0	11/09/22 14:40	
1,1-Dichloroethane	ug/L	ND	5.0	11/09/22 14:40	
1,1-Dichloroethene	ug/L	ND	5.0	11/09/22 14:40	
1,2,4-Trichlorobenzene	ug/L	ND	5.0	11/09/22 14:40	
1,2,4-Trimethylbenzene	ug/L	ND	5.0	11/09/22 14:40	
1,2-Dibromoethane (EDB)	ug/L	ND	5.0	11/09/22 14:40	
1,2-Dichlorobenzene	ug/L	ND	5.0	11/09/22 14:40	
1,2-Dichloroethane	ug/L	ND	5.0	11/09/22 14:40	
1,2-Dichloropropane	ug/L	ND	5.0	11/09/22 14:40	
1,3,5-Trimethylbenzene	ug/L	ND	5.0	11/09/22 14:40	
1,3-Dichloropropane	ug/L	ND	5.0	11/09/22 14:40	
1,4-Dichlorobenzene	ug/L	ND	5.0	11/09/22 14:40	
2-Butanone (MEK)	ug/L	ND	25.0	11/09/22 14:40	
1-Methyl-2-pentanone (MIBK)	ug/L	ND	25.0	11/09/22 14:40	
Acetone	ug/L	ND	100	11/09/22 14:40	
Benzene	ug/L	ND	5.0	11/09/22 14:40	
3romodichloromethane	ug/L	ND	5.0	11/09/22 14:40	
3romoform	ug/L	ND	5.0	11/09/22 14:40	
3romomethane	ug/L	ND	5.0	11/09/22 14:40	
Carbon disulfide	ug/L	ND	10.0	11/09/22 14:40	
Carbon tetrachloride	ug/L	ND	5.0	11/09/22 14:40	
Chlorobenzene	ug/L	ND	5.0	11/09/22 14:40	
Chloroethane	ug/L	ND	5.0	11/09/22 14:40	
Chloroform	ug/L	ND	5.0	11/09/22 14:40	
Chloromethane	ug/L	ND	5.0	11/09/22 14:40	
cis-1,2-Dichloroethene	ug/L	ND	5.0	11/09/22 14:40	
cis-1,3-Dichloropropene	ug/L	ND	4.1	11/09/22 14:40	
Dibromochloromethane	ug/L	ND	5.0	11/09/22 14:40	
Dibromomethane	ug/L	ND	5.0	11/09/22 14:40	
Dichlorodifluoromethane	ug/L	ND	5.0	11/09/22 14:40	
Ethyl methacrylate	ug/L	ND	100	11/09/22 14:40	
Ethylbenzene	ug/L	ND	5.0	11/09/22 14:40	
sopropylbenzene (Cumene)	ug/L	ND	5.0	11/09/22 14:40	
Methyl-tert-butyl ether	ug/L	ND	4.0	11/09/22 14:40	
Methylene Chloride	ug/L	ND	5.0	11/09/22 14:40	
n-Hexane	ug/L	ND	5.0	11/09/22 14:40	
Naphthalene	ug/L	ND	1.4	11/09/22 14:40	

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#### **REPORT OF LABORATORY ANALYSIS**

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Project: LRN005
Pace Project No.: 50329655

LABORATORY CONTROL SAMPLE: 3241023

Date: 11/10/2022 11:45 AM

METHOD BLANK: 3241022 Matrix: Water

Associated Lab Samples: 50329655001, 50329655002, 50329655003, 50329655004, 50329655005, 50329655006, 50329655007

	Blank	Reporting		
Units	Result	Limit	Analyzed	Qualifiers
ug/L	ND	5.0	11/09/22 14:40	
ug/L	ND	5.0	11/09/22 14:40	
ug/L	ND	5.0	11/09/22 14:40	
ug/L	ND	5.0	11/09/22 14:40	
ug/L	ND	4.1	11/09/22 14:40	
ug/L	ND	5.0	11/09/22 14:40	
ug/L	ND	5.0	11/09/22 14:40	
ug/L	ND	50.0	11/09/22 14:40	
ug/L	ND	2.0	11/09/22 14:40	
ug/L	ND	10.0	11/09/22 14:40	
%.	104	79-124	11/09/22 14:40	
%.	99	82-128	11/09/22 14:40	
%.	105	73-122	11/09/22 14:40	
	ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L	Units Result  ug/L ND  ug/L ND	Units         Result         Limit           ug/L         ND         5.0           ug/L         ND         5.0           ug/L         ND         5.0           ug/L         ND         4.1           ug/L         ND         5.0           ug/L         ND         5.0           ug/L         ND         5.0           ug/L         ND         50.0           ug/L         ND         2.0           ug/L         ND         10.0           %.         104         79-124           %.         99         82-128	Units         Result         Limit         Analyzed           ug/L         ND         5.0         11/09/22 14:40           ug/L         ND         50.0         11/09/22 14:40           ug/L         ND         50.0         11/09/22 14:40           ug/L         ND         2.0         11/09/22 14:40           ug/L         ND         10.0         11/09/22 14:40           w         104         79-124         11/09/22 14:40           %         99         82-128         11/09/22 14:40

		Spike	LCS	LCS	% Rec
Parameter	Unite	Conc	Docult	% Pac	Limite

Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	56.7	113	77-125	
1,1,1-Trichloroethane	ug/L	50	58.8	118	69-125	
1,1,2,2-Tetrachloroethane	ug/L	50	50.6	101	72-123	
1,1,2-Trichloroethane	ug/L	50	51.2	102	73-124	
1,1-Dichloroethane	ug/L	50	57.3	115	71-124	
1,1-Dichloroethene	ug/L	50	55.1	110	63-138	
1,2,4-Trichlorobenzene	ug/L	50	59.9	120	68-132	
1,2,4-Trimethylbenzene	ug/L	50	56.8	114	71-121	
1,2-Dibromoethane (EDB)	ug/L	50	59.5	119	75-123	
1,2-Dichlorobenzene	ug/L	50	58.0	116	76-118	
1,2-Dichloroethane	ug/L	50	54.7	109	68-126	
1,2-Dichloropropane	ug/L	50	54.2	108	73-127	
1,3,5-Trimethylbenzene	ug/L	50	58.0	116	72-120	
1,3-Dichloropropane	ug/L	50	56.2	112	77-125	
1,4-Dichlorobenzene	ug/L	50	58.8	118	74-118	
2-Butanone (MEK)	ug/L	250	201	80	57-130	
4-Methyl-2-pentanone (MIBK)	ug/L	250	243	97	58-134	
Acetone	ug/L	250	193	77	41-133	
Benzene	ug/L	50	57.0	114	76-121	
Bromodichloromethane	ug/L	50	53.7	107	72-125	
Bromoform	ug/L	50	49.1	98	57-134	
Bromomethane	ug/L	50	55.2	110	10-187	
Carbon disulfide	ug/L	50	55.1	110	59-125	
Carbon tetrachloride	ug/L	50	57.2	114	71-134	
Chlorobenzene	ug/L	50	55.3	111	74-119	
Chloroethane	ug/L	50	50.6	101	49-152	
Chloroform	ug/L	50	53.8	108	68-123	

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Project: LRN005
Pace Project No.: 50329655

Date: 11/10/2022 11:45 AM

ABORATORY CONTROL SAMPLE:	3241023					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Chloromethane	ug/L	50	48.2	96	33-133	
is-1,2-Dichloroethene	ug/L	50	51.6	103	73-122	
is-1,3-Dichloropropene	ug/L	50	60.4	121	69-128	
ibromochloromethane	ug/L	50	53.8	108	69-127	
bromomethane	ug/L	50	54.6	109	74-126	
chlorodifluoromethane	ug/L	50	45.2	90	19-136	
hyl methacrylate	ug/L	50	47.4J	95	65-127	
hylbenzene	ug/L	50	57.0	114	74-122	
opropylbenzene (Cumene)	ug/L	50	57.2	114	75-124	
ethyl-tert-butyl ether	ug/L	50	50.0	100	71-125	
thylene Chloride	ug/L	50	57.7	115	71-125	
lexane	ug/L	50	52.7	105	60-132	
hthalene	ug/L	50	54.1	108	69-128	
ene	ug/L	50	56.2	112	74-126	
achloroethene	ug/L	50	59.0	118	74-129	
iene	ug/L	50	53.6	107	70-118	
s-1,2-Dichloroethene	ug/L	50	52.6	105	69-124	
ns-1,3-Dichloropropene	ug/L	50	58.8	118	66-125	
chloroethene	ug/L	50	55.6	111	73-125	
chlorofluoromethane	ug/L	50	61.2	122	56-139	
nyl acetate	ug/L	200	196	98	46-101	
yl chloride	ug/L	50	53.3	107	46-134	
ene (Total)	ug/L	150	164	109	71-123	
Bromofluorobenzene (S)	%.			105	79-124	
romofluoromethane (S)	%.			104	82-128	
luene-d8 (S)	%.			103	73-122	

MATRIX SPIKE & MATRIX SP	PIKE DUPL	ICATE: 3242	222 MS	MSD	3242223							
		50329655002	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	55.9	57.4	112	115	64-142	3	20	
1,1,1-Trichloroethane	ug/L	ND	50	50	56.1	56.2	112	112	60-143	0	20	
1,1,2,2-Tetrachloroethane	ug/L	ND	50	50	54.3	57.5	109	115	64-135	6	20	
1,1,2-Trichloroethane	ug/L	ND	50	50	55.1	56.4	110	113	66-137	2	20	
1,1-Dichloroethane	ug/L	ND	50	50	58.1	56.1	116	112	62-144	4	20	
1,1-Dichloroethene	ug/L	ND	50	50	53.0	52.4	106	105	55-158	1	20	
1,2,4-Trichlorobenzene	ug/L	ND	50	50	49.0	52.9	98	106	27-149	8	20	
1,2,4-Trimethylbenzene	ug/L	ND	50	50	50.7	53.3	101	107	41-140	5	20	
1,2-Dibromoethane (EDB)	ug/L	ND	50	50	61.4	61.3	123	123	68-136	0	20	
1,2-Dichlorobenzene	ug/L	ND	50	50	54.5	55.9	109	112	47-140	3	20	
1,2-Dichloroethane	ug/L	ND	50	50	58.1	56.9	116	114	61-144	2	20	
1,2-Dichloropropane	ug/L	ND	50	50	54.0	54.6	108	109	67-141	1	20	
1,3,5-Trimethylbenzene	ug/L	ND	50	50	52.0	54.4	104	109	40-141	4	20	
1,3-Dichloropropane	ug/L	ND	50	50	59.2	61.4	118	123	67-141	4	20	

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Project: LRN005
Pace Project No.: 50329655

Date: 11/10/2022 11:45 AM

MATRIX SPIKE & MATRIX SP	IKE DUP	LICATE: 3242			3242223							
		50329655002	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qu
1,4-Dichlorobenzene	ug/L	ND	50	50	50.6	53.8	101	108	39-140	6	20	
2-Butanone (MEK)	ug/L	ND	250	250	263	262	105	105	49-149	0	20	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	250	250	279	292	112	117	50-152	5	20	
Acetone	ug/L	ND	250	250	198	217	76	83	23-157	10	20	
Benzene	ug/L	ND	50	50	56.9	56.5	114	113	68-139	1	20	
Bromodichloromethane	ug/L	ND	50	50	55.7	55.9	111	112	65-139	0	20	
Bromoform	ug/L	ND	50	50	49.7	52.5	99	105	51-139	5	20	
Bromomethane	ug/L	ND	50	50	53.6	54.0	107	108	10-189	1	20	
Carbon disulfide	ug/L	ND	50	50	51.4	50.2	101	99	45-143	2	20	
Carbon tetrachloride	ug/L	ND	50	50	54.5	53.7	109	107	61-153	1	20	
Chlorobenzene	ug/L	ND	50	50	53.3	53.4	107	107	57-137	0	20	
Chloroethane	ug/L	ND	50	50	50.4	49.3	101	99	41-183	2	20	
Chloroform	ug/L	ND	50	50	55.3	55.1	111	110	61-138	0	20	
Chloromethane	ug/L	ND	50	50	47.3	47.1	95	94	25-150	1	20	
sis-1,2-Dichloroethene	ug/L	ND	50	50	53.5	52.8	107	106	58-142	1	20	
is-1,3-Dichloropropene	ug/L	ND	50	50	58.1	58.3	116	117	53-140	0	20	
Dibromochloromethane	ug/L	ND	50	50	55.6	55.7	111	111	61-139	0	20	
Dibromomethane	ug/L	ND	50	50	57.2	56.9	114	114	69-138	0	20	
Dichlorodifluoromethane	ug/L	ND	50	50	40.8	40.2	82	80	10-150	1	20	
Ethyl methacrylate	ug/L	ND	50	50	53.3J	52.7J	107	105	57-141		20	
Ethylbenzene	ug/L	ND	50	50	53.0	55.1	106	110	54-141	4	20	
sopropylbenzene Cumene)	ug/L	ND	50	50	53.8	52.9	108	106	48-145	2	20	
Methyl-tert-butyl ether	ug/L	ND	50	50	57.5	57.7	115	115	62-143	0	20	
Methylene Chloride	ug/L	ND	50	50	53.2	54.1	106	108	59-141	2	20	
n-Hexane	ug/L	ND	50	50	52.8	50.9	106	102	44-145	4	20	
Naphthalene	ug/L	ND	50	50	53.0	55.3	106	111	56-136	4	20	
Styrene	ug/L	ND	50	50	56.1	55.1	112	110	51-146	2	20	
Tetrachloroethene	ug/L	ND	50	50	52.1	52.3	104	105	50-149	0	20	
oluene	ug/L	ND	50	50	53.4	52.5	106	105	59-134	2	20	
rans-1,2-Dichloroethene	ug/L	ND	50	50	52.4	50.4	105	101	57-141	4	20	
rans-1,3-Dichloropropene	ug/L	ND	50	50	59.9	59.5	120	119	51-136	1	20	
richloroethene	ug/L	ND	50	50	52.6	52.9	105	106	55-147	1	20	
richlorofluoromethane	ug/L	ND	50	50	59.5	58.6	119	117	55-160	2	20	
inyl acetate	ug/L	ND	200	200	208	204	104	102	24-109	2		
/inyl chloride	ug/L	ND	50	50	50.2	51.3	100	103	36-154	2	20	
(ylene (Total)	ug/L	ND	150	150	159	159	106	106	50-143	0		
I-Bromofluorobenzene (S)	%.						102	97	79-124			
Dibromofluoromethane (S)	%.						105	103	82-128			
Toluene-d8 (S)	%.						102	100	73-122			

Results presented on 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: LRN005 Pace Project No.: 50329655

Date: 11/10/2022 11:45 AM

QC Batch: 703575 Analysis Method: EPA 8270 by SIM

QC Batch Method: EPA 3510 Analysis Description: 8270 Water PAH Low Volume

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50329655001, 50329655002, 50329655003, 50329655004, 50329655005, 50329655006

METHOD BLANK: 3234550 Matrix: Water

Associated Lab Samples: 50329655001, 50329655002, 50329655003, 50329655004, 50329655005, 50329655006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
2-Methylnaphthalene	ug/L	ND .	1.0	11/01/22 17:37	
Acenaphthene	ug/L	ND	1.0	11/01/22 17:37	
Acenaphthylene	ug/L	ND	1.0	11/01/22 17:37	
Anthracene	ug/L	ND	0.10	11/01/22 17:37	
Benzo(a)anthracene	ug/L	ND	0.10	11/01/22 17:37	
Benzo(a)pyrene	ug/L	ND	0.10	11/01/22 17:37	
Benzo(b)fluoranthene	ug/L	ND	0.10	11/01/22 17:37	
Benzo(g,h,i)perylene	ug/L	ND	0.10	11/01/22 17:37	
Benzo(k)fluoranthene	ug/L	ND	0.10	11/01/22 17:37	
Chrysene	ug/L	ND	0.50	11/01/22 17:37	
Dibenz(a,h)anthracene	ug/L	ND	0.092	11/01/22 17:37	
Fluoranthene	ug/L	ND	1.0	11/01/22 17:37	
Fluorene	ug/L	ND	1.0	11/01/22 17:37	
Indeno(1,2,3-cd)pyrene	ug/L	ND	0.10	11/01/22 17:37	
Naphthalene	ug/L	ND	1.0	11/01/22 17:37	
Phenanthrene	ug/L	ND	1.0	11/01/22 17:37	
Pyrene	ug/L	ND	1.0	11/01/22 17:37	
2-Fluorobiphenyl (S)	%.	80	13-97	11/01/22 17:37	
p-Terphenyl-d14 (S)	%.	124	29-110	11/01/22 17:37	S3

LABORATORY CONTROL SAMPLI	E: 3234551					
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Methylnaphthalene	ug/L	10	7.4	74	27-94	
Acenaphthene	ug/L	10	8.0	80	33-97	
Acenaphthylene	ug/L	10	8.2	82	38-110	
Anthracene	ug/L	10	8.9	89	40-111	
Benzo(a)anthracene	ug/L	10	12.0	120	39-132	
Benzo(a)pyrene	ug/L	10	9.9	99	32-128	
Benzo(b)fluoranthene	ug/L	10	9.9	99	27-126	
Benzo(g,h,i)perylene	ug/L	10	8.8	88	26-109	
Benzo(k)fluoranthene	ug/L	10	11.3	113	29-121	
Chrysene	ug/L	10	8.7	87	37-114	
Dibenz(a,h)anthracene	ug/L	10	9.4	94	24-111	
Fluoranthene	ug/L	10	11.0	110	42-123	
Fluorene	ug/L	10	9.4	94	38-110	
ndeno(1,2,3-cd)pyrene	ug/L	10	9.7	97	25-109	
Naphthalene	ug/L	10	6.9	69	28-94	
Phenanthrene	ug/L	10	9.2	92	41-111	

Results presented on 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:

LRN005

Pace Project No.: 50329655

Date: 11/10/2022 11:45 AM

1	ARODATORY	CONTROL	SAMDIE.	22215

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Pyrene	ug/L	10	10.2	102	43-118	
2-Fluorobiphenyl (S)	%.			64	13-97	
p-Terphenyl-d14 (S)	%.			88	29-110	

MATRIX SPIKE & MATRIX S	SPIKE DUPLIC	CATE: 3234			3234553							
	5	0329514002	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	
2-Methylnaphthalene	ug/L	<5.0	8.7	8.7	7.8	7.5	90	86	34-81	4	20	M1
Acenaphthene	ug/L	<5.0	8.7	8.7	8.0	7.7	93	88	18-109	5	20	
Acenaphthylene	ug/L	<5.0	8.7	8.7	8.2	8.0	95	93	40-99	2	20	
Anthracene	ug/L	<5.0	8.7	8.7	8.2	8.7	94	100	47-93	6	20	M1
Benzo(a)anthracene	ug/L	<2.0	8.7	8.7	9.3	9.8	107	112	39-105	5	20	M1
Benzo(a)pyrene	ug/L	<0.20	8.7	8.7	7.9	8.4	91	97	10-110	6	20	
Benzo(b)fluoranthene	ug/L	<2.0	8.7	8.7	8.0	8.6	92	99	10-103	7	20	
Benzo(g,h,i)perylene	ug/L	<5.0	8.7	8.7	6.0	6.5	69	74	10-89	8	20	
Benzo(k)fluoranthene	ug/L	<5.0	8.7	8.7	8.3	8.5	96	98	10-102	2	20	
Chrysene	ug/L	<5.0	8.7	8.7	9.3	9.2	107	106	26-100	1	20	M1
Dibenz(a,h)anthracene	ug/L	<2.0	8.7	8.7	6.1	6.8	70	78	10-92	10	20	
Fluoranthene	ug/L	<5.0	8.7	8.7	10.1	10.3	117	118	55-99	2	20	M1
Fluorene	ug/L	<5.0	8.7	8.7	9.0	8.9	103	103	45-95	1	20	M1
Indeno(1,2,3-cd)pyrene	ug/L	<2.0	8.7	8.7	6.4	7.1	74	81	10-89	9	20	
Naphthalene	ug/L	<5.0	8.7	8.7	7.2	6.9	83	79	33-81	4	20	M1
Phenanthrene	ug/L	<5.0	8.7	8.7	8.4	8.8	97	101	49-92	4	20	M1
Pyrene	ug/L	<5.0	8.7	8.7	9.7	10	112	115	50-98	3	20	M1
2-Fluorobiphenyl (S)	%.						78	77	13-97			
p-Terphenyl-d14 (S)	%.						92	96	29-110			

Results presented on 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: LRN005 Pace Project No.: 50329655

QC Batch: 703574 Analysis Method: EPA 8270

QC Batch Method: EPA 3510 Analysis Description: 8270 Water Scan LV

Laboratory: Pace Analytical Services - Indianapolis

Associated Lab Samples: 50329655001, 50329655002, 50329655003, 50329655004, 50329655005, 50329655006

METHOD BLANK: 3234546 Matrix: Water

Associated Lab Samples: 50329655001, 50329655002, 50329655003, 50329655004, 50329655005, 50329655006

Dorometer	Units	Blank	Reporting	Anglurand	Qualifiers
Parameter	Units	Result	Limit	Analyzed	Qualifiers
2,4,5-Trichlorophenol	ug/L	ND	10.0	11/01/22 19:15	
2,4,6-Trichlorophenol	ug/L	ND	9.0	11/01/22 19:15	
2,4-Dichlorophenol	ug/L	ND	10.0	11/01/22 19:15	
2,4-Dimethylphenol	ug/L	ND	10.0	11/01/22 19:15	
2,4-Dinitrophenol	ug/L	ND	50.0	11/01/22 19:15	
2,4-Dinitrotoluene	ug/L	ND	10.0	11/01/22 19:15	
2,6-Dinitrotoluene	ug/L	ND	10.0	11/01/22 19:15	
2-Chloronaphthalene	ug/L	ND	10.0	11/01/22 19:15	
2-Chlorophenol	ug/L	ND	10.0	11/01/22 19:15	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	11/01/22 19:15	
3&4-Methylphenol(m&p Cresol)	ug/L	ND	10.0	11/01/22 19:15	
4-Chloro-3-methylphenol	ug/L	ND	10.0	11/01/22 19:15	
4-Chloroaniline	ug/L	ND	10.0	11/01/22 19:15	
ois(2-Chloroethoxy)methane	ug/L	ND	10.0	11/01/22 19:15	
ois(2-Chloroethyl) ether	ug/L	ND	10.0	11/01/22 19:15	
ois(2-Ethylhexyl)phthalate	ug/L	ND	5.0	11/01/22 19:15	
ois(2chloro1methylethyl) ether	ug/L	ND	10.0	11/01/22 19:15	
Butylbenzylphthalate	ug/L	ND	10.0	11/01/22 19:15	
Di-n-butylphthalate	ug/L	ND	10.0	11/01/22 19:15	
Di-n-octylphthalate	ug/L	ND	10.0	11/01/22 19:15	
Diethylphthalate	ug/L	ND	10.0	11/01/22 19:15	
Hexachlorocyclopentadiene	ug/L	ND	10.0	11/01/22 19:15	
Hexachloroethane	ug/L	ND	10.0	11/01/22 19:15	
sophorone	ug/L	ND	10.0	11/01/22 19:15	
N-Nitroso-di-n-propylamine	ug/L	ND	50.0	11/01/22 19:15	
N-Nitrosodiphenylamine	ug/L	ND	10.0	11/01/22 19:15	
Nitrobenzene	ug/L	ND	5.0	11/01/22 19:15	
Phenol	ug/L	ND	10.0	11/01/22 19:15	
2,4,6-Tribromophenol (S)	%.	101	37-160	11/01/22 19:15	
2-Fluorophenol (S)	%.	56	10-84	11/01/22 19:15	
Nitrobenzene-d5 (S)	%.	67	17-127	11/01/22 19:15	
Phenol-d5 (S)	%.	46	10-65	11/01/22 19:15	

Date: 11/10/2022 11:45 AM

		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
2,4-Dimethylphenol	ug/L	100	66.5	66	36-130	
2,4-Dinitrotoluene	ug/L	100	78.0	78	51-143	
2-Chlorophenol	ug/L	100	64.8	65	33-115	

Results presented on 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:

LRN005

Pace Project No.:

Date: 11/10/2022 11:45 AM

50329655

ABORATORY CONTROL SAMPLE:	3234547					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Chloro-3-methylphenol	ug/L	100	74.9	75	44-145	
s(2-Ethylhexyl)phthalate	ug/L	100	104	104	50-161	
Nitroso-di-n-propylamine	ug/L	100	62.9	63	36-130	
enol	ug/L	100	44.0	44	14-71	
6-Tribromophenol (S)	%.			87	37-160	
uorophenol (S)	%.			49	10-84	
robenzene-d5 (S)	%.			57	17-127	
nol-d5 (S)	%.			41	10-65	

MATRIX SPIKE & MATRIX SP	IKE DOF	LICATE: 3234	MS	MSD	3234549							
		50329514002	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qua
2,4-Dimethylphenol	ug/L	<5.0	87	87	64.0	64.7	74	74	23-129	1	20	
2,4-Dinitrotoluene	ug/L	<10.0	87	87	70.3	70.7	81	81	47-137	0	20	
2-Chlorophenol	ug/L	<10.0	87	87	57.1	61.3	66	71	19-115	7	20	
4-Chloro-3-methylphenol	ug/L	<10.0	87	87	70.7	74.7	81	86	22-157	5	20	
bis(2-Ethylhexyl)phthalate	ug/L	<5.0	87	87	57.6	68.6	66	79	12-172	18	20	
N-Nitroso-di-n-propylamine	ug/L	<10.0	87	87	55.7	58.0	64	67	26-132	4	20	
Phenol	ug/L	<5.0	87	87	27.9	30.3	32	35	10-68	8	20	
2,4,6-Tribromophenol (S)	%.						87	97	37-160			
2-Fluorophenol (S)	%.						36	44	10-84			
Nitrobenzene-d5 (S)	%.						62	63	17-127			
Phenol-d5 (S)	%.						29	34	10-65			

Results presented on 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: LRN005
Pace Project No.: 50329655

#### **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: 11/10/2022 11:45 AM

- M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
- S3 Surrogate recovery exceeded laboratory control limits. Analyte presence below reporting limits in associated sample.



## **METHOD CROSS REFERENCE TABLE**

Project: LRN005
Pace Project No.: 50329655

Parameter	Matrix	Analytical Method	Preparation Method
6010 MET ICP	Water	SW-846 6010B	SW-846 3010A
6020 MET ICPMS	Water	SW-846 6020	SW-846 3010A
7470 Mercury	Water	SW-846 7470A	SW-846 7470A
8260/5030 MSV	Water	SW-846 8260C	SW-846 5030B
8270 100mL Combo RV	Water	SW-846 8270C	SW-846 3510C
8270 SVOC Combo Water	Water	SW-846 8270C	SW-846 3510C



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

Project: LRN005
Pace Project No.: 50329655

Date: 11/10/2022 11:45 AM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytica Batch
50329655001	LRN005:VMW-1:G102822	EPA 3010	703779	EPA 6010	705208
50329655002	LRN005:VMW-2:G102822	EPA 3010	703779	EPA 6010	705208
50329655003	LRN005:VMW-3:G102822	EPA 3010	703779	EPA 6010	705208
50329655004	LRN005:VMW-4:G102822	EPA 3010	703779	EPA 6010	705208
50329655005	LRN005:VMW-5:G102822	EPA 3010	703779	EPA 6010	705208
50329655006	LRN005:EB:W102822	EPA 3010	703779	EPA 6010	705208
50329655001	LRN005:VMW-1:G102822	EPA 200.2	703422	EPA 6020	703798
50329655002	LRN005:VMW-2:G102822	EPA 200.2	703422	EPA 6020	703798
50329655003	LRN005:VMW-3:G102822	EPA 200.2	703422	EPA 6020	703798
50329655004	LRN005:VMW-4:G102822	EPA 200.2	703422	EPA 6020	703798
50329655005	LRN005:VMW-5:G102822	EPA 200.2	703422	EPA 6020	703798
50329655006	LRN005:EB:W102822	EPA 200.2	703422	EPA 6020	703798
50329655001	LRN005:VMW-1:G102822	EPA 7470	703428	EPA 7470	703647
50329655002	LRN005:VMW-2:G102822	EPA 7470	703428	EPA 7470	703647
50329655003	LRN005:VMW-3:G102822	EPA 7470	703428	EPA 7470	703647
50329655004	LRN005:VMW-4:G102822	EPA 7470	703428	EPA 7470	703647
0329655005	LRN005:VMW-5:G102822	EPA 7470	703428	EPA 7470	703647
50329655006	LRN005:EB:W102822	EPA 7470	703428	EPA 7470	703647
50329655001	LRN005:VMW-1:G102822	EPA 3510	703575	EPA 8270 by SIM	703868
50329655002	LRN005:VMW-2:G102822	EPA 3510	703575	EPA 8270 by SIM	703868
50329655003	LRN005:VMW-3:G102822	EPA 3510	703575	EPA 8270 by SIM	703868
50329655004	LRN005:VMW-4:G102822	EPA 3510	703575	EPA 8270 by SIM	703868
50329655005	LRN005:VMW-5:G102822	EPA 3510	703575	EPA 8270 by SIM	703868
50329655006	LRN005:EB:W102822	EPA 3510	703575	EPA 8270 by SIM	703868
50329655001	LRN005:VMW-1:G102822	EPA 3510	703574	EPA 8270	703867
0329655002	LRN005:VMW-2:G102822	EPA 3510	703574	EPA 8270	703867
50329655003	LRN005:VMW-3:G102822	EPA 3510	703574	EPA 8270	703867
50329655004	LRN005:VMW-4:G102822	EPA 3510	703574	EPA 8270	703867
50329655005	LRN005:VMW-5:G102822	EPA 3510	703574	EPA 8270	703867
50329655006	LRN005:EB:W102822	EPA 3510	703574	EPA 8270	703867
0329655001	LRN005:VMW-1:G102822	EPA 8260	705046		
50329655002	LRN005:VMW-2:G102822	EPA 8260	705046		
50329655003	LRN005:VMW-3:G102822	EPA 8260	705046		
50329655004	LRN005:VMW-4:G102822	EPA 8260	705046		
50329655005	LRN005:VMW-5:G102822	EPA 8260	705046		
50329655006	LRN005:EB:W102822	EPA 8260	705046		
50329655007	LRN005:Trip Blank:W102822	EPA 8260	705046		

# HULL

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Dublin, OH 43016 P: (740) 344-54	51 Mason, OH 45040	P: (440) 232-9945	P: (419) 385-2018	St. Clairsville, OH 43950	Pittsburgh, PA 15205		/			1	ANALYSI	ES /		, ,	
P: (614) 793-8777	P: (513) 459-9677	n .		P: (740) 217-2460	P: (412) 446-0315	PRESE	RVATIVE	s /	G/:	J/B	/ /				
		0001	SAMPLE MATRIX  AA-AMBIENT AIR C-ASBESTOS D-SEDIMENT IG-GROUNDWATER IA-INDOOR AIR L-LEACHATE P-PRODUCT S-SOIL SG-SOIL GAS SS-SUBSLAB VAPOR W-WATER X-CONCRETE	A-Cool only, <4 deg. C B-HNO <sub>3</sub> pH-2 C-H <sub>2</sub> SO <sub>4</sub> pH<2 D-NaOH pH>12 E-ZnAcetate + NaOH, pH>1 F-Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> (0.008%) G-HCL pH <2	ESERVATIVES  H-EDTA I-5ml 1:1 HCL J-none K-Stored in dark L-NH4Cl M-Methanol S-Sodium	METALS  N - Not filtered  F45u- filtered with 0.45 micron  F5u- filtered with 5 micron	1	0	5/ -	~ V					
PROJECT NO.: SAMPLE	LOCATION : SAME	PLE MATRIX & ID	NO. OF CONT.	SAMPLE TYPE (discrete, composite)	COLLECTION DATE/TIME	METALS	/	15	4			/ /	/ /	COMMENTS	
CRNOOS: VMW	1-1:410	2822	6	D	10-28-22/10:45	N	×	X	×					Bailer	00
RNOOS VMU	1-2:610	2822	6	b	10-28-22/10:10	F5u	X	X	X					002	
RNOOS VMU	CONTRACTOR DESCRIPTION OF THE PARTY AND PARTY.	2822	6	D	10-28-22/13:50	F5M	X	X	X					003	
LRNOOS VMU	CONTROL MANAGEMENT AND A CONTROL OF THE CONTROL OF	0 2822	6	D	10-28-22/12:50	F5u	X	X	X					004	
LRNOOS: UMW	CONTRACTOR OF THE PARTY OF THE	2822	6	0	10-28-22/11:58	F5u	X	×	X				-	005	
LRNOOS: WANTE	Control of the Contro	02822	6	D	10-28-22/14:00	N	X	X	×	× .				006	
LRNOOS Trig			3			_	×							907	
					/										
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	45/1:				/										
RELINQUISHED BY:		28/22		Ex	DATE: 10/28/2 TIME: 16:00	2	Deliver	Го:		Pas	Pace Indy Fed Ex				
RELINQUISHED BY:	DATE:		RECEIVED BY:	n	DATE: 10-29-2 TIME: 0915	2	1	of Delive	ry:	Fed	Ex	-	<u>'</u>		-
RELINQUISHED BY: DATE:		RECEIVED BY:		DATE:		Airbill Number:  Regulatory Program:									
	TIME:				TIME:		Require	d Limits:							
COOLER TEMPERAT	I.Z	°C	DISTRIBUTION:	WHITE YELLOW PINK	-LAB USE (MUST BE RETURNE -LAB USE -RETAINED BY HULL	D WITH REPOR		NOTES:	- ROUND 1	IME:		Sła	nd	and Page 49 of	- 52



# SAMPLE CONDITION UPON RECEIPT FORM

Date/Time and Initials of person examining contents	5:10-29	-22/15	-68-MW		,	
1. Courier: ☐ FED EX ☐ UPS ☐ CLIENT ☐ PAGE	CE 🗆 l	JSPS 🗆	OTHER5. Packing Material: Bubble Wrap	Bubb	le Bags	
2. Custody Seal on Cooler/Box Present: Yes	□ No		□ None	☐ Other	r	
(If yes)Seals Intact: Yes No (leave blank		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(s): \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\			7. If temp. is over 6°C or under 0°C, was the PM		П	П.,
(Initial/Corrected) RECORD TEMPS OF ALL COOLERS RECEI	IVED (use Co	mments belov				□ No
			written out in the comments section below.	izing to 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)		/	All containers needing acid/base preservation have been pH  CHECKED?: Exceptions: VOA, coliform, LLHg, O&G, RAD CHEM, and any container with a septum cap or preserved with HCI.  Circle:			
Short Hold Time Analysis (48 hours or less)? Analysis:			Any pon-conformance to pH recommendations will be noted on the container count form			
Time 5035A TC placed in Freezer or Short Holds To Lab	Time:		Residual Chlorine Check (SVOC 625 Pest/PCB 608)	Present	Absent	N/A
Rush TAT Requested (4 days or less):			Residual Chlorine Check (Total/Amenable/Free Cyanide)		P	
Custody Signatures Present?	/		Headspace Wisconsin Sulfide?			
Containers Intact?:			Headspace in VOA Vials (>6mm): See Containter Count form for details	Present	Absent	No VOA Vials <u>Sen</u>
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:						
Total metals=VAI	P metals pe	er S. Ewing	g email. 11/01/22tms	1		
	У.				5	
	6					
	43) 4					
					. 2	

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\*\* Place a RED dot on containers

that are out of conformance \*\*

		MeOH (only)		v	IALS	,				AMB	ER G	LASS						Р	LAST	'IC					ОТН	lER				Sodium Hydroxide	
		DI																										Red	Yellow	Green	Black
COC Line Item	WGFU	R	DG9H	VOA VIAL HS (>6mm)	VG9U	DG90	VG9T	AGOU	AG1H	AG1U	AG2U	AG3S	AG3SF	AG3C	BP1U	BP1N	BP2U	BP3U	BP3N	BP3F	BP3S	врзв	BP3Z	ССЗН	Syringe Kit		Matrix	HNO3 <2	H2SO4	NaOH >10	NaOH/Zn Ac >9
1			3					2											1								W	/			
2								1																-			4				
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**Container Codes** 

Contain		-		-		Colombic Section (Colombic Section)	-						
	Glas	SS			Plastic								
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		Miscellaneous						
DG9U	40mL unpreserved amber vial	AG0U	100mL unpres amber glass	BP1Z	1L NaOH, Zn, Ac			Miscellatieous					
VG9H	40mL HCl clear vial	AG1H	1L HCl amber glass	BP2N	500mL HNO3 plastic		Syringe	Kit LL Cr+6 sampling kit					
VG9T	40mL Na Thio. clear vial	AG1S	1L H2SO4 amber glass	BP2C	500mL NaOH plastic		ZPLC	Ziploc Bag					
VG9U	40mL unpreserved clear vial	AG1T	1L Na Thiosulfate amber glass	BP2S	500mL H2SO4 plastic		R	Terracore Kit					
I	40mL w/hexane wipe vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic		SP5T	120mL Coliform Sodium Thiosulfate					
WGKU	8oz unpreserved clear jar	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Ac		T	Tedlar Bag (air sample)					
WGFU	4oz clear soil jar	AG2S	500mL H2SO4 amber glass	BP3B	250mL NaOH plastic		U	Summa Can (air sample)					
JGFU	4oz unpreserved amber wide	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic		WT	Water					
CG3H	250mL clear glass HCl	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic-field filtered		SL	Solid Solid					
BG1H	1L HCl clear glass	AG3SF	250mL H2SO4 amb glass -field filtered	BP3U	250mL unpreserved plastic		OL:	Oil					
BG1S	1L H2SO4 clear glass	AG3U	250mL unpres amber glass	BP3S	250mL H2SO4 plastic		NAL	Non-aqueous liquid					
GN	General	AG3C	250mL NaOH amber glass	BP3Z	250mL NaOH, ZnAc plastic		WP	Wipe					

		Pac	e Container Orde	er #10	0248	30				
Order B Company V Contact P Email h Address 4 Address 2 City B State C	erdantas ham, Hier pham@ve Hemisph  Bedford DH  40-232-99	Bedford n erdantas.com ere Way  Zip 44146	Ship To: Company Verdantas Contact Peraue, Garret Email gperau@verdanta Address 4 Hemisphere Wa Address 2 City Bedford State OH Zip 44 Phone 440-232-9945	s.com y	Return Company Contact Email Address Address 2 City State	Pace Analytical Indianapolis  Sayer, Tina  tina.sayer@pacelabs.com  7726 Moller Road  Indianapolis  IN Zip 46268  (317)228-3100 127				
Project Ma	t Name _1 anager s		Due Date 10/25/2022  Return Date	_	5788-3 er FedEx		Quote			
Return	ude Trip E	Blanks ng Labels	Bottle Label  Blank  Pre-Printed  Pre-Printed	d No Samp		Bo	Boxed Cases Individually Wrapped Grouped By Sample ID/Matrix			
COC C	Shipper h Shipper Options mber of Blee-Printed		Sampling I  X Custody S  X Temp. Blai  X Coolers  Syringes	eal			Extra Bubble Wrap  Short Hold/Rush Stickers  DI Water Liter(s)  USDA Regulated Soils			
# of Samples	Matrix	Test	Container	Total	# of	Lot#	Notes			
6	WT	IN VOC by 8260	3-40mL clear vials, HCI	18 🗸	0					
1	WT	IN Trip Blank	3-40mL vials, HCI + DI Water	3 🗸	0					
6	WT	IN SVOC/PAH by 8270/8270	2-100mL amber, unpres	12 /	0					
Sample receivi Ianager.	ing hours		may differ by location. Please chec		0 ir Pace Pr		S USE: Ship Date: 10/20/2022 Prepared By: IBTM			
Pace Analytica Payment term	al reserves are net 30	s the right to charge for unus days.	us, toxic, or radioactive samples to sed bottles, as well as cost associa custody to insure proper billing.		ample sto	rage/disposal.	Verified By:			
San	nple					CLIENT	USE (Optional): Date Rec'd: Received By: Verified By:			
Int	ernal									
							Page 52 of 52			

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F-AII-C-009-rev 00 19Dec2016

## **Affidavit of VAP Certified Laboratory**

[For VAP certified laboratories to attest to "certified data" under OAC 3745-300-04(A) and OAC 3745-300-13. Note that Ohio EPA is to receive a legible copy of the CL's affidavit. The entity that received the CL's analytical report under affidavit may retain the CL's affidavit original.]

State of	Indiana	)
		) ss:
County of	Marion	)

- I, <u>Anne Troyer</u>, being first duly sworn according to law, state that, to the best of my knowledge, information and belief:
- 1. I am an adult over the age of eighteen years old and competent to testify herein.
- 2. I am employed by <u>Pace Analytical Services Indianapolis</u> ("the laboratory") as Quality Manager. I am authorized to submit this affidavit on behalf of the laboratory.
- 3. The purpose of this submission is to support a request for a no further action letter or other aspects of a voluntary action, under Ohio's Voluntary Action Program (VAP) as set forth in Ohio Revised Code Chapter 3746 and Ohio Administrative Code (OAC) Chapter 3745-300.
- 4. <u>Pace Analytical Services Indianapolis</u> performed analyses for <u>Verdantas</u> for a voluntary action at property known as LRN005 / Former St. Joe's, Lorain.
- 5. This affidavit applies to and is submitted with the following information, data, documents or reports for the property:

Document ID 50329655 Date of Document November 10, 2022

- 6. <u>Pace Analytical Services Indianapolis</u> was a VAP certified laboratory pursuant to OAC 3745-300-04 when it performed the analyses referenced herein.
- 7. All analyses under this affidavit consist of VAP "certified data" as described in OAC 3745-300-04(A) - unless paragraph b., below, specifies the exceptions:
  - a. The laboratory performed the analyses within its current VAP certification, number CL0065. The laboratory was certified for each analyte, parameter group and method used at the time that it performed the analyses see Method Cross Reference Table. The analyses were performed consistent with the laboratory's standard operating procedures and quality assurance program plan as approved under OAC 3745-300-04.
  - b. Exceptions, if any: Any soil moisture performed by method SM 2540G used for dry weight correction of data or any analysis used for batch QC on matrix spikes, matrix spike duplicates or sample duplicates that are not associated with the referenced project number identified in item 5 above.
- 8. The information, data, documents and reports identified under this affidavit are true, accurate and complete.

Certified Lab Affidavit Pursuant to OAC 3745-300-13(P) Page 2	
50329655	
Further affiant sayeth naught.	
	anne Droype
	Signature of Affiant
Sworn to before me and subscribed in my presence	this <u>28th</u> day of <u>November</u> , 2022.
Melissa Lynn Albertson Notary Public Seal State of Indiana Marion County Commission # 710839 My Commission Expires 02/25/2026	Melisia I atturbox
	Notary Public



## ANALYTICAL REPORT

Lab Number: L2247388

Client: Verdantas

4 Hemisphere Way Bedford, OH 44146

ATTN: Hien Pham Phone: (440) 232-9945

Project Name: CITY OF LORAIN

Project Number: 15011
Report Date: 11/02/22

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019 508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name: CITY OF LORAIN

Project Number: 15011

**Lab Number**: L2247388 **Report Date**: 11/02/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2247388-01	LRN005:TP-14:D082922	SOIL	FORMER ST. JOE'S	08/29/22 11:30	09/01/22
L2247388-02	LRN005:TP-13:D082922	SOIL	FORMER ST. JOE'S	08/29/22 10:30	09/01/22
L2247388-03	LRN005:TP-12-3:D082922	SOIL	FORMER ST. JOE'S	08/29/22 12:30	09/01/22
L2247388-04	LRN005:TP-12-2:D082922	SOIL	FORMER ST. JOE'S	08/29/22 13:30	09/01/22
L2247388-05	LRN005:TP-12-1:D082922	SOIL	FORMER ST. JOE'S	08/29/22 14:30	09/01/22
L2247388-06	LRN005:CTP-3:D083022	SOIL	FORMER ST. JOE'S	08/30/22 09:30	09/01/22
L2247388-07	LRN005:CTP-2:D083022	SOIL	FORMER ST. JOE'S	08/30/22 11:00	09/01/22
L2247388-08	LRN005:CTP-1:D083022	SOIL	FORMER ST. JOE'S	08/30/22 13:00	09/01/22
L2247388-09	LRN005:CTP-5:D083022	SOIL	FORMER ST. JOE'S	08/30/22 08:00	09/01/22
L2247388-10	LRN005:VL-2:D083022	SOIL	FORMER ST. JOE'S	08/30/22 12:00	09/01/22
L2247388-11	LRN005:VL-1:D083022	SOIL	FORMER ST. JOE'S	08/30/22 10:00	09/01/22
L2247388-12	LRN005:CTP-4:D083122	SOIL	FORMER ST. JOE'S	08/31/22 10:00	09/01/22
L2247388-13	LRN005:VL-3:D083122	SOIL	FORMER ST. JOE'S	08/31/22 10:00	09/01/22
L2247388-14	LRN005:VL-4:D083122	SOIL	FORMER ST. JOE'S	08/31/22 12:00	09/01/22
L2247388-15	LRN005:W-1:W082922	WATER	FORMER ST. JOE'S	08/29/22 10:30	09/01/22
L2247388-16	LRN005:W-2:W083022	WATER	FORMER ST. JOE'S	08/30/22 08:00	09/01/22
L2247388-17	LRN005:W-3:W083022	WATER	FORMER ST. JOE'S	08/30/22 13:30	09/01/22
L2247388-18	LRN005:W-4:W083122	WATER	FORMER ST. JOE'S	08/31/22 12:45	09/01/22
L2247388-19	LRN005:TRIP BLANK:W08312	22 WATER	FORMER ST. JOE'S	08/31/22 00:00	09/01/22



Serial\_No:11022210:54

Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

#### **Case Narrative**

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220	with any ques	tions.	



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

#### Case Narrative (continued)

### Report Revision

November 02, 2022: The following analyses have been amended to report one set of results:

L2247388-01: Semivolatile Organics

L2247388-03 and -05: Diesel Range & Oil Range Organics

L2247388-04: Volatile Organics

#### Report Submission

September 29, 2022: This final report includes the results of all requested analyses.

September 21, 2022: This is a preliminary report.

#### Sample Receipt

Client IDs were changed

Sample -10, -11, -13 and -14: The analyses performed were specified by the client.

#### Volatile Organics

L2247388-04: The sample was analyzed as a High Level Methanol in order to quantitate results within the calibration range. The result should be considered estimated, and is qualified with an E flag, for any compound that exceeded the calibration on the initial Low Level analysis. The results of both analyses are reported. Differences were noted between the results of the Volatile Organics by EPA Method 5035/8260 High and Low Level analyses which have been attributed to sample non-homogeneity.

L2247388-19: The Trip Blank has a result for acetone present above the reporting limit. The sample was reanalyzed and confirmed the original results. The results of the original analysis are reported.

#### Semivolatile Organics

L2247388-01: The sample has elevated detection limits due to the limited sample volume utilized during extraction, as required by the sample matrix.

L2247388-01: The surrogate recoveries were outside the acceptance criteria for 2-fluorophenol (16%) and



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

#### **Case Narrative (continued)**

2,4,6-tribromophenol (4%); however, re-extraction outside of holding time achieved similar results: 2-fluorophenol (11%) and 2,4,6-tribromophenol (4%). The results of the original extraction are reported; however, all associated compounds are considered to have a potential bias.

L2247388-02D, -03D, -04D, -05D, and -08D: The sample has elevated detection limits due to the limited sample volume utilized during extraction and the dilution required by the sample matrix.

L2247388-06, -07, and -09: The sample has elevated detection limits due to the limited sample volume utilized during extraction.

#### Diesel Range & Oil Range Organics

L2247388-02: The sample has elevated detection limits due to the limited sample volume utilized during extraction, as required by the sample matrix.

L2247388-03RE\D and -05RE: The sample was extracted with the method required holding time exceeded.

L2247388-05: The surrogate recovery was outside the acceptance criteria for o-terphenyl (28%); however, reextraction achieved a similar result: o-terphenyl (16%). The results the re-extraction are reported.

L2247388-06D, -07D, -08D, and -09D: The sample has elevated detection limits due to limited sample volume available for analysis and the dilution required by the sample matrix.

WG1685817: A Matrix Spike and Laboratory Duplicate were prepared with the sample batch, however, the native sample was not available for reporting; therefore, the results could not be reported.

WG1685997-3D: The sample has elevated detection limits due to limited sample volume available for analysis.

#### **Total Metals**

L2247388-01 and -14: The sample has elevated detection limits for all elements, with the exception of mercury, due to the dilution required by matrix interferences encountered during analysis.

The WG1683187-3 MS recoveries, performed on L2247388-01, are outside the acceptance criteria for barium (63%), cadmium (72%) and lead (54%). A post digestion spike was performed and was within acceptance criteria.

The WG1683187-4 Laboratory Duplicate RPDs for barium (38%) and lead (47%), performed on L2247388-01,



L2247388

Lab Number:

Project Name: CITY OF LORAIN

Project Number: 15011 Report Date: 11/02/22

#### **Case Narrative (continued)**

are outside the acceptance criteria. The elevated RPD has been attributed to the non-homogeneous nature of the native sample.

#### **TCLP Metals**

The WG1692350 CCV recovery, associated with L2247388-02 through -09, was above the acceptance criteria for selenium. Any associated samples with positive detections were re-analyzed under a passing CCV. The samples that were non-detect for these elements are reporting results from the original analyses.

The WG1683954-1 Method Blank, associated with L2247388-01 through -14, has a concentration above the reporting limit for silver. Since the associated sample concentrations are non-detect to the RL for this target analyte, no corrective action is required. Any results detected below the reporting limit are qualified with a "B". The WG1683954-2 LCS recovery, associated with L2247388-01 through -14, is above the acceptance criteria for silver (141%); however, the associated samples are non-detect to the RL for this target analyte. The results of the original analysis are reported.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

**Authorized Signature:** 

Title: Technical Director/Representative Date: 11/02/22

Melissa Sturgis Melissa Sturgis

ALPHA

# **ORGANICS**



## **VOLATILES**



08/29/22 11:30

**Project Name:** CITY OF LORAIN

**Project Number:** 15011

**SAMPLE RESULTS** 

Lab Number: L2247388

Report Date: 11/02/22

Lab ID: L2247388-01

Client ID: LRN005:TP-14:D082922 Sample Location: FORMER ST. JOE'S

Date Received: 09/01/22 Field Prep: Not Specified

Date Collected:

Sample Depth:

Matrix: Soil 1,8260C Analytical Method: Analytical Date: 09/09/22 18:53

Analyst: LAC 75% Percent Solids:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westb	orough Lab					
Dichlorodifluoromethane	ND		mg/kg	0.013		1
Chloromethane	ND		mg/kg	0.0052		1
Vinyl chloride	ND		mg/kg	0.0013		1
Bromomethane	ND		mg/kg	0.0026		1
Chloroethane	ND		mg/kg	0.0026		1
Trichlorofluoromethane	ND		mg/kg	0.0052		1
1,1-Dichloroethene	ND		mg/kg	0.0013		1
Carbon disulfide	ND		mg/kg	0.013	4	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		mg/kg	0.0052		1
Methylene chloride	ND		mg/kg	0.0065		1
Acetone	ND		mg/kg	0.032		1
trans-1,2-Dichloroethene	ND		mg/kg	0.0019		1
Methyl Acetate	ND		mg/kg	0.0052		1
Methyl tert butyl ether	ND		mg/kg	0.0026		1
1,1-Dichloroethane	ND		mg/kg	0.0013		1
cis-1,2-Dichloroethene	ND		mg/kg	0.0013	-2	1
1,2-Dichloroethene, Total	ND		mg/kg	0.0013		1
Cyclohexane	ND		mg/kg	0.013		1
Bromochloromethane	ND		mg/kg	0.0026	-	1
Chloroform	ND		mg/kg	0.0019	3-2	1
Carbon tetrachloride	ND		mg/kg	0.0013		1
1,1,1-Trichloroethane	ND		mg/kg	0.00065		1
2-Butanone	ND		mg/kg	0.013	<del></del>	1
Benzene	ND		mg/kg	0.00065		1
1,2-Dichloroethane	ND		mg/kg	0.0013		1
Methyl cyclohexane	ND		mg/kg	0.0052		1
Trichloroethene	ND		mg/kg	0.00065		1
1,2-Dichloropropane	ND		mg/kg	0.0013		1



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-01 Date Collected: 08/29/22 11:30

Client ID: LRN005:TP-14:D082922 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Wes	stborough Lab					
Bromodichloromethane	ND		mg/kg	0.00065		1
1,4-Dioxane	ND		mg/kg	0.10		1
cis-1,3-Dichloropropene	ND		mg/kg	0.00065		1
Toluene	ND		mg/kg	0.0013		1
4-Methyl-2-pentanone	ND		mg/kg	0.013		1
Tetrachloroethene	ND		mg/kg	0.00065		1
trans-1,3-Dichloropropene	ND		mg/kg	0.0013		1
1,3-Dichloropropene, Total	ND		mg/kg	0.00065		1
1,1,2-Trichloroethane	ND		mg/kg	0.0013		1
Dibromochloromethane	ND		mg/kg	0.0013	-	1
1,2-Dibromoethane	ND		mg/kg	0.00065		1
2-Hexanone	ND		mg/kg	0.013	11/2	1
Chlorobenzene	ND		mg/kg	0.00065		1
Ethylbenzene	ND		mg/kg	0.0013		1
p/m-Xylene	ND		mg/kg	0.0026		1
o-Xylene	ND		mg/kg	0.0013		1
Xylenes, Total	ND		mg/kg	0.0013		1
Styrene	ND		mg/kg	0.0013	- 10	1
Bromoform	ND		mg/kg	0.0052		1
Isopropylbenzene	ND		mg/kg	0.0013		1
1,1,2,2-Tetrachloroethane	ND		mg/kg	0.00065		1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0026		1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0026		1
1,3-Dichlorobenzene	ND		mg/kg	0.0026	74-2	1
1,4-Dichlorobenzene	ND		mg/kg	0.0026		1
1,2-Dichlorobenzene	ND		mg/kg	0.0026	3 <del>4</del> 5	1
1,2-Dibromo-3-chloropropane	ND		mg/kg	0.0039		1
1,2,4-Trichlorobenzene	ND		mg/kg	0.0026		1
Naphthalene	ND		mg/kg	0.0052		1
1,2,3-Trichlorobenzene	ND		mg/kg	0.0026		1

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
1,2-Dichloroethane-d4	110		70-130	
Toluene-d8	95		70-130	
4-Bromofluorobenzene	93		70-130	
Dibromofluoromethane	106		70-130	



08/29/22 10:30

**Project Name:** CITY OF LORAIN

**Project Number:** 15011

**SAMPLE RESULTS** 

Lab Number: L2247388

Report Date: 11/02/22

Lab ID: L2247388-02

Client ID: LRN005:TP-13:D082922 Sample Location: FORMER ST. JOE'S

Date Received: 09/01/22 Field Prep: Not Specified

Date Collected:

Sample Depth:

Matrix: Soil 1,8260C Analytical Method: Analytical Date: 09/11/22 15:31

Analyst: NLK 60% Percent Solids:

Parameter	Result	Qualifier	Units	RL	MDL	<b>Dilution Factor</b>
Volatile Organics by GC/MS - Westb	orough Lab					
Dichlorodifluoromethane	ND		mg/kg	0.014		1
Chloromethane	ND		mg/kg	0.0058		1
Vinyl chloride	ND		mg/kg	0.0014		1
Bromomethane	ND		mg/kg	0.0029		1
Chloroethane	ND		mg/kg	0.0029		1
Trichlorofluoromethane	0.033		mg/kg	0.0058		1
1,1-Dichloroethene	ND		mg/kg	0.0014		1
Carbon disulfide	ND		mg/kg	0.014	-	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		mg/kg	0.0058		1
Methylene chloride	ND		mg/kg	0.0072		1
Acetone	ND		mg/kg	0.036		1
trans-1,2-Dichloroethene	ND		mg/kg	0.0022		1
Methyl Acetate	ND		mg/kg	0.0058		1
Methyl tert butyl ether	ND		mg/kg	0.0029		1
1,1-Dichloroethane	ND		mg/kg	0.0014		1
cis-1,2-Dichloroethene	ND		mg/kg	0.0014		1
1,2-Dichloroethene, Total	ND		mg/kg	0.0014		1
Cyclohexane	ND		mg/kg	0.014		1
Bromochloromethane	ND		mg/kg	0.0029		1
Chloroform	ND		mg/kg	0.0022		1
Carbon tetrachloride	ND		mg/kg	0.0014		1
1,1,1-Trichloroethane	ND		mg/kg	0.00072		1
2-Butanone	ND		mg/kg	0.014		1
Benzene	ND		mg/kg	0.00072		1
1,2-Dichloroethane	ND		mg/kg	0.0014		1
Methyl cyclohexane	ND		mg/kg	0.0058		1
Trichloroethene	ND		mg/kg	0.00072		1
1,2-Dichloropropane	ND		mg/kg	0.0014		1



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-02 Date Collected: 08/29/22 10:30

Client ID: LRN005:TP-13:D082922 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Wes	stborough Lab					
Bromodichloromethane	ND		mg/kg	0.00072		1
1,4-Dioxane	ND		mg/kg	0.12		1
cis-1,3-Dichloropropene	ND		mg/kg	0.00072		1
Toluene	ND		mg/kg	0.0014		1
4-Methyl-2-pentanone	ND		mg/kg	0.014		1
Tetrachloroethene	ND		mg/kg	0.00072		1
trans-1,3-Dichloropropene	ND		mg/kg	0.0014	- 7-2	1
1,3-Dichloropropene, Total	ND		mg/kg	0.00072	1	1
1,1,2-Trichloroethane	ND		mg/kg	0.0014		1
Dibromochloromethane	ND		mg/kg	0.0014	-	1
1,2-Dibromoethane	ND		mg/kg	0.00072		1
2-Hexanone	ND		mg/kg	0.014		1
Chlorobenzene	ND		mg/kg	0.00072	:	1
Ethylbenzene	ND		mg/kg	0.0014		1
p/m-Xylene	ND		mg/kg	0.0029		1
o-Xylene	ND		mg/kg	0.0014		1
Xylenes, Total	ND		mg/kg	0.0014		1
Styrene	ND		mg/kg	0.0014		1
Bromoform	ND		mg/kg	0.0058		1
Isopropylbenzene	ND		mg/kg	0.0014	- 14 <del>4</del>	1
1,1,2,2-Tetrachloroethane	ND		mg/kg	0.00072		1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0029		1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0029		1
1,3-Dichlorobenzene	ND		mg/kg	0.0029	-	1
1,4-Dichlorobenzene	ND		mg/kg	0.0029		1
1,2-Dichlorobenzene	ND		mg/kg	0.0029	: <del></del>	1
1,2-Dibromo-3-chloropropane	ND		mg/kg	0.0043		1
1,2,4-Trichlorobenzene	ND		mg/kg	0.0029		1
Naphthalene	ND		mg/kg	0.0058		1
1,2,3-Trichlorobenzene	ND		mg/kg	0.0029		1

Surrogate	% Recovery	Acceptance Qualifier Criteria	
1,2-Dichloroethane-d4	106	70-130	
Toluene-d8	103	70-130	
4-Bromofluorobenzene	102	70-130	
Dibromofluoromethane	101	70-130	



L2247388

08/29/22 12:30

**Project Name:** CITY OF LORAIN

**Project Number:** 15011

Lab Number:

Date Collected:

Report Date: 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-03

Client ID: LRN005:TP-12-3:D082922 Sample Location: FORMER ST. JOE'S

Date Received: 09/01/22 Field Prep: Not Specified

Sample Depth:

Matrix: Soil 1,8260C Analytical Method: Analytical Date: 09/09/22 19:35

Analyst: LAC 64% Percent Solids:

Parameter	Result	Qualifier	Units	RL	MDL	<b>Dilution Factor</b>
Volatile Organics by GC/MS - Westb	orough Lab					
Dichlorodifluoromethane	ND		mg/kg	0.014		1
Chloromethane	ND		mg/kg	0.0058		1
Vinyl chloride	ND		mg/kg	0.0014		1
Bromomethane	ND		mg/kg	0.0029		1
Chloroethane	ND		mg/kg	0.0029		1
Trichlorofluoromethane	ND		mg/kg	0.0058		1
1,1-Dichloroethene	ND		mg/kg	0.0014		1
Carbon disulfide	ND		mg/kg	0.014		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		mg/kg	0.0058		1
Methylene chloride	ND		mg/kg	0.0073		1
Acetone	ND		mg/kg	0.036		1
trans-1,2-Dichloroethene	ND		mg/kg	0.0022	-	1
Methyl Acetate	ND		mg/kg	0.0058		1
Methyl tert butyl ether	ND		mg/kg	0.0029		1
1,1-Dichloroethane	ND		mg/kg	0.0014		1
cis-1,2-Dichloroethene	ND		mg/kg	0.0014		1
1,2-Dichloroethene, Total	ND		mg/kg	0.0014		1
Cyclohexane	ND		mg/kg	0.014		1
Bromochloromethane	ND		mg/kg	0.0029		1
Chloroform	ND		mg/kg	0.0022		1
Carbon tetrachloride	ND		mg/kg	0.0014		1
1,1,1-Trichloroethane	ND		mg/kg	0.00073	( <del></del> ).	1
2-Butanone	ND		mg/kg	0.014		1
Benzene	ND		mg/kg	0.00073		1
1,2-Dichloroethane	ND		mg/kg	0.0014		1
Methyl cyclohexane	ND		mg/kg	0.0058		1
Trichloroethene	ND		mg/kg	0.00073		1
1,2-Dichloropropane	ND		mg/kg	0.0014		1



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-03 Date Collected: 08/29/22 12:30

Client ID: LRN005:TP-12-3:D082922 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - We	stborough Lab					
Bromodichloromethane	ND		mg/kg	0.00073		1
1,4-Dioxane	ND		mg/kg	0.12		1
cis-1,3-Dichloropropene	ND		mg/kg	0.00073		1
Toluene	ND		mg/kg	0.0014		1
4-Methyl-2-pentanone	ND		mg/kg	0.014		1
Tetrachloroethene	ND		mg/kg	0.00073		1
trans-1,3-Dichloropropene	ND		mg/kg	0.0014		1
1,3-Dichloropropene, Total	ND		mg/kg	0.00073		1
1,1,2-Trichloroethane	ND		mg/kg	0.0014		1
Dibromochloromethane	ND		mg/kg	0.0014		1
1,2-Dibromoethane	ND		mg/kg	0.00073		1
2-Hexanone	ND		mg/kg	0.014		1
Chlorobenzene	ND		mg/kg	0.00073	( <del></del> )	1
Ethylbenzene	ND		mg/kg	0.0014		1
p/m-Xylene	ND		mg/kg	0.0029		1
o-Xylene	ND		mg/kg	0.0014		1
Xylenes, Total	ND		mg/kg	0.0014		1
Styrene	ND		mg/kg	0.0014		1
Bromoform	ND		mg/kg	0.0058	-	1
Isopropylbenzene	ND		mg/kg	0.0014		1
1,1,2,2-Tetrachloroethane	ND		mg/kg	0.00073		1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0029	-	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0029		1
1,3-Dichlorobenzene	ND		mg/kg	0.0029		1
1,4-Dichlorobenzene	ND		mg/kg	0.0029	-	1
1,2-Dichlorobenzene	ND		mg/kg	0.0029		1
1,2-Dibromo-3-chloropropane	ND		mg/kg	0.0044		1
1,2,4-Trichlorobenzene	ND		mg/kg	0.0029		1
Naphthalene	ND		mg/kg	0.0058		1
1,2,3-Trichlorobenzene	ND		mg/kg	0.0029		1

Surrogate	% Recovery	Acceptance Qualifier Criteria	
1,2-Dichloroethane-d4	117	70-130	
Toluene-d8	101	70-130	
4-Bromofluorobenzene	105	70-130	
Dibromofluoromethane	114	70-130	



08/29/22 13:30

**Project Name:** CITY OF LORAIN

**Project Number:** 15011

**SAMPLE RESULTS** 

L2247388

Lab Number:

Date Collected:

Report Date: 11/02/22

Lab ID: L2247388-04

Client ID: LRN005:TP-12-2:D082922 Sample Location: FORMER ST. JOE'S

Date Received: 09/01/22 Field Prep: Not Specified

Sample Depth:

Matrix: Soil 1,8260C Analytical Method: Analytical Date: 09/09/22 19:55

Analyst: LAC 67% Percent Solids:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westb	orough Lab					
Dichlorodifluoromethane	ND		mg/kg	0.014		1
Chloromethane	ND		mg/kg	0.0057		1
Vinyl chloride	ND		mg/kg	0.0014		1
Bromomethane	ND		mg/kg	0.0028		1
Chloroethane	ND		mg/kg	0.0028		1
1,1-Dichloroethene	ND		mg/kg	0.0014		1
Carbon disulfide	ND		mg/kg	0.014		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		mg/kg	0.0057	-	1
Methylene chloride	ND		mg/kg	0.0071		1
Acetone	ND		mg/kg	0.036		1
trans-1,2-Dichloroethene	ND		mg/kg	0.0021		1
Methyl Acetate	ND		mg/kg	0.0057		1
Methyl tert butyl ether	ND		mg/kg	0.0028		1
1,1-Dichloroethane	ND		mg/kg	0.0014		1
cis-1,2-Dichloroethene	ND		mg/kg	0.0014		1
1,2-Dichloroethene, Total	ND		mg/kg	0.0014		1
Cyclohexane	ND		mg/kg	0.014		1
Bromochloromethane	ND		mg/kg	0.0028		1
Chloroform	ND		mg/kg	0.0021		1
Carbon tetrachloride	ND		mg/kg	0.0014		1
1,1,1-Trichloroethane	ND		mg/kg	0.00071		1
2-Butanone	ND		mg/kg	0.014		1
Benzene	ND		mg/kg	0.00071		1
1,2-Dichloroethane	ND		mg/kg	0.0014		1
Methyl cyclohexane	ND		mg/kg	0.0057		1
Trichloroethene	ND		mg/kg	0.00071		1
1,2-Dichloropropane	ND		mg/kg	0.0014		1
Bromodichloromethane	ND		mg/kg	0.00071		1

Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-04 Date Collected: 08/29/22 13:30

Client ID: LRN005:TP-12-2:D082922 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Wes	stborough Lab					
1,4-Dioxane	ND		mg/kg	0.11		1
cis-1,3-Dichloropropene	ND		mg/kg	0.00071		1
Toluene	ND		mg/kg	0.0014		1
4-Methyl-2-pentanone	ND		mg/kg	0.014		1
Tetrachloroethene	ND		mg/kg	0.00071		1
trans-1,3-Dichloropropene	ND		mg/kg	0.0014		1
1,3-Dichloropropene, Total	ND		mg/kg	0.00071	- 1-2	1
1,1,2-Trichloroethane	ND		mg/kg	0.0014		1
Dibromochloromethane	ND		mg/kg	0.0014		1
1,2-Dibromoethane	ND		mg/kg	0.00071	-	1
2-Hexanone	ND		mg/kg	0.014		1
Chlorobenzene	ND		mg/kg	0.00071		1
Ethylbenzene	ND		mg/kg	0.0014	:	1
p/m-Xylene	ND		mg/kg	0.0028		1
o-Xylene	ND		mg/kg	0.0014		1
Xylenes, Total	ND		mg/kg	0.0014		1
Styrene	ND		mg/kg	0.0014		1
Bromoform	ND		mg/kg	0.0057	-	1
Isopropylbenzene	ND		mg/kg	0.0014		1
1,1,2,2-Tetrachloroethane	ND		mg/kg	0.00071		1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0028	:	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0028	- 4	1
1,3-Dichlorobenzene	ND		mg/kg	0.0028		1
1,4-Dichlorobenzene	ND		mg/kg	0.0028	-	1
1,2-Dichlorobenzene	ND		mg/kg	0.0028		1
1,2-Dibromo-3-chloropropane	ND		mg/kg	0.0043		1
1,2,4-Trichlorobenzene	ND		mg/kg	0.0028		1
Naphthalene	ND		mg/kg	0.0057		1
1,2,3-Trichlorobenzene	ND		mg/kg	0.0028		1

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
1,2-Dichloroethane-d4	122		70-130	
Toluene-d8	99		70-130	
4-Bromofluorobenzene	97		70-130	
Dibromofluoromethane	119		70-130	



**Project Name:** CITY OF LORAIN

**Project Number:** 15011

**SAMPLE RESULTS** 

Report Date: 11/02/22

L2247388

Lab ID: L2247388-04 D LRN005:TP-12-2:D082922

Client ID:

**Date Collected:** 

Lab Number:

08/29/22 13:30

Sample Location: FORMER ST. JOE'S Date Received: Field Prep:

09/01/22

Not Specified

Sample Depth:

Matrix: Soil Analytical Method:

1,8260C

Analytical Date:

09/12/22 19:25

Analyst: Percent Solids: **NLK** 67%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	
Volatile Organics by GC/MS - Wes	stborough Lab						
Trichlorofluoromethane	250		mg/kg	7.7	-	20	
Surrogate			% Recovery	Qualifier		eptance riteria	
1,2-Dichloroethane-d4			104			70-130	
Toluene-d8			100			70-130	
4-Bromofluorobenzene			86			70-130	
Dibromofluoromethane			109			70-130	

**Project Name:** CITY OF LORAIN

**Project Number:** 15011

**SAMPLE RESULTS** 

Report Date: 11/02/22

Lab ID: L2247388-05

Client ID: LRN005:TP-12-1:D082922

Field Prep:

Date Collected:

Lab Number:

08/29/22 14:30 09/01/22

L2247388

Sample Location:

FORMER ST. JOE'S

Date Received: Not Specified

Sample Depth:

Matrix: Soil 1,8260C Analytical Method: Analytical Date:

09/11/22 15:57

Analyst:

Percent Solids:

NLK 64%

Parameter	Result	Qualifier	Units	RL	MDL	<b>Dilution Factor</b>
Volatile Organics by GC/MS - Westb	orough Lab					
Dichlorodifluoromethane	ND		mg/kg	0.015		1
Chloromethane	ND		mg/kg	0.0061		1
Vinyl chloride	ND		mg/kg	0.0015		1
Bromomethane	ND		mg/kg	0.0030		1
Chloroethane	ND		mg/kg	0.0030		1
Trichlorofluoromethane	0.012		mg/kg	0.0061		1
1,1-Dichloroethene	ND		mg/kg	0.0015		1
Carbon disulfide	ND		mg/kg	0.015	4	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		mg/kg	0.0061		1
Methylene chloride	ND		mg/kg	0.0076		1
Acetone	ND		mg/kg	0.038	-	1
trans-1,2-Dichloroethene	ND		mg/kg	0.0023		1
Methyl Acetate	ND		mg/kg	0.0061		1
Methyl tert butyl ether	ND		mg/kg	0.0030		1
1,1-Dichloroethane	ND		mg/kg	0.0015		1
cis-1,2-Dichloroethene	ND		mg/kg	0.0015	-2	1
1,2-Dichloroethene, Total	ND		mg/kg	0.0015		1
Cyclohexane	ND		mg/kg	0.015		1
Bromochloromethane	ND		mg/kg	0.0030		1
Chloroform	ND		mg/kg	0.0023	3-2	1
Carbon tetrachloride	ND		mg/kg	0.0015		1
1,1,1-Trichloroethane	ND		mg/kg	0.00076	( <del></del> )	1
2-Butanone	ND		mg/kg	0.015		1
Benzene	ND		mg/kg	0.00076	1-40	1
1,2-Dichloroethane	ND		mg/kg	0.0015		1
Methyl cyclohexane	ND		mg/kg	0.0061		1
Trichloroethene	ND		mg/kg	0.00076		1
1,2-Dichloropropane	ND		mg/kg	0.0015		1



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-05 Date Collected: 08/29/22 14:30

Client ID: LRN005:TP-12-1:D082922 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Wes	stborough Lab					
Bromodichloromethane	ND		mg/kg	0.00076		1
1,4-Dioxane	ND		mg/kg	0.12		1
cis-1,3-Dichloropropene	ND		mg/kg	0.00076		1
Toluene	ND		mg/kg	0.0015	1-4	1
4-Methyl-2-pentanone	ND		mg/kg	0.015		1
Tetrachloroethene	0.00080		mg/kg	0.00076		1
trans-1,3-Dichloropropene	ND		mg/kg	0.0015		1
1,3-Dichloropropene, Total	ND		mg/kg	0.00076		1
1,1,2-Trichloroethane	ND		mg/kg	0.0015	-	1
Dibromochloromethane	ND		mg/kg	0.0015	-	1
1,2-Dibromoethane	ND		mg/kg	0.00076		1
2-Hexanone	ND		mg/kg	0.015	1.2	1
Chlorobenzene	ND		mg/kg	0.00076	: <del></del>	1
Ethylbenzene	ND		mg/kg	0.0015		1
p/m-Xylene	ND		mg/kg	0.0030		1
o-Xylene	ND		mg/kg	0.0015		1
Xylenes, Total	ND		mg/kg	0.0015		1
Styrene	ND		mg/kg	0.0015		1
Bromoform	ND		mg/kg	0.0061		1
Isopropylbenzene	ND		mg/kg	0.0015		1
1,1,2,2-Tetrachloroethane	ND		mg/kg	0.00076		1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0030		1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0030		1
1,3-Dichlorobenzene	ND		mg/kg	0.0030	-	1
1,4-Dichlorobenzene	ND		mg/kg	0.0030		1
1,2-Dichlorobenzene	ND		mg/kg	0.0030		1
1,2-Dibromo-3-chloropropane	ND		mg/kg	0.0046		1
1,2,4-Trichlorobenzene	ND		mg/kg	0.0030		1
Naphthalene	ND		mg/kg	0.0061		1
1,2,3-Trichlorobenzene	ND		mg/kg	0.0030		1

Surrogate		Acceptance	
	% Recovery	Qualifier Criteria	
1,2-Dichloroethane-d4	106	70-130	
Toluene-d8	105	70-130	
4-Bromofluorobenzene	104	70-130	
Dibromofluoromethane	102	70-130	



08/30/22 09:30

**Project Name:** CITY OF LORAIN

**Project Number:** 15011

**SAMPLE RESULTS** 

Lab Number: L2247388

Report Date: 11/02/22

Lab ID: L2247388-06

Client ID: LRN005:CTP-3:D083022 Sample Location: FORMER ST. JOE'S

Date Received: 09/01/22 Field Prep: Not Specified

Date Collected:

Sample Depth:

Matrix: Soil 1,8260C Analytical Method: Analytical Date: 09/11/22 16:23

Analyst: NLK 72% Percent Solids:

Parameter	Result	Qualifier	Units	RL	MDL	<b>Dilution Factor</b>
Volatile Organics by GC/MS - Westb	orough Lab					
Dichlorodifluoromethane	ND		mg/kg	0.014		1
Chloromethane	ND		mg/kg	0.0054		1
Vinyl chloride	ND		mg/kg	0.0014		1
Bromomethane	ND		mg/kg	0.0027		1
Chloroethane	ND		mg/kg	0.0027		1
Trichlorofluoromethane	ND		mg/kg	0.0054		1
1,1-Dichloroethene	ND		mg/kg	0.0014		1
Carbon disulfide	ND		mg/kg	0.014	-	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		mg/kg	0.0054		1
Methylene chloride	ND		mg/kg	0.0068		1
Acetone	ND		mg/kg	0.034		1
trans-1,2-Dichloroethene	ND		mg/kg	0.0020		1
Methyl Acetate	ND		mg/kg	0.0054		1
Methyl tert butyl ether	ND		mg/kg	0.0027		1
1,1-Dichloroethane	ND		mg/kg	0.0014		1
cis-1,2-Dichloroethene	ND		mg/kg	0.0014		1
1,2-Dichloroethene, Total	ND		mg/kg	0.0014		1
Cyclohexane	ND		mg/kg	0.014		1
Bromochloromethane	ND		mg/kg	0.0027		1
Chloroform	ND		mg/kg	0.0020		1
Carbon tetrachloride	ND		mg/kg	0.0014		1
1,1,1-Trichloroethane	ND		mg/kg	0.00068	( <del></del> ).	1
2-Butanone	ND		mg/kg	0.014		1
Benzene	ND		mg/kg	0.00068		1
1,2-Dichloroethane	ND		mg/kg	0.0014		1
Methyl cyclohexane	ND		mg/kg	0.0054		1
Trichloroethene	ND		mg/kg	0.00068		1
1,2-Dichloropropane	ND		mg/kg	0.0014		1



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-06 Date Collected: 08/30/22 09:30

Client ID: LRN005:CTP-3:D083022 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Wes	stborough Lab					
Bromodichloromethane	ND		mg/kg	0.00068		1
1,4-Dioxane	ND		mg/kg	0.11		1
cis-1,3-Dichloropropene	ND		mg/kg	0.00068		1
Toluene	ND		mg/kg	0.0014		1
4-Methyl-2-pentanone	ND		mg/kg	0.014		1
Tetrachloroethene	ND		mg/kg	0.00068		1
trans-1,3-Dichloropropene	ND		mg/kg	0.0014		1
1,3-Dichloropropene, Total	ND		mg/kg	0.00068		1
1,1,2-Trichloroethane	ND		mg/kg	0.0014		1
Dibromochloromethane	ND		mg/kg	0.0014		1
1,2-Dibromoethane	ND		mg/kg	0.00068		1
2-Hexanone	ND		mg/kg	0.014		1
Chlorobenzene	ND		mg/kg	0.00068	:	1
Ethylbenzene	ND		mg/kg	0.0014		1
p/m-Xylene	ND		mg/kg	0.0027		1
o-Xylene	ND		mg/kg	0.0014		1
Xylenes, Total	ND		mg/kg	0.0014		1
Styrene	ND		mg/kg	0.0014		1
Bromoform	ND		mg/kg	0.0054		1
Isopropylbenzene	ND		mg/kg	0.0014		1
1,1,2,2-Tetrachloroethane	ND		mg/kg	0.00068		1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0027		1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0027		1
1,3-Dichlorobenzene	ND		mg/kg	0.0027	-	1
1,4-Dichlorobenzene	ND		mg/kg	0.0027		1
1,2-Dichlorobenzene	ND		mg/kg	0.0027	1 <del></del>	1
1,2-Dibromo-3-chloropropane	ND		mg/kg	0.0041		1
1,2,4-Trichlorobenzene	ND		mg/kg	0.0027		1
Naphthalene	ND		mg/kg	0.0054		1
1,2,3-Trichlorobenzene	ND		mg/kg	0.0027		1

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
	//s ixecovery	Qualifier	Criteria	
1,2-Dichloroethane-d4	110		70-130	
Toluene-d8	106		70-130	
4-Bromofluorobenzene	104		70-130	
Dibromofluoromethane	104		70-130	



08/30/22 11:00

**Project Name:** CITY OF LORAIN

**Project Number:** 15011

**SAMPLE RESULTS** 

Lab Number: L2247388

Report Date: 11/02/22

Lab ID: L2247388-07

Client ID: LRN005:CTP-2:D083022 Sample Location: FORMER ST. JOE'S

Date Received: 09/01/22 Field Prep: Not Specified

Date Collected:

Sample Depth:

Matrix: Soil 1,8260C Analytical Method: Analytical Date: 09/11/22 16:49

Analyst: NLK 52% Percent Solids:

Parameter	Result	Qualifier	Units	RL	MDL	<b>Dilution Factor</b>
Volatile Organics by GC/MS - Westb	orough Lab					
Dichlorodifluoromethane	ND		mg/kg	0.019		1
Chloromethane	ND		mg/kg	0.0074		1
Vinyl chloride	ND		mg/kg	0.0019		1
Bromomethane	ND		mg/kg	0.0037		1
Chloroethane	ND		mg/kg	0.0037		1
Trichlorofluoromethane	0.015		mg/kg	0.0074		1
1,1-Dichloroethene	ND		mg/kg	0.0019		1
Carbon disulfide	ND		mg/kg	0.019	4	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		mg/kg	0.0074		1
Methylene chloride	ND		mg/kg	0.0093		1
Acetone	ND		mg/kg	0.046		1
trans-1,2-Dichloroethene	ND		mg/kg	0.0028		1
Methyl Acetate	ND		mg/kg	0.0074		1
Methyl tert butyl ether	ND		mg/kg	0.0037		1
1,1-Dichloroethane	ND		mg/kg	0.0019		1
cis-1,2-Dichloroethene	ND		mg/kg	0.0019		1
1,2-Dichloroethene, Total	ND		mg/kg	0.0019		1
Cyclohexane	ND		mg/kg	0.019		1
Bromochloromethane	ND		mg/kg	0.0037		1
Chloroform	ND		mg/kg	0.0028		1
Carbon tetrachloride	ND		mg/kg	0.0019		1
1,1,1-Trichloroethane	0.0010		mg/kg	0.00093	( <del></del> ).	1
2-Butanone	ND		mg/kg	0.019		1
Benzene	ND		mg/kg	0.00093		1
1,2-Dichloroethane	ND		mg/kg	0.0019		1
Methyl cyclohexane	ND		mg/kg	0.0074		1
Trichloroethene	ND		mg/kg	0.00093		1
1,2-Dichloropropane	0.0026		mg/kg	0.0019		1



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-07 Date Collected: 08/30/22 11:00

Client ID: LRN005:CTP-2:D083022 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Wes	stborough Lab					
Bromodichloromethane	ND		mg/kg	0.00093	-	1
1,4-Dioxane	ND		mg/kg	0.15		1
cis-1,3-Dichloropropene	ND		mg/kg	0.00093		1
Toluene	ND		mg/kg	0.0019		1
4-Methyl-2-pentanone	ND		mg/kg	0.019	+	1
Tetrachloroethene	ND		mg/kg	0.00093		1
trans-1,3-Dichloropropene	ND		mg/kg	0.0019		1
1,3-Dichloropropene, Total	ND		mg/kg	0.00093		1
1,1,2-Trichloroethane	ND		mg/kg	0.0019		1
Dibromochloromethane	ND		mg/kg	0.0019		1
1,2-Dibromoethane	ND		mg/kg	0.00093		.1
2-Hexanone	ND		mg/kg	0.019		1
Chlorobenzene	ND		mg/kg	0.00093		1
Ethylbenzene	ND		mg/kg	0.0019		1
p/m-Xylene	ND		mg/kg	0.0037		1
o-Xylene	ND		mg/kg	0.0019		1
Xylenes, Total	ND		mg/kg	0.0019		1
Styrene	ND		mg/kg	0.0019	- 1, 2	1
Bromoform	ND		mg/kg	0.0074		1
Isopropylbenzene	ND		mg/kg	0.0019		1
1,1,2,2-Tetrachloroethane	ND		mg/kg	0.00093		1.1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0037	-	1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0037		1
1,3-Dichlorobenzene	ND		mg/kg	0.0037		1
1,4-Dichlorobenzene	ND		mg/kg	0.0037	14	1
1,2-Dichlorobenzene	ND		mg/kg	0.0037	-	1
1,2-Dibromo-3-chloropropane	ND		mg/kg	0.0056		1
1,2,4-Trichlorobenzene	ND		mg/kg	0.0037		1
Naphthalene	0.022		mg/kg	0.0074		1
1,2,3-Trichlorobenzene	ND		mg/kg	0.0037		1

Surrogate	% Recovery	eptance Criteria	
1,2-Dichloroethane-d4	110	70-130	
Toluene-d8	106	70-130	
4-Bromofluorobenzene	108	70-130	
Dibromofluoromethane	104	70-130	



**Project Name:** CITY OF LORAIN

**Project Number:** 15011

**SAMPLE RESULTS** 

Lab Number: L2247388

Report Date: 11/02/22

Lab ID: L2247388-08

Client ID: LRN005:CTP-1:D083022 Sample Location: FORMER ST. JOE'S

Date Collected: 08/30/22 13:00 Date Received: 09/01/22 Field Prep: Not Specified

Sample Depth:

Matrix: Soil 1,8260C Analytical Method: Analytical Date: 09/09/22 21:19

Analyst: LAC 86% Percent Solids:

Parameter	Result	Qualifier	Units	RL	MDL	<b>Dilution Factor</b>
Volatile Organics by GC/MS - Westb	orough Lab					
Dichlorodifluoromethane	ND		mg/kg	0.011		1
Chloromethane	ND		mg/kg	0.0044		1
Vinyl chloride	ND		mg/kg	0.0011		1
Bromomethane	ND		mg/kg	0.0022		1
Chloroethane	ND		mg/kg	0.0022		1
Trichlorofluoromethane	0.0090		mg/kg	0.0044		1
1,1-Dichloroethene	ND		mg/kg	0.0011		1
Carbon disulfide	ND		mg/kg	0.011	4	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		mg/kg	0.0044		1
Methylene chloride	ND		mg/kg	0.0056		1
Acetone	ND		mg/kg	0.028		1
trans-1,2-Dichloroethene	ND		mg/kg	0.0017		1
Methyl Acetate	ND		mg/kg	0.0044		1
Methyl tert butyl ether	ND		mg/kg	0.0022		1
1,1-Dichloroethane	ND		mg/kg	0.0011		1
cis-1,2-Dichloroethene	ND		mg/kg	0.0011		1
1,2-Dichloroethene, Total	ND		mg/kg	0.0011		1
Cyclohexane	ND		mg/kg	0.011		1
Bromochloromethane	ND		mg/kg	0.0022		1
Chloroform	ND		mg/kg	0.0017		1
Carbon tetrachloride	ND		mg/kg	0.0011		1
1,1,1-Trichloroethane	ND		mg/kg	0.00056	( <del></del> ).	1
2-Butanone	ND		mg/kg	0.011		1
Benzene	ND		mg/kg	0.00056		1
1,2-Dichloroethane	ND		mg/kg	0.0011		1
Methyl cyclohexane	ND		mg/kg	0.0044		1
Trichloroethene	ND		mg/kg	0.00056		1
1,2-Dichloropropane	ND		mg/kg	0.0011		1



MDL

**Dilution Factor** 

Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-08 Date Collected: 08/30/22 13:00

Client ID: LRN005:CTP-1:D083022 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Qualifier

Units

RL

Result

Sample Depth:

Parameter

rarameter	Kesuit	Qualifier	Ullits	NL.	MIDL	Dilution Factor
Volatile Organics by GC/MS - We	stborough Lab					
Bromodichloromethane	ND		mg/kg	0.00056		1
1,4-Dioxane	ND		mg/kg	0.089		1
cis-1,3-Dichloropropene	ND		mg/kg	0.00056		1
Toluene	ND		mg/kg	0.0011		1
4-Methyl-2-pentanone	ND		mg/kg	0.011		1
Tetrachloroethene	ND		mg/kg	0.00056		1
trans-1,3-Dichloropropene	ND		mg/kg	0.0011		1
1,3-Dichloropropene, Total	ND		mg/kg	0.00056		1
1,1,2-Trichloroethane	ND		mg/kg	0.0011		1
Dibromochloromethane	ND		mg/kg	0.0011		1
1,2-Dibromoethane	ND		mg/kg	0.00056		1
2-Hexanone	ND		mg/kg	0.011		1
Chlorobenzene	ND		mg/kg	0.00056		1
Ethylbenzene	ND		mg/kg	0.0011		1
o/m-Xylene	ND		mg/kg	0.0022		1
o-Xylene	ND		mg/kg	0.0011		1
Xylenes, Total	ND		mg/kg	0.0011	7	1
Styrene	ND		mg/kg	0.0011		1
Bromoform	ND		mg/kg	0.0044		1
sopropylbenzene	ND		mg/kg	0.0011	<del></del>	1
1,1,2,2-Tetrachloroethane	ND		mg/kg	0.00056		1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0022		1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0022		1
1,3-Dichlorobenzene	ND		mg/kg	0.0022	4	1
1,4-Dichlorobenzene	ND		mg/kg	0.0022		1
1,2-Dichlorobenzene	ND		mg/kg	0.0022		1
1,2-Dibromo-3-chloropropane	ND		mg/kg	0.0033		1
1,2,4-Trichlorobenzene	ND		mg/kg	0.0022		1
Naphthalene	ND		mg/kg	0.0044		1
1,2,3-Trichlorobenzene	ND		mg/kg	0.0022		1

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
1,2-Dichloroethane-d4	122		70-130	
Toluene-d8	98		70-130	
4-Bromofluorobenzene	99		70-130	
Dibromofluoromethane	121		70-130	



**Project Name:** CITY OF LORAIN

**Project Number:** 15011

**SAMPLE RESULTS** 

Lab Number: L2247388

Report Date: 11/02/22

Lab ID: L2247388-09

Client ID: LRN005:CTP-5:D083022 Sample Location: FORMER ST. JOE'S

Date Collected: 08/30/22 08:00 Date Received: 09/01/22 Field Prep: Not Specified

Sample Depth:

Matrix: Soil 1,8260C Analytical Method: Analytical Date: 09/09/22 21:39

Analyst: LAC 69% Percent Solids:

Parameter	Result	Qualifier	Units	RL	MDL	<b>Dilution Factor</b>
Volatile Organics by GC/MS - Westb	orough Lab					
Dichlorodifluoromethane	ND		mg/kg	0.014		1
Chloromethane	ND		mg/kg	0.0057		1
Vinyl chloride	ND		mg/kg	0.0014	-	1
Bromomethane	ND		mg/kg	0.0028		1
Chloroethane	ND		mg/kg	0.0028		1
Trichlorofluoromethane	ND		mg/kg	0.0057		1
1,1-Dichloroethene	ND		mg/kg	0.0014		1
Carbon disulfide	ND		mg/kg	0.014	- 4	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		mg/kg	0.0057		1
Methylene chloride	ND		mg/kg	0.0071		1
Acetone	ND		mg/kg	0.035		1
trans-1,2-Dichloroethene	ND		mg/kg	0.0021		1
Methyl Acetate	ND		mg/kg	0.0057		1
Methyl tert butyl ether	ND		mg/kg	0.0028		1
1,1-Dichloroethane	ND		mg/kg	0.0014		1
cis-1,2-Dichloroethene	ND		mg/kg	0.0014		1
1,2-Dichloroethene, Total	ND		mg/kg	0.0014		1
Cyclohexane	ND		mg/kg	0.014		1
Bromochloromethane	ND		mg/kg	0.0028		1
Chloroform	ND		mg/kg	0.0021		1
Carbon tetrachloride	ND		mg/kg	0.0014		1
1,1,1-Trichloroethane	ND		mg/kg	0.00071		1
2-Butanone	ND		mg/kg	0.014	-	1
Benzene	ND		mg/kg	0.00071		1
1,2-Dichloroethane	ND		mg/kg	0.0014		1
Methyl cyclohexane	ND		mg/kg	0.0057		1
Trichloroethene	ND		mg/kg	0.00071	-	1
1,2-Dichloropropane	ND		mg/kg	0.0014		1



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-09 Date Collected: 08/30/22 08:00

Client ID: LRN005:CTP-5:D083022 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Wes	stborough Lab					
Bromodichloromethane	ND		mg/kg	0.00071		1
1,4-Dioxane	ND		mg/kg	0.11		1
cis-1,3-Dichloropropene	ND		mg/kg	0.00071	<del>, -</del>	1
Toluene	ND		mg/kg	0.0014		1
4-Methyl-2-pentanone	ND		mg/kg	0.014		1
Tetrachloroethene	ND		mg/kg	0.00071		1
trans-1,3-Dichloropropene	ND		mg/kg	0.0014		1
1,3-Dichloropropene, Total	ND		mg/kg	0.00071		1
1,1,2-Trichloroethane	ND		mg/kg	0.0014		1
Dibromochloromethane	ND		mg/kg	0.0014	-	1
1,2-Dibromoethane	ND		mg/kg	0.00071	- : <del></del> :	1
2-Hexanone	ND		mg/kg	0.014	<del></del> -	1
Chlorobenzene	ND		mg/kg	0.00071	:	1
Ethylbenzene	ND		mg/kg	0.0014		1
p/m-Xylene	ND		mg/kg	0.0028		1
o-Xylene	ND		mg/kg	0.0014		1
Xylenes, Total	ND		mg/kg	0.0014		1
Styrene	ND		mg/kg	0.0014	- 1	1
Bromoform	ND		mg/kg	0.0057		1
Isopropylbenzene	ND		mg/kg	0.0014		1
1,1,2,2-Tetrachloroethane	ND		mg/kg	0.00071	- <del></del> -	1
1,3,5-Trimethylbenzene	ND		mg/kg	0.0028		1
1,2,4-Trimethylbenzene	ND		mg/kg	0.0028		1
1,3-Dichlorobenzene	ND		mg/kg	0.0028	-	1
1,4-Dichlorobenzene	ND		mg/kg	0.0028		1
1,2-Dichlorobenzene	ND		mg/kg	0.0028	14	1
1,2-Dibromo-3-chloropropane	ND		mg/kg	0.0042		1
1,2,4-Trichlorobenzene	ND		mg/kg	0.0028		1
Naphthalene	ND		mg/kg	0.0057		1
1,2,3-Trichlorobenzene	ND		mg/kg	0.0028		1

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
1,2-Dichloroethane-d4	119		70-130	
Toluene-d8	102		70-130	
4-Bromofluorobenzene	100		70-130	
Dibromofluoromethane	118		70-130	



08/31/22 10:00

**Project Name:** CITY OF LORAIN

**Project Number:** 15011 L2247388

Lab Number:

Date Collected:

Report Date: 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-12

Client ID: LRN005:CTP-4:D083122 Sample Location: FORMER ST. JOE'S

Date Received: 09/01/22 Field Prep: Not Specified

Sample Depth:

Matrix: Soil 1,8260C Analytical Method: Analytical Date: 09/09/22 22:00

Analyst: LAC 71% Percent Solids:

Parameter	Result	Qualifier	Units	RL	MDL	<b>Dilution Factor</b>
Volatile Organics by GC/MS - Westb	orough Lab					
Dichlorodifluoromethane	ND		mg/kg	0.013		1
Chloromethane	ND		mg/kg	0.0050		1
Vinyl chloride	ND		mg/kg	0.0013	-	1
Bromomethane	ND		mg/kg	0.0025		1
Chloroethane	ND		mg/kg	0.0025		1
Trichlorofluoromethane	0.033		mg/kg	0.0050		1
1,1-Dichloroethene	ND		mg/kg	0.0013		1
Carbon disulfide	ND		mg/kg	0.013	-	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		mg/kg	0.0050		1
Methylene chloride	ND		mg/kg	0.0063	-	1
Acetone	ND		mg/kg	0.032		1
trans-1,2-Dichloroethene	ND		mg/kg	0.0019		1
Methyl Acetate	ND		mg/kg	0.0050		1
Methyl tert butyl ether	ND		mg/kg	0.0025		1
1,1-Dichloroethane	ND		mg/kg	0.0013		1
cis-1,2-Dichloroethene	ND		mg/kg	0.0013		1
1,2-Dichloroethene, Total	ND		mg/kg	0.0013		1
Cyclohexane	ND		mg/kg	0.013		1
Bromochloromethane	ND		mg/kg	0.0025	-	1
Chloroform	ND		mg/kg	0.0019		1
Carbon tetrachloride	ND		mg/kg	0.0013		1
1,1,1-Trichloroethane	ND		mg/kg	0.00063	( <del></del>	1
2-Butanone	ND		mg/kg	0.013		1
Benzene	ND		mg/kg	0.00063		1
1,2-Dichloroethane	ND		mg/kg	0.0013		1
Methyl cyclohexane	ND		mg/kg	0.0050	; <del></del> ,	1
Trichloroethene	ND		mg/kg	0.00063		1
1,2-Dichloropropane	ND		mg/kg	0.0013		1



MDL

**Dilution Factor** 

Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-12 Date Collected: 08/31/22 10:00

Client ID: LRN005:CTP-4:D083122 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Qualifier

Units

RL

Result

Sample Depth:

Parameter

Farameter	Result Qualifier	Units	NL.	MIDL	Dilution Factor
Volatile Organics by GC/MS - Wes	stborough Lab				
Bromodichloromethane	ND	mg/kg	0.00063		1
1,4-Dioxane	ND	mg/kg	0.10		1
cis-1,3-Dichloropropene	ND	mg/kg	0.00063		1
Toluene	ND	mg/kg	0.0013		1
4-Methyl-2-pentanone	ND	mg/kg	0.013		1
Tetrachloroethene	0.00096	mg/kg	0.00063		1
trans-1,3-Dichloropropene	ND	mg/kg	0.0013	-742	1
1,3-Dichloropropene, Total	ND	mg/kg	0.00063		1
1,1,2-Trichloroethane	ND	mg/kg	0.0013		1
Dibromochloromethane	ND	mg/kg	0.0013	-	1
1,2-Dibromoethane	ND	mg/kg	0.00063		1
2-Hexanone	ND	mg/kg	0.013		1
Chlorobenzene	ND	mg/kg	0.00063		1
Ethylbenzene	ND	mg/kg	0.0013		1
o/m-Xylene	ND	mg/kg	0.0025		1
o-Xylene	ND	mg/kg	0.0013		1
Xylenes, Total	ND	mg/kg	0.0013		1
Styrene	ND	mg/kg	0.0013	- 1	1
Bromoform	ND	mg/kg	0.0050		1
sopropylbenzene	ND	mg/kg	0.0013		1
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.00063		1
1,3,5-Trimethylbenzene	ND	mg/kg	0.0025		1
1,2,4-Trimethylbenzene	ND	mg/kg	0.0025		1
1,3-Dichlorobenzene	ND	mg/kg	0.0025	-	1
1,4-Dichlorobenzene	ND	mg/kg	0.0025		1
1,2-Dichlorobenzene	ND	mg/kg	0.0025	14	1
1,2-Dibromo-3-chloropropane	ND	mg/kg	0.0038		1
1,2,4-Trichlorobenzene	0.16	mg/kg	0.0025		1
Naphthalene	ND	mg/kg	0.0050		1
1,2,3-Trichlorobenzene	0.045	mg/kg	0.0025		1

		Acceptance	
Surrogate	% Recovery	Qualifier Criteria	
1,2-Dichloroethane-d4	126	70-130	
Toluene-d8	97	70-130	
4-Bromofluorobenzene	97	70-130	
Dibromofluoromethane	122	70-130	



08/29/22 10:30

**Project Name:** CITY OF LORAIN

**Project Number:** 15011

**SAMPLE RESULTS** 

Lab Number: L2247388

Report Date: 11/02/22

Lab ID: L2247388-15

Client ID: LRN005:W-1:W082922 Sample Location: FORMER ST. JOE'S

Date Received: 09/01/22 Field Prep: Not Specified

Date Collected:

Sample Depth:

Matrix: Water Analytical Method: 1,8260C Analytical Date: 09/07/22 17:31

Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	<b>Dilution Factor</b>
Volatile Organics by GC/MS - Westb	orough Lab					
Dichlorodifluoromethane	ND		ug/l	5.0	<del></del> -	1
Chloromethane	ND		ug/l	2.5		1
Vinyl chloride	ND		ug/l	1.0		1
Bromomethane	ND		ug/l	1.0		1
Chloroethane	ND		ug/l	1.0		1
Trichlorofluoromethane	12		ug/l	2.5		1
1,1-Dichloroethene	ND		ug/l	0.50	-	1
Carbon disulfide	ND		ug/l	5.0	+	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		ug/l	2.5		1
Methylene chloride	ND		ug/l	2.5		1
Acetone	46		ug/l	5.0		1
trans-1,2-Dichloroethene	ND		ug/l	0.75		1
Methyl Acetate	ND		ug/l	2.0		1
Methyl tert butyl ether	ND		ug/l	1.0		1
1,1-Dichloroethane	ND		ug/l	0.75		1
cis-1,2-Dichloroethene	ND		ug/l	0.50		1
1,2-Dichloroethene, Total	ND		ug/l	0.50		1
Cyclohexane	ND		ug/l	10	>	1
Bromochloromethane	ND		ug/l	2.5		1
Chloroform	ND		ug/l	0.75	1	1
Carbon tetrachloride	ND		ug/l	0.50		1
1,1,1-Trichloroethane	ND		ug/l	0.50		1
2-Butanone	ND		ug/l	5.0		1
Benzene	ND		ug/l	0.50	1.44	1
1,2-Dichloroethane	ND		ug/l	0.50		1
Methyl cyclohexane	ND		ug/l	10	7	1
Trichloroethene	ND		ug/l	0.50		1
1,2-Dichloropropane	ND		ug/l	1.0		1



Project Name: CITY OF LORAIN

Project Number: 15011

**SAMPLE RESULTS** 

Date Collected: 08/29/22 10:30

11/02/22

L2247388

Lab ID: L2247388-15

Client ID: LRN005:W-1:W082922 Sample Location: FORMER ST. JOE'S Date Received:

Lab Number:

Report Date:

09/01/22

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Wes	- 12 A A A A A A A A A A A A A A A A A A			- <del></del>	<del></del>	
Bromodichloromethane	ND		ug/l	0.50		1
cis-1,3-Dichloropropene	ND		ug/l	0.50	-	1
Toluene	ND		ug/l	0.75		1
Tetrachloroethene	ND		ug/l	0.50		1
4-Methyl-2-pentanone	ND		ug/l	5.0		1
trans-1,3-Dichloropropene	ND		ug/l	0.50		1
1,3-Dichloropropene, Total	ND		ug/l	0.50	7	1
1,1,2-Trichloroethane	ND		ug/l	0.75		1
Dibromochloromethane	ND		ug/l	0.50		1
1,2-Dibromoethane	ND		ug/l	2.0		1
2-Hexanone	ND		ug/l	5.0	12-	1
Chlorobenzene	ND		ug/l	0.50		1
Ethylbenzene	ND		ug/l	0.50		1
p/m-Xylene	ND		ug/l	1.0		1
o-Xylene	ND		ug/l	1.0		1
Xylenes, Total	ND		ug/l	1.0		1
Styrene	ND		ug/l	1.0	7	1
Bromoform	ND		ug/l	2.0		1
Isopropylbenzene	ND		ug/l	0.50		1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	-	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	5	1
1,3-Dichlorobenzene	ND		ug/l	2.5		1
1,4-Dichlorobenzene	ND		ug/l	2.5		1
1,2-Dichlorobenzene	ND		ug/l	2.5		1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5		1
1,2,4-Trichlorobenzene	ND		ug/l	2.5		1
Naphthalene	1.4		ug/l	1.0		1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	-	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
1,2-Dichloroethane-d4	116		70-130	
Toluene-d8	105		70-130	
4-Bromofluorobenzene	100		70-130	
Dibromofluoromethane	119		70-130	



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

SAMPLE RESULTS

Lab ID: L2247388-15 Date Collected: 08/29/22 10:30

Client ID: LRN005:W-1:W082922 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8260C-SIM(M) Analytical Date: 09/08/22 12:06

Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS-SIM	- Westborough Lab					
1,4-Dioxane	4.0		ug/l	3.0	44	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.050		1

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
1,2-Dichloroethane-d4	121		70-130	
4-Bromofluorobenzene	81		70-130	



08/30/22 08:00

**Project Name:** CITY OF LORAIN

**Project Number:** 15011

**SAMPLE RESULTS** 

Lab Number: L2247388

Report Date: 11/02/22

Date Collected:

L2247388-16

Client ID: LRN005:W-2:W083022 Sample Location: FORMER ST. JOE'S

Date Received: 09/01/22 Field Prep: Not Specified

Sample Depth:

Lab ID:

Matrix: Water Analytical Method: 1,8260C Analytical Date:

09/07/22 17:56

Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	<b>Dilution Factor</b>
Volatile Organics by GC/MS - Westb	orough Lab					
Dichlorodifluoromethane	ND		ug/l	5.0		1
Chloromethane	ND		ug/l	2.5		1
Vinyl chloride	ND		ug/l	1.0		1
Bromomethane	ND		ug/l	1.0		1
Chloroethane	ND		ug/l	1.0		1
Trichlorofluoromethane	30		ug/l	2.5		1
1,1-Dichloroethene	ND		ug/l	0.50		1
Carbon disulfide	ND		ug/l	5.0		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		ug/l	2.5		1
Methylene chloride	ND		ug/l	2.5		1
Acetone	70		ug/l	5.0		1
trans-1,2-Dichloroethene	ND		ug/l	0.75		1
Methyl Acetate	ND		ug/l	2.0		1
Methyl tert butyl ether	ND		ug/l	1.0		1
1,1-Dichloroethane	ND		ug/l	0.75		1
cis-1,2-Dichloroethene	ND		ug/l	0.50	1	1
1,2-Dichloroethene, Total	ND		ug/l	0.50		1
Cyclohexane	ND		ug/l	10		1
Bromochloromethane	ND		ug/l	2.5		1
Chloroform	ND		ug/l	0.75		.1
Carbon tetrachloride	ND		ug/l	0.50		1
1,1,1-Trichloroethane	ND		ug/l	0.50		1
2-Butanone	6.4		ug/l	5.0		1
Benzene	ND		ug/l	0.50	1	1
1,2-Dichloroethane	ND		ug/l	0.50		1
Methyl cyclohexane	ND		ug/l	10	5 <del>-5</del> 6	1
Trichloroethene	ND		ug/l	0.50		1
1,2-Dichloropropane	ND		ug/l	1.0	-	1

L2247388

Project Name: CITY OF LORAIN Lab Number:

Project Number: 15011 Report Date: 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-16 Date Collected: 08/30/22 08:00

Client ID: LRN005:W-2:W083022 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Danasatas	Dec14	Qualifica	Heito	DI	MDI	Dilution Foots
Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Wes	stborough Lab					
Bromodichloromethane	ND		ug/l	0.50		1
cis-1,3-Dichloropropene	ND		ug/l	0.50		1
Toluene	ND		ug/l	0.75		1
Tetrachloroethene	ND		ug/l	0.50	( <del></del>	1
4-Methyl-2-pentanone	ND		ug/l	5.0		(1)
trans-1,3-Dichloropropene	ND		ug/l	0.50		1
1,3-Dichloropropene, Total	ND		ug/l	0.50		1
1,1,2-Trichloroethane	ND		ug/l	0.75		1
Dibromochloromethane	ND		ug/l	0.50		1
1,2-Dibromoethane	ND		ug/l	2.0		1
2-Hexanone	ND		ug/l	5.0		1
Chlorobenzene	ND		ug/l	0.50		1
Ethylbenzene	ND		ug/l	0.50	: <del></del> -	1
p/m-Xylene	ND		ug/l	1.0		1
o-Xylene	ND		ug/l	1.0		1
Xylenes, Total	ND		ug/l	1.0		1
Styrene	ND		ug/l	1.0		1
Bromoform	ND		ug/l	2.0		1
Isopropylbenzene	ND		ug/l	0.50		1
1,3,5-Trimethylbenzene	ND		ug/l	2.5		1
1,2,4-Trimethylbenzene	ND		ug/l	2.5		.1.
1,3-Dichlorobenzene	ND		ug/l	2.5		1
1,4-Dichlorobenzene	ND		ug/l	2.5		1
1,2-Dichlorobenzene	ND		ug/l	2.5	-	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	15-2	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5		1
Naphthalene	ND		ug/l	1.0		1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	-	1

	Acceptance	
% Recovery	Qualifier Criteria	
118	70-130	
98	70-130	
103	70-130	
119	70-130	
	118 98 103	118 70-130 98 70-130 103 70-130



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

SAMPLE RESULTS

Lab ID: L2247388-16 Date Collected: 08/30/22 08:00

Client ID: LRN005:W-2:W083022 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8260C-SIM(M) Analytical Date: 09/08/22 12:31

Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	<b>Dilution Factor</b>
Volatile Organics by GC/MS-SIM	- Westborough Lab					
1,4-Dioxane	6.7		ug/l	3.0		1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.050	-	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
1,2-Dichloroethane-d4	119		70-130	
4-Bromofluorobenzene	83		70-130	



08/30/22 13:30

**Project Name:** CITY OF LORAIN

**Project Number:** 15011

**SAMPLE RESULTS** 

L2247388

Lab Number:

**Date Collected:** 

Report Date: 11/02/22

Client ID: LRN005:W-3:W083022 Sample Location: FORMER ST. JOE'S

Date Received: 09/01/22 Field Prep: Not Specified

Sample Depth:

Lab ID:

Matrix: Water Analytical Method: 1,8260C Analytical Date:

09/08/22 18:36

L2247388-17

Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westb	orough Lab					
Dichlorodifluoromethane	9.9		ug/l	5.0		1
Chloromethane	ND		ug/l	2.5		1
Vinyl chloride	ND		ug/l	1.0	-	1
Bromomethane	ND		ug/l	1.0		1
Chloroethane	ND		ug/l	1.0	4-3	1
Trichlorofluoromethane	ND		ug/l	2.5		1
1,1-Dichloroethene	ND		ug/l	0.50		1
Carbon disulfide	ND		ug/l	5.0		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		ug/l	2.5	y <u></u> >	1
Methylene chloride	3.2		ug/l	2.5		1
Acetone	17		ug/l	5.0		1
trans-1,2-Dichloroethene	ND		ug/l	0.75		1
Methyl Acetate	ND		ug/l	2.0		1
Methyl tert butyl ether	ND		ug/l	1.0		1
1,1-Dichloroethane	1.8		ug/l	0.75		1
cis-1,2-Dichloroethene	ND		ug/l	0.50		1
1,2-Dichloroethene, Total	ND		ug/l	0.50		1
Cyclohexane	ND		ug/l	10		1
Bromochloromethane	ND		ug/l	2.5		1
Chloroform	ND		ug/l	0.75		1
Carbon tetrachloride	ND		ug/l	0.50		1
1,1,1-Trichloroethane	1.3		ug/l	0.50		1
2-Butanone	ND		ug/l	5.0		1
Benzene	0.63		ug/l	0.50		1
1,2-Dichloroethane	ND		ug/l	0.50		1
Methyl cyclohexane	ND		ug/l	10	7-4	1
Trichloroethene	ND		ug/l	0.50		1
1,2-Dichloropropane	ND		ug/l	1.0	-	1



**Project Name:** Lab Number: L2247388 CITY OF LORAIN

**Project Number:** Report Date: 15011 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-17 Date Collected: 08/30/22 13:30

Client ID: LRN005:W-3:W083022 Date Received: 09/01/22 Sample Location: Field Prep: FORMER ST. JOE'S Not Specified

ND	Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
ND	Volatile Organics by GC/MS - Wes	stborough Lab					
Toluene   3.2   ug/l   0.75     1	Bromodichloromethane	ND		ug/l	0.50		1
Tetrachloroethene	cis-1,3-Dichloropropene	ND		ug/l	0.50	-	1
A-Methyl-2-pentanone   ND   ug/l   5.0     1	Toluene	3.2		ug/l	0.75		1
trans-1,3-Dichloropropene         ND         ug/l         0.50          1           1,3-Dichloropropene, Total         ND         ug/l         0.50          1           1,1,2-Trichloroethane         ND         ug/l         0.75          1           Dibromochloromethane         ND         ug/l         0.50          1           1,2-Dibromoethane         ND         ug/l         2.0          1           2-Hexanone         ND         ug/l         5.0          1           Chlorobenzene         ND         ug/l         0.50          1           Ethylbenzene         ND         ug/l         0.50          1           Ethylbenzene         ND         ug/l         0.50          1           Ethylbenzene         ND         ug/l         1.0          1           Do-Xylene         ND         ug/l         1.0          1           Xylenes, Total         1.1         ug/l         1.0          1           Styrene         ND         ug/l         1.0          1           Isspray <td>Tetrachloroethene</td> <td>ND</td> <td></td> <td>ug/l</td> <td>0.50</td> <td></td> <td>1</td>	Tetrachloroethene	ND		ug/l	0.50		1
1,3-Dichloropropene, Total   ND   ug/l   0.50     1   1   1,1,2-Trichloroethane   ND   ug/l   0.50     1   1   1,1,2-Trichloroethane   ND   ug/l   0.50     1   1   1,1,2-Trichloroethane   ND   ug/l   0.50     1   1   1,2-Dibromoethane   ND   ug/l   2.0     1   1   1,2-Dibromoethane   ND   ug/l   5.0     1   1   1,2-Dibromoethane   ND   ug/l   0.50     1   1   1,2-Dibromoethane   ND   ug/l   0.50     1   1   1,2-Dibromoethane   ND   ug/l   0.50     1   1   1,2-Dibromoethane   ND   ug/l   1.0     1   1   1,3-Dichlorobenzene   ND   ug/l   2.0     1   1   1,3-Dichlorobenzene   ND   ug/l   2.5     1   1   1   1   1   1   1   1	4-Methyl-2-pentanone	ND		ug/l	5.0		1
1,1,2-Trichloroethane   ND	trans-1,3-Dichloropropene	ND		ug/l	0.50		1
Dibromochloromethane   ND   Ug/l   0.50     1   1   1   1   1   1   1   1	1,3-Dichloropropene, Total	ND		ug/l	0.50		1
ND	1,1,2-Trichloroethane	ND		ug/l	0.75		1
ND	Dibromochloromethane	ND		ug/l	0.50		1
Chlorobenzene         ND         ug/l         0.50          1           Ethylbenzene         ND         ug/l         0.50          1           p/m-Xylene         ND         ug/l         1.0          1           o-Xylene         1.1         ug/l         1.0          1           Xylenes, Total         1.1         ug/l         1.0          1           Styrene         ND         ug/l         1.0          1           Bromoform         ND         ug/l         2.0          1           Isopropylbenzene         ND         ug/l         0.50          1           1,3,5-Trimethylbenzene         ND         ug/l         2.5          1           1,2,4-Trimethylbenzene         ND         ug/l         2.5          1           1,2,4-Trimethylbenzene         ND         ug/l         2.5          1           1,2-Dichlorobenzene         ND         ug/l         2.5          1           1,2-Dichlorobenzene         ND         ug/l         2.5          1           1,2-Dichlorobenzen	1,2-Dibromoethane	ND		ug/l	2.0	,	1
Ethylbenzene ND ug/l 0.50 1 p/m-Xylene ND ug/l 1.0 1 co-Xylene 1.1 ug/l 1.0 1 Xylenes, Total 1.1 ug/l 1.0 1 Styrene ND ug/l 1.0 1 Styrene ND ug/l 1.0 1 Styrene ND ug/l 2.0 1 Isopropylbenzene ND ug/l 2.0 1 Isopropylbenzene ND ug/l 2.5 1 I.3,5-Trimethylbenzene ND ug/l 2.5 1 I.2,4-Trimethylbenzene ND ug/l 2.5 1 I.3-Dichlorobenzene ND ug/l 2.5 1 I.4-Dichlorobenzene ND ug/l 2.5 1	2-Hexanone	ND		ug/l	5.0		1
p/m-Xylene         ND         ug/l         1.0          1           o-Xylene         1.1         ug/l         1.0          1           Xylenes, Total         1.1         ug/l         1.0          1           Styrene         ND         ug/l         1.0          1           Bromoform         ND         ug/l         2.0          1           Isopropylbenzene         ND         ug/l         0.50          1           1,3,5-Trimethylbenzene         ND         ug/l         2.5          1           1,2,4-Trimethylbenzene         ND         ug/l         2.5          1           1,3-Dichlorobenzene         ND         ug/l         2.5          1           1,4-Dichlorobenzene         ND         ug/l         2.5          1           1,2-Dichlorobenzene         ND         ug/l         2.5          1           1,2-Dibromo-3-chloropropane         ND         ug/l         2.5          1           1,2,4-Trichlorobenzene         ND         ug/l         2.5          1 <td< td=""><td>Chlorobenzene</td><td>ND</td><td></td><td>ug/l</td><td>0.50</td><td></td><td>1</td></td<>	Chlorobenzene	ND		ug/l	0.50		1
1.1	Ethylbenzene	ND		ug/l	0.50	; <del></del> -	1
Xylenes, Total       1.1       ug/l       1.0        1         Styrene       ND       ug/l       1.0        1         Bromoform       ND       ug/l       2.0        1         Isopropylbenzene       ND       ug/l       0.50        1         1,3,5-Trimethylbenzene       ND       ug/l       2.5        1         1,2,4-Trimethylbenzene       ND       ug/l       2.5        1         1,3-Dichlorobenzene       ND       ug/l       2.5        1         1,4-Dichlorobenzene       ND       ug/l       2.5        1         1,2-Dichlorobenzene       ND       ug/l       2.5        1         1,2-Dibromo-3-chloropropane       ND       ug/l       2.5        1         1,2,4-Trichlorobenzene       ND       ug/l       2.5        1         ND       ug/l       2.5        1         ND       ug/l       2.5        1         ND       ug/l       2.5        1         ND       ug/l       2.5        1     <	p/m-Xylene	ND		ug/l	1.0		1
ND	o-Xylene	1.1		ug/l	1.0		1
ND   ug/l   2.0     1	Xylenes, Total	1.1		ug/l	1.0		1
Stopropylbenzene   ND	Styrene	ND		ug/l	1.0		1
1,3,5-Trimethylbenzene       ND       ug/l       2.5        1         1,2,4-Trimethylbenzene       ND       ug/l       2.5        1         1,3-Dichlorobenzene       ND       ug/l       2.5        1         1,4-Dichlorobenzene       ND       ug/l       2.5        1         1,2-Dichlorobenzene       ND       ug/l       2.5        1         1,2-Dibromo-3-chloropropane       ND       ug/l       2.5        1         1,2,4-Trichlorobenzene       ND       ug/l       2.5        1         Naphthalene       ND       ug/l       1.0        1	Bromoform	ND		ug/l	2.0		1
1,2,4-Trimethylbenzene       ND       ug/l       2.5        1         1,3-Dichlorobenzene       ND       ug/l       2.5        1         1,4-Dichlorobenzene       ND       ug/l       2.5        1         1,2-Dichlorobenzene       ND       ug/l       2.5        1         1,2-Dibromo-3-chloropropane       ND       ug/l       2.5        1         1,2,4-Trichlorobenzene       ND       ug/l       2.5        1         Naphthalene       ND       ug/l       1.0        1	Isopropylbenzene	ND		ug/l	0.50		1
1,3-Dichlorobenzene       ND       ug/l       2.5        1         1,4-Dichlorobenzene       ND       ug/l       2.5        1         1,2-Dichlorobenzene       ND       ug/l       2.5        1         1,2-Dibromo-3-chloropropane       ND       ug/l       2.5        1         1,2,4-Trichlorobenzene       ND       ug/l       2.5        1         Naphthalene       ND       ug/l       1.0        1	1,3,5-Trimethylbenzene	ND		ug/l	2.5		1
1,4-Dichlorobenzene     ND     ug/l     2.5      1       1,2-Dichlorobenzene     ND     ug/l     2.5      1       1,2-Dibromo-3-chloropropane     ND     ug/l     2.5      1       1,2,4-Trichlorobenzene     ND     ug/l     2.5      1       Naphthalene     ND     ug/l     1.0      1	1,2,4-Trimethylbenzene	ND		ug/l	2.5	: <del></del> :	1
1,2-Dichlorobenzene       ND       ug/l       2.5        1         1,2-Dibromo-3-chloropropane       ND       ug/l       2.5        1         1,2,4-Trichlorobenzene       ND       ug/l       2.5        1         Naphthalene       ND       ug/l       1.0        1	1,3-Dichlorobenzene	ND		ug/l	2.5		1
1,2-Dibromo-3-chloropropane     ND     ug/l     2.5      1       1,2,4-Trichlorobenzene     ND     ug/l     2.5      1       Naphthalene     ND     ug/l     1.0      1	1,4-Dichlorobenzene	ND		ug/l	2.5		1
1,2,4-Trichlorobenzene         ND         ug/l         2.5          1           Naphthalene         ND         ug/l         1.0          1	1,2-Dichlorobenzene	ND		ug/l	2.5	-	1
Naphthalene ND ug/l 1.0 1	1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	-	1
-0	1,2,4-Trichlorobenzene	ND		ug/l	2.5		1
1,2,3-Trichlorobenzene ND ug/l 2.5 1	Naphthalene	ND		ug/l	1.0		1
	1,2,3-Trichlorobenzene	ND		ug/l	2.5	-	1

	Acceptance	
% Recovery	Qualifier Criteria	
114	70-130	
105	70-130	
98	70-130	
111	70-130	
	114 105 98	% Recovery         Qualifier         Criteria           114         70-130           105         70-130           98         70-130



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

SAMPLE RESULTS

Lab ID: L2247388-17 Date Collected: 08/30/22 13:30

Client ID: LRN005:W-3:W083022 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8260C-SIM(M) Analytical Date: 09/08/22 18:36

Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	<b>Dilution Factor</b>
Volatile Organics by GC/MS-SIM	l - Westborough Lab					
1,4-Dioxane	6.6		ug/l	3.0		1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.050		1

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
1,2-Dichloroethane-d4	117		70-130	
4-Bromofluorobenzene	82		70-130	



L2247388

**Project Name:** CITY OF LORAIN

**Project Number:** 15011

**SAMPLE RESULTS** 

Report Date: 11/02/22

Lab Number:

Lab ID: L2247388-18

Client ID: LRN005:W-4:W083122 Sample Location: FORMER ST. JOE'S

Date Collected: 08/31/22 12:45 Date Received: 09/01/22 Field Prep: Not Specified

Sample Depth:

Matrix: Water Analytical Method: 1,8260C Analytical Date: 09/08/22 19:00

Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	<b>Dilution Factor</b>
Volatile Organics by GC/MS - Westb	orough Lab					
Dichlorodifluoromethane	90		ug/l	5.0		1
Chloromethane	ND		ug/l	2.5		1
Vinyl chloride	ND		ug/l	1.0		1
Bromomethane	ND		ug/l	1.0		1
Chloroethane	ND		ug/l	1.0	( <del>4-</del> )	1
Trichlorofluoromethane	ND		ug/l	2.5		1
1,1-Dichloroethene	ND		ug/l	0.50	-	1
Carbon disulfide	10		ug/l	5.0		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		ug/l	2.5		1
Methylene chloride	ND		ug/l	2.5		1
Acetone	56		ug/l	5.0		1
trans-1,2-Dichloroethene	ND		ug/l	0.75		1
Methyl Acetate	ND		ug/l	2.0		1
Methyl tert butyl ether	ND		ug/l	1.0		1
1,1-Dichloroethane	ND		ug/l	0.75		1
cis-1,2-Dichloroethene	ND		ug/l	0.50	1	1
1,2-Dichloroethene, Total	ND		ug/l	0.50		1
Cyclohexane	ND		ug/l	10	> <del></del> /	1
Bromochloromethane	ND		ug/l	2.5		1
Chloroform	ND		ug/l	0.75	1-2	1
Carbon tetrachloride	ND		ug/l	0.50		1
1,1,1-Trichloroethane	ND		ug/l	0.50		1
2-Butanone	5.0		ug/l	5.0		1
Benzene	ND		ug/l	0.50	11	1
1,2-Dichloroethane	ND		ug/l	0.50		1
Methyl cyclohexane	ND		ug/l	10	7 <del></del> ),	1
Trichloroethene	ND		ug/l	0.50	-	1
1,2-Dichloropropane	ND		ug/l	1.0		1

Project Name: CITY OF LORAIN

Project Number: 15011

**SAMPLE RESULTS** 

Date Collected:

11/02/22 08/31/22 12:45

L2247388

Lab ID: L2247388-18

Client ID: LRN005:W-4:W083122 Sample Location: FORMER ST. JOE'S Date Received: Field Prep:

Lab Number:

Report Date:

09/01/22 Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Wes	stborough Lab					
Bromodichloromethane	ND		ug/l	0.50		1
cis-1,3-Dichloropropene	ND		ug/l	0.50		1
Toluene	ND		ug/l	0.75		1
Tetrachloroethene	ND		ug/l	0.50		1
4-Methyl-2-pentanone	ND		ug/l	5.0		1
trans-1,3-Dichloropropene	ND		ug/l	0.50		1
1,3-Dichloropropene, Total	ND		ug/l	0.50		1
1,1,2-Trichloroethane	ND		ug/l	0.75		1
Dibromochloromethane	ND		ug/l	0.50		1
1,2-Dibromoethane	ND		ug/l	2.0		1
2-Hexanone	ND		ug/l	5.0	(1 <del>-2</del> )	1
Chlorobenzene	ND		ug/l	0.50		1
Ethylbenzene	ND		ug/l	0.50		1
p/m-Xylene	ND		ug/l	1.0		1
o-Xylene	ND		ug/l	1.0		1
Xylenes, Total	ND		ug/l	1.0		1
Styrene	3.3		ug/l	1.0	7 <b></b> 5	1
Bromoform	ND		ug/l	2.0		1
Isopropylbenzene	ND		ug/l	0.50		1
1,3,5-Trimethylbenzene	ND		ug/l	2.5		1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	5	1
1,3-Dichlorobenzene	ND		ug/l	2.5		1
1,4-Dichlorobenzene	ND		ug/l	2.5		1
1,2-Dichlorobenzene	ND		ug/l	2.5	-	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	75-	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5		1
Naphthalene	ND		ug/l	1.0		1
1,2,3-Trichlorobenzene	ND		ug/l	2.5		1

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
1,2-Dichloroethane-d4	112		70-130	
Toluene-d8	110		70-130	
4-Bromofluorobenzene	102		70-130	
Dibromofluoromethane	113		70-130	



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

SAMPLE RESULTS

 Lab ID:
 L2247388-18
 Date Collected:
 08/31/22 12:45

 Client ID:
 LRN005:W-4:W083122
 Date Received:
 09/01/22

 Sample Location:
 FORMER ST. JOE'S
 Field Prep:
 Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8260C-SIM(M) Analytical Date: 09/08/22 19:00

Analyst: MKS

Result	Qualifier	Units	RL	MDL	Dilution Factor
Vestborough Lab					
14		ug/l	3.0		1
ND		ug/l	0.050		1
		42.0			eptance
	- 1.7.7	14	14 ug/l	14 ug/l 3.0 ND ug/l 0.050	14 ug/l 3.0 ND ug/l 0.050 Acce

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
1,2-Dichloroethane-d4	118	4	70-130	
4-Bromofluorobenzene	87		70-130	



L2247388

11/02/22

Not Specified

09/01/22

**Project Name:** CITY OF LORAIN

**Project Number:** 15011

**SAMPLE RESULTS** 

Date Collected: 08/31/22 00:00

Lab Number:

Report Date:

Date Received:

L2247388-19 Client ID: LRN005:TRIP BLANK:W083122

Sample Location: FORMER ST. JOE'S

Field Prep:

Sample Depth:

Lab ID:

Matrix: Water Analytical Method: 1,8260C Analytical Date: 09/08/22 11:18

Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	<b>Dilution Factor</b>
Volatile Organics by GC/MS - Westb	orough Lab					
Dichlorodifluoromethane	ND		ug/l	5.0		1
Chloromethane	ND		ug/l	2.5		1
Vinyl chloride	ND		ug/l	1.0		1
Bromomethane	ND		ug/l	1.0		1
Chloroethane	ND		ug/l	1.0		1
Trichlorofluoromethane	ND		ug/l	2.5		1
1,1-Dichloroethene	ND		ug/l	0.50		1
Carbon disulfide	ND		ug/l	5.0		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		ug/l	2.5		1
Methylene chloride	ND		ug/l	2.5		1
Acetone	8.2		ug/l	5.0		1
trans-1,2-Dichloroethene	ND		ug/l	0.75		1
Methyl Acetate	ND		ug/l	2.0		1
Methyl tert butyl ether	ND		ug/l	1.0		1
1,1-Dichloroethane	ND		ug/l	0.75		1
cis-1,2-Dichloroethene	ND		ug/l	0.50	1	1
1,2-Dichloroethene, Total	ND		ug/l	0.50		1
Cyclohexane	ND		ug/l	10		1
Bromochloromethane	ND		ug/l	2.5		1
Chloroform	ND		ug/l	0.75		1
Carbon tetrachloride	ND		ug/l	0.50		1
1,1,1-Trichloroethane	ND		ug/l	0.50		1
2-Butanone	ND		ug/l	5.0		1
Benzene	ND		ug/l	0.50	1	1
1,2-Dichloroethane	ND		ug/l	0.50		1
Methyl cyclohexane	ND		ug/l	10	5 <del>-5</del> 6	1
Trichloroethene	ND		ug/l	0.50		1
1,2-Dichloropropane	ND		ug/l	1.0	-	1

**Project Name:** Lab Number: CITY OF LORAIN L2247388

**Project Number:** Report Date: 15011 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-19 Date Collected: 08/31/22 00:00

Client ID: LRN005:TRIP BLANK:W083122 Date Received: 09/01/22 Sample Location: Field Prep: FORMER ST. JOE'S Not Specified

Sample Depth:

Volatile Organics by GC/MS - Westborough Lab           Bromodichloromethane         ND         ug/l         0.50          1           cis-1,3-Dichloropropene         ND         ug/l         0.50          1           Toluene         ND         ug/l         0.50          1           Totrachloroethene         ND         ug/l         0.50          1           4-Methyl-2-pentanoe         ND         ug/l         0.50          1           1 4-Methyl-2-pentanoe         ND         ug/l         0.50          1           1 1,3-Dichloropropene, Total         ND         ug/l         0.50          1           1,1,2-Trichloroethane         ND         ug/l         0.50          1           1,1,2-Dichloromethane         ND         ug/l         0.50          1           1,2-Dibromoethane         ND         ug/l         0.50          1           2-Hexanone         ND         ug/l         0.50          1           2-Hexanone         ND         ug/l         0.50          1           Ethyldenzene         ND <t< th=""><th>Parameter</th><th>Result</th><th>Qualifier</th><th>Units</th><th>RL</th><th>MDL</th><th>Dilution Factor</th></t<>	Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Section   Sect	Volatile Organics by GC/MS - Wes	tborough Lab					
Toluene         ND         ug/l         0.75          1           Tetrachloroethene         ND         ug/l         0.50          1           4-Methyl-2-pentanone         ND         ug/l         5.0          1           trans-1,3-Dichloropropene         ND         ug/l         0.50          1           1,3-Dichloropropene, Total         ND         ug/l         0.50          1           1,1,2-Trichloroethane         ND         ug/l         0.50          1           Dibromochloromethane         ND         ug/l         0.50          1           Dibromochloromethane         ND         ug/l         0.50          1           Cloricoberachane         ND         ug/l         0.50          1           2-Hexanone         ND         ug/l         0.50          1           Chloroberacene         ND         ug/l         0.50          1           Ethylbenzene         ND         ug/l         0.50          1           Ethylbenzene         ND         ug/l         1.0          1 <t< td=""><td>Bromodichloromethane</td><td>ND</td><td></td><td>ug/l</td><td>0.50</td><td></td><td>1</td></t<>	Bromodichloromethane	ND		ug/l	0.50		1
Tetrachloroethene         ND         ug/l         0.50          1           4-Methyl-2-pentanone         ND         ug/l         5.0          1           trans-1,3-Dichloropropene         ND         ug/l         0.50          1           1,3-Dichloropropene, Total         ND         ug/l         0.50          1           1,1,2-Trichloroethane         ND         ug/l         0.50          1           Dibromochloromethane         ND         ug/l         0.50          1           1,2-Dibromoethane         ND         ug/l         2.0          1           2-Hexanone         ND         ug/l         0.50          1           Chlorobenzene         ND         ug/l         0.50          1           Ethylbenzene         ND         ug/l         0.50          1           Ethylbenzene         ND         ug/l         1.0          1           2-ylenes, Total         ND         ug/l         1.0          1           3-ylenes, Total         ND         ug/l         1.0          1 <t< td=""><td>cis-1,3-Dichloropropene</td><td>ND</td><td></td><td>ug/l</td><td>0.50</td><td></td><td>1</td></t<>	cis-1,3-Dichloropropene	ND		ug/l	0.50		1
4-Methyl-2-pentanone         ND         ug/l         5.0          1           trans-1,3-Dichloropropene         ND         ug/l         0.50          1           1,3-Dichloropropene, Total         ND         ug/l         0.50          1           1,1,2-Trichloroethane         ND         ug/l         0.50          1           Dibromochloromethane         ND         ug/l         0.50          1           1,2-Dibromoethane         ND         ug/l         2.0          1           2-Hexanone         ND         ug/l         5.0          1           2-Hexanone         ND         ug/l         0.50          1           Chlorobenzene         ND         ug/l         0.50          1           Ethylbenzene         ND         ug/l         0.50          1           Ethylbenzene         ND         ug/l         1.0          1           O-Xylene         ND         ug/l         1.0          1           Styrene         ND         ug/l         1.0          1           Styrene<	Toluene	ND		ug/l	0.75		1
trans-1,3-Dichloropropene         ND         ug/l         0.50          1           1,3-Dichloropropene, Total         ND         ug/l         0.50          1           1,1,2-Trichloroethane         ND         ug/l         0.50          1           1,1,2-Trichloroethane         ND         ug/l         0.50          1           1,2-Dibromoethane         ND         ug/l         2.0          1           1,2-Dibromoethane         ND         ug/l         5.0          1           2-Hexanone         ND         ug/l         5.0          1           1,2-Dibromoethane         ND         ug/l         0.50          1           2-Hexanone         ND         ug/l         0.50          1           1,2-Hexanone         ND         ug/l         0.50          1           Ethylbenzene         ND         ug/l         0.50          1           Ethylbenzene         ND         ug/l         1.0          1           Styrene         ND         ug/l         1.0          1           S	Tetrachloroethene	ND		ug/l	0.50		1
1,3-Dichloropropene, Total         ND         ug/l         0.50          1           1,1,2-Trichloroethane         ND         ug/l         0.75          1           Dibromochloromethane         ND         ug/l         0.50          1           1,2-Dibromoethane         ND         ug/l         2.0          1           1,2-Dibromoethane         ND         ug/l         5.0          1           2-Hexanone         ND         ug/l         0.50          1           Chlorobenzene         ND         ug/l         0.50          1           Ethylbenzene         ND         ug/l         0.50          1           Ethylbenzene         ND         ug/l         1.0          1           Ethylbenzene         ND         ug/l         1.0          1           Ethylbenzene         ND         ug/l         1.0          1           Stylene         ND         ug/l         1.0          1           Stylenes, Total         ND         ug/l         1.0          1           Styrene	4-Methyl-2-pentanone	ND		ug/l	5.0		1
1,1,2-Trichloroethane	trans-1,3-Dichloropropene	ND		ug/l	0.50		1
Dibromochloromethane         ND         ug/l         0.50          1           1,2-Dibromoethane         ND         ug/l         2.0          1           2-Hexanone         ND         ug/l         5.0          1           Chlorobenzene         ND         ug/l         0.50          1           Ethylbenzene         ND         ug/l         0.50          1           Ethylbenzene         ND         ug/l         1.0          1           p/m-Xylene         ND         ug/l         1.0          1           p/m-Xylene         ND         ug/l         1.0          1           xylenes, Total         ND         ug/l         1.0          1           Xylenes, Total         ND         ug/l         1.0          1           Bromoform         ND         ug/l         2.0          1           Isopropylbenzene         ND         ug/l         2.5          1           I,2-4-Trimethylbenzene         ND         ug/l         2.5          1           I,4-Dichlorobenzene         <	1,3-Dichloropropene, Total	ND		ug/l	0.50		1
1,2-Dibromoethane         ND         ug/l         2.0          1           2-Hexanone         ND         ug/l         5.0          1           Chlorobenzene         ND         ug/l         0.50          1           Ethylbenzene         ND         ug/l         0.50          1           p/m-Xylene         ND         ug/l         1.0          1           p/m-Xylene         ND         ug/l         1.0          1           o-Xylene         ND         ug/l         1.0          1           Xylenes, Total         ND         ug/l         1.0          1           Styrene         ND         ug/l         1.0          1           Bromoform         ND         ug/l         2.0          1           Isopropylbenzene         ND         ug/l         2.5          1           1,24-Trimethylbenzene         ND         ug/l         2.5          1           1,2-Tichlorobenzene         ND         ug/l         2.5          1           1,2-Dichlorobenzene         ND	1,1,2-Trichloroethane	ND		ug/l	0.75		1
2-Hexanone         ND         ug/l         5.0          1           Chlorobenzene         ND         ug/l         0.50          1           Ethylbenzene         ND         ug/l         0.50          1           Ethylbenzene         ND         ug/l         1.0          1           p/m-Xylene         ND         ug/l         1.0          1           to-Xylene         ND         ug/l         1.0          1           Xylenes, Total         ND         ug/l         1.0          1           Styrene         ND         ug/l         1.0          1           Bromoform         ND         ug/l         2.0          1           Isopropylbenzene         ND         ug/l         0.50          1           1,3,5-Trimethylbenzene         ND         ug/l         2.5          1           1,2,4-Trimethylbenzene         ND         ug/l         2.5          1           1,2-Tolchlorobenzene         ND         ug/l         2.5          1           1,2-Dichlorobenzene	Dibromochloromethane	ND		ug/l	0.50		1
Chlorobenzene         ND         ug/l         0.50          1           Ethylbenzene         ND         ug/l         0.50          1           p/m-Xylene         ND         ug/l         1.0          1           o-Xylene         ND         ug/l         1.0          1           Xylenes, Total         ND         ug/l         1.0          1           Styrene         ND         ug/l         1.0          1           Bromoform         ND         ug/l         2.0          1           Isopropylbenzene         ND         ug/l         2.0          1           Isopropylbenzene         ND         ug/l         2.5          1           1,2,4-Trimethylbenzene         ND         ug/l         2.5          1           1,2,4-Trimethylbenzene         ND         ug/l         2.5          1           1,4-Dichlorobenzene         ND         ug/l         2.5          1           1,2-Dichlorobenzene         ND         ug/l         2.5          1           1,2-Dichlorobenzene	1,2-Dibromoethane	ND		ug/l	2.0		1
Ethylbenzene ND ug/l 0.50 1 p/m-Xylene ND ug/l 1.0 1 o-Xylene ND ug/l 1.0 1  Xylenes, Total ND ug/l 1.0 1 Styrene ND ug/l 1.0 1  Bromoform ND ug/l 1.0 1  Isopropylbenzene ND ug/l 2.0 1  Isopropylbenzene ND ug/l 2.0 1  Isopropylbenzene ND ug/l 2.5 1  1,2,4-Trimethylbenzene ND ug/l 2.5 1  1,4-Dichlorobenzene ND ug/l 2.5 1  1,2-Dichlorobenzene ND ug/l 2.5 1	2-Hexanone	ND		ug/l	5.0		1
ND	Chlorobenzene	ND		ug/l	0.50		1
co-Xylene         ND         ug/l         1.0          1           Xylenes, Total         ND         ug/l         1.0          1           Styrene         ND         ug/l         1.0          1           Bromoform         ND         ug/l         2.0          1           Isopropylbenzene         ND         ug/l         2.5          1           1,3,5-Trimethylbenzene         ND         ug/l         2.5          1           1,2,4-Trimethylbenzene         ND         ug/l         2.5          1           1,3-Dichlorobenzene         ND         ug/l         2.5          1           1,4-Dichlorobenzene         ND         ug/l         2.5          1           1,2-Dichlorobenzene         ND         ug/l         2.5          1           1,2-Dibromo-3-chloropropane         ND         ug/l         2.5          1           1,2,4-Trichlorobenzene         ND         ug/l         2.5          1           ND         ug/l         2.5          1           ND         ug/l	Ethylbenzene	ND		ug/l	0.50		1
Xylenes, Total         ND         ug/l         1.0          1           Styrene         ND         ug/l         1.0          1           Bromoform         ND         ug/l         2.0          1           Isopropylbenzene         ND         ug/l         0.50          1           1,3,5-Trimethylbenzene         ND         ug/l         2.5          1           1,2,4-Trimethylbenzene         ND         ug/l         2.5          1           1,3-Dichlorobenzene         ND         ug/l         2.5          1           1,4-Dichlorobenzene         ND         ug/l         2.5          1           1,2-Dichlorobenzene         ND         ug/l         2.5          1           1,2-Dibromo-3-chloropropane         ND         ug/l         2.5          1           1,2,4-Trichlorobenzene         ND         ug/l         2.5          1           Naphthalene         ND         ug/l         1.0          1	p/m-Xylene	ND		ug/l	1.0		1
ND	o-Xylene	ND		ug/l	1.0		1
ND	Xylenes, Total	ND		ug/l	1.0		1
Stopropylbenzene   ND   ug/l   0.50     1	Styrene	ND		ug/l	1.0		1
1,3,5-Trimethylbenzene       ND       ug/l       2.5        1         1,2,4-Trimethylbenzene       ND       ug/l       2.5        1         1,3-Dichlorobenzene       ND       ug/l       2.5        1         1,4-Dichlorobenzene       ND       ug/l       2.5        1         1,2-Dichlorobenzene       ND       ug/l       2.5        1         1,2-Dibromo-3-chloropropane       ND       ug/l       2.5        1         1,2,4-Trichlorobenzene       ND       ug/l       2.5        1         Naphthalene       ND       ug/l       1.0        1	Bromoform	ND		ug/l	2.0		1
1,2,4-Trimethylbenzene       ND       ug/l       2.5        1         1,3-Dichlorobenzene       ND       ug/l       2.5        1         1,4-Dichlorobenzene       ND       ug/l       2.5        1         1,2-Dichlorobenzene       ND       ug/l       2.5        1         1,2-Dibromo-3-chloropropane       ND       ug/l       2.5        1         1,2,4-Trichlorobenzene       ND       ug/l       2.5        1         Naphthalene       ND       ug/l       1.0        1	Isopropylbenzene	ND		ug/l	0.50		1
1,3-Dichlorobenzene       ND       ug/l       2.5        1         1,4-Dichlorobenzene       ND       ug/l       2.5        1         1,2-Dichlorobenzene       ND       ug/l       2.5        1         1,2-Dibromo-3-chloropropane       ND       ug/l       2.5        1         1,2,4-Trichlorobenzene       ND       ug/l       2.5        1         Naphthalene       ND       ug/l       1.0        1	1,3,5-Trimethylbenzene	ND		ug/l	2.5		1
1,4-Dichlorobenzene       ND       ug/l       2.5        1         1,2-Dichlorobenzene       ND       ug/l       2.5        1         1,2-Dibromo-3-chloropropane       ND       ug/l       2.5        1         1,2,4-Trichlorobenzene       ND       ug/l       2.5        1         Naphthalene       ND       ug/l       1.0        1	1,2,4-Trimethylbenzene	ND		ug/l	2.5	1-0	1
1,2-Dichlorobenzene       ND       ug/l       2.5        1         1,2-Dibromo-3-chloropropane       ND       ug/l       2.5        1         1,2,4-Trichlorobenzene       ND       ug/l       2.5        1         Naphthalene       ND       ug/l       1.0        1	1,3-Dichlorobenzene	ND		ug/l	2.5		1
1,2-Dibromo-3-chloropropane       ND       ug/l       2.5        1         1,2,4-Trichlorobenzene       ND       ug/l       2.5        1         Naphthalene       ND       ug/l       1.0        1	1,4-Dichlorobenzene	ND		ug/l	2.5	-	1
1,2,4-Trichlorobenzene       ND       ug/l       2.5        1         Naphthalene       ND       ug/l       1.0        1	1,2-Dichlorobenzene	ND		ug/l	2.5	-	1
Naphthalene ND ug/l 1.0 1	1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	15-2	1
	1,2,4-Trichlorobenzene	ND		ug/l	2.5	-	1
	Naphthalene	ND		ug/l	1.0		1
1,2,3-Trichlorobenzene ND ug/l 2.5 1	1,2,3-Trichlorobenzene	ND		ug/l	2.5	-	1

		Acceptance	
% Recovery	Qualifier	Criteria	
112		70-130	
108		70-130	
104		70-130	
116		70-130	
	112 108 104	112 108 104	% Recovery         Qualifier         Criteria           112         70-130           108         70-130           104         70-130



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

SAMPLE RESULTS

Lab ID: L2247388-19 Date Collected: 08/31/22 00:00

Client ID: LRN005:TRIP BLANK:W083122 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8260C-SIM(M) Analytical Date: 09/08/22 11:18

Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	<b>Dilution Factor</b>	
Volatile Organics by GC/MS-SIM	- Westborough Lab						
1,4-Dioxane	ND		ug/l	3.0		1	
1,1,2,2-Tetrachloroethane	ND		ug/l	0.050		1	

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
1,2-Dichloroethane-d4	120		70-130	
4-Bromofluorobenzene	85		70-130	



Project Name: CITY OF LORAIN

Project Number: 15011

Lab Number:

L2247388

**Report Date:** 11/02/22

Method Blank Analysis Batch Quality Control

Analytical Method:

1,8260C

Analytical Date:

09/07/22 13:03

Analyst:

MKS

arameter	Result	Qualifier	Units		RL	MDL
platile Organics by GC/MS - W	estborough Lab	for sampl	e(s):	15-16	Batch:	WG1684951-5
Dichlorodifluoromethane	ND		ug/l		5.0	-
Chloromethane	ND		ug/l		2.5	<del>-</del>
Vinyl chloride	ND		ug/l		1.0	<del></del> .
Bromomethane	ND		ug/l		1.0	<del>-</del>
Chloroethane	ND		ug/l		1.0	1, <del>-</del> ,-
Trichlorofluoromethane	ND		ug/l		2.5	-
1,1-Dichloroethene	ND		ug/l		0.50	
Carbon disulfide	ND		ug/l		5.0	- 1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		ug/l		2.5	-
Methylene chloride	ND		ug/l		2.5	, <del>-</del>
Acetone	ND		ug/l		5.0	-
trans-1,2-Dichloroethene	ND		ug/l		0.75	
Methyl Acetate	ND		ug/l		2.0	-
Methyl tert butyl ether	ND		ug/l		1.0	-
1,1-Dichloroethane	ND		ug/l		0.75	-
cis-1,2-Dichloroethene	ND		ug/l		0.50	-
1,2-Dichloroethene, Total	ND		ug/l		0.50	- : (+-
Cyclohexane	ND		ug/l		10	-
Bromochloromethane	ND		ug/l		2.5	( <del>-</del>
Chloroform	ND		ug/l		0.75	
Carbon tetrachloride	ND		ug/l		0.50	-
1,1,1-Trichloroethane	ND		ug/l		0.50	-
2-Butanone	ND		ug/l		5.0	_
Benzene	ND		ug/l		0.50	- : ( <del></del>
1,2-Dichloroethane	ND		ug/l		0.50	-
Methyl cyclohexane	ND		ug/l		10	<del>-</del>
Trichloroethene	ND		ug/l		0.50	- 1
1,2-Dichloropropane	ND		ug/l		1.0	-
Bromodichloromethane	ND		ug/l		0.50	<u> </u>



L2247388

Project Name: CITY OF LORAIN Lab Number:

Project Number: 15011 Report Date: 11/02/22

Method Blank Analysis Batch Quality Control

Analytical Method:

1,8260C

Analytical Date:

09/07/22 13:03

Analyst:

MKS

arameter	Result	Qualifier	Units		RL	MDL
olatile Organics by GC/MS - \	Westborough Lab	for sample	e(s):	15-16	Batch:	WG1684951-5
cis-1,3-Dichloropropene	ND		ug/l		0.50	<u>-</u>
Toluene	ND		ug/l		0.75	<del>-</del>
Tetrachloroethene	ND		ug/l		0.50	<del></del>
4-Methyl-2-pentanone	ND		ug/l		5.0	_
trans-1,3-Dichloropropene	ND		ug/l		0.50	( <del></del> )
1,3-Dichloropropene, Total	ND		ug/l		0.50	
1,1,2-Trichloroethane	ND		ug/l		0.75	-
Dibromochloromethane	ND		ug/l		0.50	- 15 <del>-</del> 0
1,2-Dibromoethane	ND		ug/l		2.0	
2-Hexanone	ND		ug/l		5.0	<del>(4</del> )
Chlorobenzene	ND		ug/l		0.50	-
Ethylbenzene	ND		ug/l		0.50	
p/m-Xylene	ND		ug/l		1.0	<del>-</del> -
o-Xylene	ND		ug/l		1.0	_
Xylenes, Total	ND		ug/l		1.0	-
Styrene	ND		ug/l		1.0	-
Bromoform	ND		ug/l		2.0	<del>-</del>
Isopropylbenzene	ND		ug/l		0.50	-
1,3,5-Trimethylbenzene	ND		ug/l		2.5	-
1,2,4-Trimethylbenzene	ND		ug/l		2.5	
1,3-Dichlorobenzene	ND		ug/l		2.5	_
1,4-Dichlorobenzene	ND		ug/l		2.5	-
1,2-Dichlorobenzene	ND		ug/l		2.5	-
1,2-Dibromo-3-chloropropane	ND		ug/l		2.5	(-)
1,2,4-Trichlorobenzene	ND		ug/l		2.5	-
Naphthalene	ND		ug/l		1.0	<b>/-</b> /
1,2,3-Trichlorobenzene	ND		ug/l		2.5	_



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C Analytical Date: 09/07/22 13:03

Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	
Valatila Organias by CC/MS	Mostborough L	ob for comp	lo/o\: 1E 16	Potob:	WC16940E1 E	

Volatile Organics by GC/MS - Westborough Lab for sample(s): 15-16 Batch: WG1684951-5

		Acceptance		
Surrogate	%Recovery	Qualifier	Criteria	
1,2-Dichloroethane-d4	112		70-130	
Toluene-d8	107		70-130	
4-Bromofluorobenzene	97		70-130	
Dibromofluoromethane	116		70-130	



Project Name: CITY OF LORAIN

Project Number: 15011

Lab Number:

L2247388

**Report Date:** 11/02/22

Method Blank Analysis Batch Quality Control

Analytical Method:

1,8260C

Analytical Date:

09/08/22 10:53

Analyst:

MKS

arameter	Result	Qualifier	Units		RL	MDL
olatile Organics by GC/MS - Wes	stborough Lab	for sampl	e(s):	17-19	Batch:	WG1685345-5
Dichlorodifluoromethane	ND		ug/l		5.0	<u></u> ;
Chloromethane	ND		ug/l		2.5	<del>-</del>
Vinyl chloride	ND		ug/l		1.0	<del>-</del>
Bromomethane	ND		ug/l		1.0	-
Chloroethane	ND		ug/l		1.0	
Trichlorofluoromethane	ND		ug/l		2.5	<u>-</u>
1,1-Dichloroethene	ND		ug/l		0.50	-
Carbon disulfide	ND		ug/l		5.0	-
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		ug/l		2.5	_
Methylene chloride	ND		ug/l		2.5	<del>,</del>
Acetone	ND		ug/l		5.0	-
trans-1,2-Dichloroethene	ND		ug/l		0.75	
Methyl Acetate	ND		ug/l		2.0	
Methyl tert butyl ether	ND		ug/l		1.0	<u>-</u>
1,1-Dichloroethane	ND		ug/l		0.75	1-
cis-1,2-Dichloroethene	ND		ug/l		0.50	-
1,2-Dichloroethene, Total	ND		ug/l		0.50	- 1 <del>(-</del>
Cyclohexane	ND		ug/l		10	4
Bromochloromethane	ND		ug/l		2.5	(. <del>L</del> .
Chloroform	ND		ug/l		0.75	- <u>-</u> -
Carbon tetrachloride	ND		ug/l		0.50	-
1,1,1-Trichloroethane	ND		ug/l		0.50	1-
2-Butanone	ND		ug/l		5.0	-
Benzene	ND		ug/l		0.50	- 19-
1,2-Dichloroethane	ND		ug/l		0.50	
Methyl cyclohexane	ND		ug/l		10	1
Trichloroethene	ND		ug/l		0.50	
1,2-Dichloropropane	ND		ug/l		1.0	-
Bromodichloromethane	ND		ug/l		0.50	12-1



L2247388

Lab Number:

**Project Name:** CITY OF LORAIN

**Project Number:** Report Date: 15011

11/02/22

Method Blank Analysis Batch Quality Control

Analytical Method:

1,8260C

Analytical Date:

09/08/22 10:53

Analyst:

MKS

arameter	Result	Qualifier Un	ts	RL	MDL
olatile Organics by GC/MS	- Westborough Lab	for sample(s)	17-19	Batch:	WG1685345-5
cis-1,3-Dichloropropene	ND	uį	g/l	0.50	_
Toluene	ND	u	g/l	0.75	-
Tetrachloroethene	ND	uį	g/l	0.50	
4-Methyl-2-pentanone	ND	uį	g/l	5.0	-
trans-1,3-Dichloropropene	ND	uį	g/l	0.50	-
1,3-Dichloropropene, Total	ND	uį	g/l	0.50	-
1,1,2-Trichloroethane	ND	uį	g/l	0.75	
Dibromochloromethane	ND	uį	g/l	0.50	
1,2-Dibromoethane	ND	uį	g/l	2.0	-
2-Hexanone	ND	uį	g/l	5.0	\ <del></del> .
Chlorobenzene	ND	uį	g/l	0.50	-
Ethylbenzene	ND	uį	g/l	0.50	<del>-</del>
p/m-Xylene	ND	uį	g/l	1.0	_
o-Xylene	ND	uį	g/l	1.0	_
Xylenes, Total	ND	uį	g/l	1.0	_
Styrene	ND	uį	g/l	1.0	
Bromoform	ND	uį	g/l	2.0	-
Isopropylbenzene	ND	uį	g/l	0.50	-
1,3,5-Trimethylbenzene	ND	uį	g/l	2.5	<del>-</del>
1,2,4-Trimethylbenzene	ND	uį	g/l	2.5	-
1,3-Dichlorobenzene	ND	uį	g/l	2.5	-
1,4-Dichlorobenzene	ND	uį	g/l	2.5	-
1,2-Dichlorobenzene	ND	uį	g/l	2.5	-
1,2-Dibromo-3-chloropropane	ND	uį	g/l	2.5	( <del>-</del> )
1,2,4-Trichlorobenzene	ND	uį	g/l	2.5	-
Naphthalene	ND	uį	g/l	1.0	-
1,2,3-Trichlorobenzene	ND	uį	g/l	2.5	-



**Project Name:** Lab Number: CITY OF LORAIN L2247388

**Project Number:** 15011 Report Date: 11/02/22

> **Method Blank Analysis Batch Quality Control**

Analytical Method: 1,8260C **Analytical Date:** 09/08/22 10:53

Analyst: MKS

> RL MDL **Parameter** Result Qualifier Units

Volatile Organics by GC/MS - Westborough Lab for sample(s): 17-19 Batch: WG1685345-5

		Acceptance		
Surrogate	%Recovery Qu	alifier Criteria		
1,2-Dichloroethane-d4	112	70-130		
Toluene-d8	98	70-130		
4-Bromofluorobenzene	106	70-130		
Dibromofluoromethane	114	70-130		



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

Method Blank Analysis Batch Quality Control

Analytical Method: Analytical Date:

1,8260C-SIM(M) 09/08/22 10:53

Analyst:

MKS

Parameter	Result	Qualifier	Units	RL		MDL
Volatile Organics by GC/MS-SIM -	Westborough	Lab for s	sample(s):	15-19	Batch:	WG1685349-5
1,4-Dioxane	ND		ug/l	3.0		-
1,1,2,2-Tetrachloroethane	ND		ug/l	0.050		

		-	Acceptance
Surrogate	%Recovery	Qualifier	Criteria
1,2-Dichloroethane-d4	118		70-130
4-Bromofluorobenzene	84		70-130



Project Name: CITY OF LORAIN

Project Number: 15011

Lab Number: L2247388

**Report Date:** 11/02/22

Method Blank Analysis Batch Quality Control

Analytical Method:

1,8260C

Analytical Date:

09/12/22 14:47

Analyst:

NLK

arameter	Result	Qualifier	Units	RL		MDL
olatile Organics by EPA 5035 Hi	gh - Westbor	ough Lab fo	or sample(s):	04	Batch:	WG1686699-5
Dichlorodifluoromethane	ND		mg/kg	0.50		<del>-</del>
Chloromethane	ND		mg/kg	0.20		<u> </u>
Vinyl chloride	ND		mg/kg	0.050		
Bromomethane	ND		mg/kg	0.10		-
Chloroethane	ND		mg/kg	0.10	1	) <del></del>
Trichlorofluoromethane	ND		mg/kg	0.20		-
1,1-Dichloroethene	ND		mg/kg	0.050		-
Carbon disulfide	ND		mg/kg	0.50		-
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		mg/kg	0.20		_
Methylene chloride	ND		mg/kg	0.25		-
Acetone	ND		mg/kg	0.50		-
trans-1,2-Dichloroethene	ND		mg/kg	0.075		
Methyl Acetate	ND		mg/kg	0.20		-
Methyl tert butyl ether	ND		mg/kg	0.10		-
1,1-Dichloroethane	ND		mg/kg	0.050		-
cis-1,2-Dichloroethene	ND		mg/kg	0.050		-
1,2-Dichloroethene, Total	ND		mg/kg	0.050		-
Cyclohexane	ND		mg/kg	0.50		-
Bromochloromethane	ND		mg/kg	0.10		
Chloroform	ND		mg/kg	0.075		
Carbon tetrachloride	ND		mg/kg	0.050		-
1,1,1-Trichloroethane	ND		mg/kg	0.025		-
2-Butanone	ND		mg/kg	0.50		
Benzene	ND		mg/kg	0.025		-
1,2-Dichloroethane	ND		mg/kg	0.050		-
Methyl cyclohexane	ND		mg/kg	0.20		-
Trichloroethene	ND		mg/kg	0.025		- 5 <u>-</u> -
1,2-Dichloropropane	ND		mg/kg	0.050		_
Bromodichloromethane	ND		mg/kg	0.025		-



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

Method Blank Analysis Batch Quality Control

Analytical Method:

1,8260C

Analytical Date:

09/12/22 14:47

Analyst:

NLK

arameter	Result	Qualifier	Units	RL		MDL
olatile Organics by EPA 5035 H	ligh - Westbor	ough Lab fo	or sample(s):	04	Batch:	WG1686699-5
1,4-Dioxane	ND		mg/kg	4.0		<u>-</u>
cis-1,3-Dichloropropene	ND		mg/kg	0.025		
Toluene	ND		mg/kg	0.050		-
4-Methyl-2-pentanone	ND		mg/kg	0.50		<del>-</del>
Tetrachloroethene	ND		mg/kg	0.025		1.4
trans-1,3-Dichloropropene	ND		mg/kg	0.050		-
1,3-Dichloropropene, Total	ND		mg/kg	0.025		-
1,1,2-Trichloroethane	ND		mg/kg	0.050		T-
Dibromochloromethane	ND		mg/kg	0.050		-
1,2-Dibromoethane	ND		mg/kg	0.025		<del>, -</del>
2-Hexanone	ND		mg/kg	0.50		-
Chlorobenzene	ND		mg/kg	0.025		, <del>, , ,</del> ,
Ethylbenzene	ND		mg/kg	0.050		-
p/m-Xylene	ND		mg/kg	0.10		-
o-Xylene	ND		mg/kg	0.050		-
Xylenes, Total	ND		mg/kg	0.050		-
Styrene	ND		mg/kg	0.050		: ( <del>-</del>
Bromoform	ND		mg/kg	0.20		-
Isopropylbenzene	ND		mg/kg	0.050		, <del>-</del>
1,1,2,2-Tetrachloroethane	ND		mg/kg	0.025		-
1,3,5-Trimethylbenzene	ND		mg/kg	0.10		
1,2,4-Trimethylbenzene	ND		mg/kg	0.10		
1,3-Dichlorobenzene	ND		mg/kg	0.10		-
1,4-Dichlorobenzene	ND		mg/kg	0.10		
1,2-Dichlorobenzene	ND		mg/kg	0.10		-
1,2-Dibromo-3-chloropropane	ND		mg/kg	0.15		7 <del>-</del>
1,2,4-Trichlorobenzene	ND		mg/kg	0.10		7,4-4
Naphthalene	ND		mg/kg	0.20		_
1,2,3-Trichlorobenzene	ND		mg/kg	0.10		-



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C Analytical Date: 09/12/22 14:47

Analyst: NLK

 Parameter
 Result
 Qualifier
 Units
 RL
 MDL

 Volatile Organics by EPA 5035 High - Westborough Lab for sample(s):
 04
 Batch:
 WG1686699-5

		-	Acceptance
Surrogate	%Recovery	Qualifier	Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	86		70-130
Dibromofluoromethane	105		70-130



L2247388

Lab Number:

Project Name: CITY OF LORAIN

Project Number: 15011 Report Date: 11/02/22

Method Blank Analysis Batch Quality Control

Analytical Method:

1,8260C

Analytical Date:

09/09/22 18:12

Analyst:

LAC

arameter	Result	Qualifier	Units	RL	MDL	
olatile Organics by GC/MS - W	estborough Lab	for sampl	le(s):	01,03-04,08-09,12	Batch:	WG1686713-
Dichlorodifluoromethane	ND		mg/k	0.010	-	
Chloromethane	ND		mg/k	0.0040		
Vinyl chloride	ND		mg/k	0.0010	7.	
Bromomethane	ND		mg/k	0.0020	-	
Chloroethane	ND		mg/k	0.0020	1947	
Trichlorofluoromethane	ND		mg/k	0.0040		
1,1-Dichloroethene	ND		mg/k	g 0.0010	-	
Carbon disulfide	ND		mg/k	g 0.010		
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		mg/k	0.0040	-	
Methylene chloride	ND		mg/k	0.0050	( <del></del>	
Acetone	ND		mg/k	g 0.025	-	
trans-1,2-Dichloroethene	ND		mg/k	0.0015		
Methyl Acetate	ND		mg/k	0.0040	-	
Methyl tert butyl ether	ND		mg/k	g 0.0020	-	
1,1-Dichloroethane	ND		mg/k	0.0010	-	
cis-1,2-Dichloroethene	ND		mg/k	g 0.0010	-	
1,2-Dichloroethene, Total	ND		mg/k	0.0010		
Cyclohexane	ND		mg/k	g 0.010	-	
Bromochloromethane	ND		mg/k	0.0020	( <del>-</del> )	
Chloroform	ND		mg/k	0.0015	_	
Carbon tetrachloride	ND		mg/k	g 0.0010	-	
1,1,1-Trichloroethane	ND		mg/k	0.00050	-	
2-Butanone	ND		mg/k	g 0.010		
Benzene	ND		mg/k	0.00050		
1,2-Dichloroethane	ND		mg/k	0.0010	-	
Methyl cyclohexane	ND		mg/k	0.0040	- A-	
Trichloroethene	ND		mg/k	0.00050		
1,2-Dichloropropane	ND		mg/k	g 0.0010	-	
Bromodichloromethane	ND		mg/k	0.00050		



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

Method Blank Analysis Batch Quality Control

Analytical Method:

1,8260C

Analytical Date:

09/09/22 18:12

Analyst:

LAC

arameter	Result	Qualifier Unit	s RL	MDL	
olatile Organics by GC/MS	- Westborough Lab	for sample(s):	01,03-04,08-09,12	Batch:	WG1686713-
1,4-Dioxane	ND	mg/l	g 0.080		
cis-1,3-Dichloropropene	ND	mg/l	g 0.00050	A	
Toluene	ND	mg/l	g 0.0010	7	
4-Methyl-2-pentanone	ND	mg/l	g 0.010		
Tetrachloroethene	ND	mg/l	g 0.00050		
trans-1,3-Dichloropropene	ND	mg/l	g 0.0010		
1,3-Dichloropropene, Total	ND	mg/l	g 0.00050	-	
1,1,2-Trichloroethane	ND	mg/l	g 0.0010	1)	
Dibromochloromethane	ND	mg/l	g 0.0010	-	
1,2-Dibromoethane	ND	mg/l	g 0.00050	( <del></del> )	
2-Hexanone	ND	mg/l	rg 0.010	-	
Chlorobenzene	ND	mg/l	g 0.00050	-	
Ethylbenzene	ND	mg/l	rg 0.0010	-	
p/m-Xylene	ND	mg/l	g 0.0020	-	
o-Xylene	ND	mg/l	g 0.0010	-	
Xylenes, Total	ND	mg/l	g 0.0010	-	
Styrene	ND	mg/l	g 0.0010		
Bromoform	ND	mg/l	g 0.0040	-	
Isopropylbenzene	ND	mg/l	rg 0.0010	-	
1,1,2,2-Tetrachloroethane	ND	mg/l	g 0.00050	_	
1,3,5-Trimethylbenzene	ND	mg/l	g 0.0020	-	
1,2,4-Trimethylbenzene	ND	mg/l	g 0.0020		
1,3-Dichlorobenzene	ND	mg/l	g 0.0020	-	
1,4-Dichlorobenzene	ND	mg/l	g 0.0020	:	
1,2-Dichlorobenzene	ND	mg/l	g 0.0020	-	
1,2-Dibromo-3-chloropropane	ND	mg/l	g 0.0030	- / <del>-</del>	
1,2,4-Trichlorobenzene	ND	mg/l	g 0.0020		
Naphthalene	ND	mg/l	g 0.0040	-	
1,2,3-Trichlorobenzene	ND	mg/l	g 0.0020		



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C Analytical Date: 09/09/22 18:12

Analyst: LAC

ParameterResultQualifierUnitsRLMDLVolatile Organics by GC/MS - Westborough Lab for sample(s): 01,03-04,08-09,12Batch: WG1686713-5

			Acceptance
Surrogate	%Recovery	Qualifier	Criteria
1,2-Dichloroethane-d4	159	Q	70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	85		70-130
Dibromofluoromethane	146	Q	70-130



L2247388

Project Name: CITY OF LORAIN Lab Number:

Project Number: 15011 Report Date: 11/02/22

Method Blank Analysis Batch Quality Control

Analytical Method:

1,8260C

Analytical Date:

09/11/22 15:04

Analyst:

AJK

arameter	Result	Qualifier U	Inits	RI	9	MDL	
olatile Organics by GC/MS - Wes	stborough Lab	for sample(s	s):	02,05-07	Batch:	WG1686784-5	
Dichlorodifluoromethane	ND	n	ng/kg	0.0	10	-	
Chloromethane	ND	n	ng/kg	0.00	40		
Vinyl chloride	ND	n	ng/kg	0.00	10	<del></del> -	
Bromomethane	ND	n	ng/kg	0.00	20	<del>-</del>	
Chloroethane	ND	n	ng/kg	0.00	20	<del></del> )	
Trichlorofluoromethane	ND	n	ng/kg	0.00	40	-	
1,1-Dichloroethene	ND	n	ng/kg	0.00	10	-	
Carbon disulfide	ND	n	ng/kg	0.0	10	-	
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	n	ng/kg	0.00	40	-	
Methylene chloride	ND	n	ng/kg	0.00	50	<del>-</del>	
Acetone	ND	n	ng/kg	0.02	25	-	
trans-1,2-Dichloroethene	ND	n	ng/kg	0.00	15	-	
Methyl Acetate	ND	n	ng/kg	0.00	40	_	
Methyl tert butyl ether	ND	n	ng/kg	0.00	20	-	
1,1-Dichloroethane	ND	n	mg/kg		10	-	
cis-1,2-Dichloroethene	ND	n	ng/kg	0.00	10	-	
1,2-Dichloroethene, Total	ND	n	ng/kg	0.00	10		
Cyclohexane	ND	n	ng/kg	0.0	10	-	
Bromochloromethane	ND	n	ng/kg	0.00	20	/ <del></del> /	
Chloroform	ND	n	ng/kg	0.00	15	<u> </u>	
Carbon tetrachloride	ND	n	ng/kg	0.00	10	-	
1,1,1-Trichloroethane	ND	n	ng/kg	0.000	050	-	
2-Butanone	ND	n	ng/kg	0.0	10	-	
Benzene	ND	n	ng/kg	0.000	050	- ( ) - ( )	
1,2-Dichloroethane	ND	n	ng/kg	0.00	10	-	
Methyl cyclohexane	ND	n	ng/kg	0.00	40	, <del>-</del> ,	
Trichloroethene	ND	n	ng/kg	0.000	050	_	
1,2-Dichloropropane	ND	n	ng/kg	0.00	10		
Bromodichloromethane	ND	n	ng/kg	0.000	050		



Project Name: CITY OF LORAIN

Project Number: 15011

Lab Number:

L2247388

**Report Date:** 11/02/22

Method Blank Analysis Batch Quality Control

Analytical Method:

1,8260C

Analytical Date:

09/11/22 15:04

Analyst:

AJK

arameter	Result	Qualifier L	Jnits	R	9	MDL
olatile Organics by GC/MS - V	Vestborough La	b for sample(	s): (	02,05-07	Batch:	WG1686784-5
1,4-Dioxane	ND	r	mg/kg	0.0	B0	-
cis-1,3-Dichloropropene	ND	r	mg/kg	0.00	050	
Toluene	ND	r	mg/kg	0.00	10	, <del>, ,</del> ,
4-Methyl-2-pentanone	ND	r	mg/kg	0.0	10	-
Tetrachloroethene	ND	r	mg/kg	0.00	050	1 <del></del> )
trans-1,3-Dichloropropene	ND	r	mg/kg	0.00	110	-
1,3-Dichloropropene, Total	ND	r	mg/kg	0.00	050	<del>-</del>
1,1,2-Trichloroethane	ND	r	mg/kg	0.00	110	<del>-</del>
Dibromochloromethane	ND	r	mg/kg	0.00	110	-
1,2-Dibromoethane	ND	r	mg/kg	0.00	050	<del>-</del>
2-Hexanone	ND	r	mg/kg	0.0	10	-
Chlorobenzene	ND	r	mg/kg	0.00	050	-
Ethylbenzene	ND	r	mg/kg	0.00	110	-
p/m-Xylene	ND	r	mg/kg	0.00	20	-
o-Xylene	ND	r	mg/kg	0.00	10	-
Xylenes, Total	ND	r	mg/kg	0.00	110	-
Styrene	ND	r	mg/kg	0.00	110	
Bromoform	ND	r	mg/kg	0.00	40	-
Isopropylbenzene	ND	r	mg/kg	0.00	10	
1,1,2,2-Tetrachloroethane	ND	r	mg/kg	0.00	050	
1,3,5-Trimethylbenzene	ND	r	mg/kg	0.00	20	-
1,2,4-Trimethylbenzene	ND	r	mg/kg	0.00	20	-
1,3-Dichlorobenzene	ND	r	mg/kg	0.00	20	-
1,4-Dichlorobenzene	ND	r	mg/kg	0.00	20	: ( <del></del> )
1,2-Dichlorobenzene	ND	r	mg/kg	0.00	20	-
1,2-Dibromo-3-chloropropane	ND	r	mg/kg	0.00	30	) <del>-</del> .
1,2,4-Trichlorobenzene	ND	r	mg/kg	0.00	20	_
Naphthalene	ND	r	mg/kg	0.00	140	-
1,2,3-Trichlorobenzene	ND	r	mg/kg	0.00	20	- 1 <del>-</del> 1



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C Analytical Date: 09/11/22 15:04

Analyst: AJK

Parameter Result Qualifier Units RL MDL

Volatile Organics by GC/MS - Westborough Lab for sample(s): 02,05-07 Batch: WG1686784-5

		Acceptance		
Surrogate	%Recovery	Qualifier	Criteria	
1,2-Dichloroethane-d4	103		70-130	
Toluene-d8	103		70-130	
4-Bromofluorobenzene	96		70-130	
Dibromofluoromethane	98		70-130	



**Project Name:** CITY OF LORAIN

**Project Number:** 15011

Lab Number: L2247388

Report Date:

arameter	LCS %Recovery Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
olatile Organics by GC/MS - Westbord	ough Lab Associated sample(s):	15-16 Batch:	WG1684951-3	WG1684951-4			
Dichlorodifluoromethane	77	80		36-147	4		20
Chloromethane	95	99		64-130	4		20
Vinyl chloride	84	93		55-140	10		20
Bromomethane	65	68		39-139	5		20
Chloroethane	98	100		55-138	2		20
Trichlorofluoromethane	83	84		62-150	1		20
1,1-Dichloroethene	100	110		61-145	10		20
Carbon disulfide	110	110		51-130	0		20
1,1,2-Trichloro-1,2,2-Trifluoroethane	110	110		70-130	0		20
Methylene chloride	120	120		70-130	0		20
Acetone	110	120		58-148	9		20
trans-1,2-Dichloroethene	98	100		70-130	2		20
Methyl Acetate	120	120		70-130	0		20
Methyl tert butyl ether	84	86		63-130	2		20
1,1-Dichloroethane	120	120		70-130	0		20
cis-1,2-Dichloroethene	97	100		70-130	3		20
Cyclohexane	86	93		70-130	8		20
Bromochloromethane	110	110		70-130	0		20
Chloroform	100	110		70-130	10		20
Carbon tetrachloride	110	110		63-132	0		20
1,1,1-Trichloroethane	110	110		67-130	0		20
2-Butanone	100	110		63-138	10		20
Benzene	97	100		70-130	3		20

Project Name: CITY OF LORAIN

Project Number: 15011

Lab Number:

L2247388

Report Date:

Parameter	LCS %Recovery Qual	LCSD %Recovery	' Qual	%Recovery Limits	RPD	Qual	RPD Limits
/olatile Organics by GC/MS - Westborough La	ab Associated sample(s):	15-16 Batch:	WG1684951-3	WG1684951-4			
1,2-Dichloroethane	110	110		70-130	0		20
Methyl cyclohexane	82	88		70-130	7		20
Trichloroethene	100	110		70-130	10		20
1,2-Dichloropropane	94	110		70-130	16		20
Bromodichloromethane	100	100		67-130	0		20
cis-1,3-Dichloropropene	100	100		70-130	0		20
Toluene	100	100		70-130	0		20
Tetrachloroethene	100	100		70-130	0		20
4-Methyl-2-pentanone	96	90		59-130	6		20
trans-1,3-Dichloropropene	100	100		70-130	0		20
1,1,2-Trichloroethane	120	120		70-130	0		20
Dibromochloromethane	110	110		63-130	0		20
1,2-Dibromoethane	100	100		70-130	0		20
2-Hexanone	88	91		57-130	3		20
Chlorobenzene	98	99		75-130	1		20
Ethylbenzene	91	95		70-130	4		20
p/m-Xylene	90	90		70-130	0		20
o-Xylene	80	80		70-130	0		20
Styrene	90	90		70-130	0		20
Bromoform	96	94		54-136	2		20
Isopropylbenzene	78	86		70-130	10		20
1,3,5-Trimethylbenzene	87	93		64-130	7		20
1,2,4-Trimethylbenzene	88	92		70-130	4		20

Project Name: CITY OF LORAIN

**Project Number:** 

15011

Lab Number:

L2247388

Report Date:

arameter	LCS %Recovery Qual	LCSD %Recovery		%Recovery Limits	RPD	Qual	RPD Limits
olatile Organics by GC/MS - Westb	porough Lab Associated sample(s):	15-16 Batch:	WG1684951-3	WG1684951-4			
1,3-Dichlorobenzene	96	96		70-130	0		20
1,4-Dichlorobenzene	94	96		70-130	2		20
1,2-Dichlorobenzene	92	95		70-130	3		20
1,2-Dibromo-3-chloropropane	95	100		41-144	5		20
1,2,4-Trichlorobenzene	77	84		70-130	9		20
Naphthalene	74	78		70-130	5		20
1,2,3-Trichlorobenzene	87	88		70-130	1		20

Surrogate	LCS %Recovery Qual	LCSD %Recovery Qual	Acceptance Criteria
1,2-Dichloroethane-d4	110	108	70-130
Toluene-d8	106	107	70-130
4-Bromofluorobenzene	85	90	70-130
Dibromofluoromethane	107	106	70-130

Project Name: CITY OF LORAIN

Project Number: 15011

Lab Number: L2247388

**Report Date:** 11/02/22

arameter	LCS %Recovery Qual	LCSD %Recovery		%Recovery Limits	RPD	Qual	RPD Limits
olatile Organics by GC/MS - Westboro	ugh Lab Associated sample(s):	17-19 Batch:	WG1685345-3	WG1685345-4			
Dichlorodifluoromethane	78	74		36-147	5		20
Chloromethane	100	92		64-130	8		20
Vinyl chloride	87	82		55-140	6		20
Bromomethane	66	64		39-139	3		20
Chloroethane	94	91		55-138	3		20
Trichlorofluoromethane	88	85		62-150	3		20
1,1-Dichloroethene	110	110		61-145	0		20
Carbon disulfide	120	110		51-130	9		20
1,1,2-Trichloro-1,2,2-Trifluoroethane	120	110		70-130	9		20
Methylene chloride	110	110		70-130	0		20
Acetone	120	110		58-148	9		20
trans-1,2-Dichloroethene	100	98		70-130	2		20
Methyl Acetate	120	100		70-130	18		20
Methyl tert butyl ether	81	79		63-130	3		20
1,1-Dichloroethane	120	110		70-130	9		20
cis-1,2-Dichloroethene	100	97		70-130	3		20
Cyclohexane	95	92		70-130	3		20
Bromochloromethane	120	110		70-130	9		20
Chloroform	110	100		70-130	10		20
Carbon tetrachloride	110	100		63-132	10		20
1,1,1-Trichloroethane	110	110		67-130	0		20
2-Butanone	100	92		63-138	8		20
Benzene	100	98		70-130	2		20

Project Name: CITY OF LORAIN

Project Number: 15011

Lab Number: L2247388

**Report Date:** 11/02/22

arameter	LCS %Recovery Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
olatile Organics by GC/MS - West	tborough Lab Associated sample(s):	17-19 Batch:	WG1685345-3	WG1685345-4			
1,2-Dichloroethane	110	99		70-130	11		20
Methyl cyclohexane	86	80		70-130	7		20
Trichloroethene	100	100		70-130	0		20
1,2-Dichloropropane	100	100		70-130	0		20
Bromodichloromethane	110	97		67-130	13		20
cis-1,3-Dichloropropene	100	92		70-130	8		20
Toluene	100	98		70-130	2		20
Tetrachloroethene	100	95		70-130	5		20
4-Methyl-2-pentanone	86	79		59-130	8		20
trans-1,3-Dichloropropene	100	95		70-130	5		20
1,1,2-Trichloroethane	110	110		70-130	0		20
Dibromochloromethane	100	100		63-130	0		20
1,2-Dibromoethane	100	99		70-130	1		20
2-Hexanone	86	81		57-130	6		20
Chlorobenzene	99	100		75-130	1		20
Ethylbenzene	98	96		70-130	2		20
p/m-Xylene	95	90		70-130	5		20
o-Xylene	85	80		70-130	6		20
Styrene	95	90		70-130	5		20
Bromoform	94	89		54-136	5		20
Isopropylbenzene	86	88		70-130	2		20
1,3,5-Trimethylbenzene	94	93		64-130	1		20
1,2,4-Trimethylbenzene	90	92		70-130	2		20

Project Name: CITY OF LORAIN

Project Number: 15011

Lab Number:

L2247388

Report Date:

Parameter	LCS %Recovery	Qual		CSD ecovery		%Recovery Limits	RPD	Qual	RPD Limits
olatile Organics by GC/MS - Westborough La	b Associated sar	mple(s):	17-19	Batch:	WG1685345-3	WG1685345-4			
1,3-Dichlorobenzene	97			96		70-130	1		20
1,4-Dichlorobenzene	96			95		70-130	1		20
1,2-Dichlorobenzene	94			93		70-130	1		20
1,2-Dibromo-3-chloropropane	96			92		41-144	4		20
1,2,4-Trichlorobenzene	80			78		70-130	3		20
Naphthalene	70			71		70-130	1		20
1,2,3-Trichlorobenzene	86			88		70-130	2		20

Surrogate	LCS %Recovery Qua	LCSD I %Recovery Qual	Acceptance Criteria
1,2-Dichloroethane-d4	108	105	70-130
Toluene-d8	105	101	70-130
4-Bromofluorobenzene	89	91	70-130
Dibromofluoromethane	108	107	70-130

Project Name: CITY OF LORAIN

Lab Number:

L2247388

11/02/22

Project Number: 15011

Report Date:

	LCS		LCSD		%Recovery			RPD
Parameter	%Recovery	Qual	%Recovery	Qual	Limits	RPD	Qual	Limits
Volatile Organics by GC/MS-SIM - \	Westborough Lab Associa	ated sample	s): 15-19 Batch	: WG168	5349-3 WG16853	49-4		
1,4-Dioxane	100		93		70-130	7		25
1,1,2,2-Tetrachloroethane	145	Q	157	Q	70-130	8		25

Surrogate	LCS %Recovery Qua	LCSD al %Recovery Qual	Acceptance Criteria
1,2-Dichloroethane-d4	115	119	70-130
4-Bromofluorobenzene	83	83	70-130

**Project Name:** CITY OF LORAIN

**Project Number:** 15011

Lab Number: L2247388

Report Date:

arameter	LCS %Recovery Qual	LCSD %Recovery	%Recovery Qual Limits	RPD	RPD Qual Limits
olatile Organics by EPA 5035 High -	Westborough Lab Associated sam	nple(s): 04 Batch	: WG1686699-3 WG16866	699-4	
Dichlorodifluoromethane	38	37	30-146	3	30
Chloromethane	59	58	52-130	2	30
Vinyl chloride	102	102	67-130	0	30
Bromomethane	131	129	57-147	2	30
Chloroethane	78	79	50-151	1	30
Trichlorofluoromethane	75	76	70-139	1	30
1,1-Dichloroethene	73	74	65-135	1	30
Carbon disulfide	66	65	59-130	2	30
1,1,2-Trichloro-1,2,2-Trifluoroethane	79	79	50-139	0	30
Methylene chloride	75	76	70-130	1	30
Acetone	90	94	54-140	4	30
trans-1,2-Dichloroethene	72	74	70-130	3	30
Methyl Acetate	82	87	51-146	6	30
Methyl tert butyl ether	76	78	66-130	3	30
1,1-Dichloroethane	75	76	70-130	1	30
cis-1,2-Dichloroethene	777	77	70-130	0	30
Cyclohexane	64	63	59-142	2	30
Bromochloromethane	89	91	70-130	2	30
Chloroform	76	77	70-130	1	30
Carbon tetrachloride	74	73	70-130	1	30
1,1,1-Trichloroethane	76	76	70-130	0	30
2-Butanone	89	92	70-130	3	30
Benzene	74	74	70-130	0	30

Project Name: CITY OF LORAIN

Project Number: 15011

Lab Number: L2247388

**Report Date:** 11/02/22

arameter	LCS %Recovery	Qual	LCSD %Recove		Qual	%Recove Limits		Qual	RPD Limits
olatile Organics by EPA 5035 High - \	Westborough Lab Ass	ociated sample	e(s): 04	Batch:	WG168	6699-3 WG	61686699-4		
1,2-Dichloroethane	79		81			70-130	3		30
Methyl cyclohexane	66	Q	66		Q	70-130	0		30
Trichloroethene	77		77			70-130	0		30
1,2-Dichloropropane	82		83			70-130	1		30
Bromodichloromethane	82		83			70-130	1		30
1,4-Dioxane	90		94			65-136	4		30
cis-1,3-Dichloropropene	80		81			70-130	1		30
Toluene	80		79			70-130	1.		30
4-Methyl-2-pentanone	86		86			70-130	0		30
Tetrachloroethene	82		82			70-130	0		30
trans-1,3-Dichloropropene	84		84			70-130	0		30
1,1,2-Trichloroethane	86		87			70-130	1		30
Dibromochloromethane	88		90			70-130	2		30
1,2-Dibromoethane	83		86			70-130	4		30
2-Hexanone	80		83			70-130	4		30
Chlorobenzene	83		83			70-130	0		30
Ethylbenzene	77		77			70-130	0		30
p/m-Xylene	81		80			70-130	1		30
o-Xylene	82		81			70-130	1		30
Styrene	87		86			70-130	1		30
Bromoform	88		90			70-130	2		30
Isopropylbenzene	74		74			70-130	0		30
1,1,2,2-Tetrachloroethane	88		91			70-130	3		30



Project Name: CITY OF LORAIN

Project Number: 15011

Lab Number:

L2247388

Report Date:

Parameter	LCS %Recovery	Qual	LCSD %Recove			ecovery .imits	RPD	Qual	RPD Limits
olatile Organics by EPA 5035 High	h - Westborough Lab Asso	ciated samp	ele(s): 04	Batch:	WG1686699-3	WG16866	699-4		
1,3,5-Trimethylbenzene	75		76		7	0-130	1		30
1,2,4-Trimethylbenzene	76		76		7	70-130	0		30
1,3-Dichlorobenzene	86		88		7	70-130	2		30
1,4-Dichlorobenzene	88		88		7	<b>'</b> 0-130	0		30
1,2-Dichlorobenzene	87		88		7	<b>7</b> 0-130	1		30
1,2-Dibromo-3-chloropropane	86		89		6	8-130	3		30
1,2,4-Trichlorobenzene	85		86		7	70-130	1		30
Naphthalene	84		87			<b>'</b> 0-130	4		30
1,2,3-Trichlorobenzene	90		93		7	0-130	3		30

Surrogate	LCS %Recovery Qual	LCSD %Recovery Qual	Acceptance Criteria
1,2-Dichloroethane-d4	99	102	70-130
Toluene-d8	100	100	70-130
4-Bromofluorobenzene	79	80	70-130
Dibromofluoromethane	103	102	70-130

Project Name: CITY OF LORAIN

Project Number: 15011

Lab Number: L2247388

**Report Date:** 11/02/22

arameter	LCS %Recovery G	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
olatile Organics by GC/MS - Westbord	ough Lab Associated sam	ple(s):	01,03-04,08-09,12	Batch:	WG1686713-3	WG1686713-4		
Dichlorodifluoromethane	54		56		30-146	4		30
Chloromethane	97		101		52-130	4		30
Vinyl chloride	100		103		67-130	3		30
Bromomethane	119		120		57-147	1		30
Chloroethane	112		116		50-151	4		30
Trichlorofluoromethane	98		99		70-139	1		30
1,1-Dichloroethene	94		98		65-135	4		30
Carbon disulfide	92		95		59-130	3		30
1,1,2-Trichloro-1,2,2-Trifluoroethane	98		102		50-139	4		30
Methylene chloride	92		96		70-130	4		30
Acetone	126		134		54-140	6		30
trans-1,2-Dichloroethene	87		92		70-130	6		30
Methyl Acetate	101		105		51-146	4		30
Methyl tert butyl ether	62	Q	63	Q	66-130	2		30
1,1-Dichloroethane	103		105		70-130	2		30
cis-1,2-Dichloroethene	88		93		70-130	6		30
Cyclohexane	102		103		59-142	1		30
Bromochloromethane	88		91		70-130	3		30
Chloroform	90		97		70-130	7		30
Carbon tetrachloride	81		83		70-130	2		30
1,1,1-Trichloroethane	90		92		70-130	2		30
2-Butanone	92		103		70-130	11		30
Benzene	88		89		70-130	1		30

**Project Name:** CITY OF LORAIN

**Project Number:** 15011

Lab Number:

L2247388

Report Date:

arameter	LCS %Recovery Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
olatile Organics by GC/MS - Westborough La	ab Associated sample(s):	01,03-04,08-09,12	Batch:	WG1686713-3	WG1686713-4		
1,2-Dichloroethane	94	95		70-130	1		30
Methyl cyclohexane	87	89		70-130	2		30
Trichloroethene	92	93		70-130	1		30
1,2-Dichloropropane	90	92		70-130	2		30
Bromodichloromethane	80	83		70-130	4		30
1,4-Dioxane	90	70		65-136	25		30
cis-1,3-Dichloropropene	77	80		70-130	4		30
Toluene	87	89		70-130	2		30
4-Methyl-2-pentanone	86	92		70-130	7		30
Tetrachloroethene	92	94		70-130	2		30
trans-1,3-Dichloropropene	80	82		70-130	2		30
1,1,2-Trichloroethane	85	86		70-130	1		30
Dibromochloromethane	78	79		70-130	1		30
1,2-Dibromoethane	83	84		70-130	1		30
2-Hexanone	92	101		70-130	9		30
Chlorobenzene	90	92		70-130	2		30
Ethylbenzene	92	94		70-130	2		30
p/m-Xylene	94	95		70-130	1		30
o-Xylene	91	93		70-130	2		30
Styrene	93	95		70-130	2		30
Bromoform	78	80		70-130	3		30
Isopropylbenzene	88	89		70-130	1		30
1,1,2,2-Tetrachloroethane	82	84		70-130	2		30

Project Name: CITY OF LORAIN

Project Number: 15011

Lab Number:

L2247388

Report Date:

arameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
olatile Organics by GC/MS - Westboroug	gh Lab Associated s	sample(s):	01,03-04,08-09,12	Batch:	WG1686713-3	WG1686713-4		
1,3,5-Trimethylbenzene	92		94		70-130	2		30
1,2,4-Trimethylbenzene	91		92		70-130	1		30
1,3-Dichlorobenzene	92		92		70-130	0		30
1,4-Dichlorobenzene	90		90		70-130	0		30
1,2-Dichlorobenzene	90		90		70-130	0		30
1,2-Dibromo-3-chloropropane	75		78		68-130	4		30
1,2,4-Trichlorobenzene	88		91		70-130	3		30
Naphthalene	81		84		70-130	4		30
1,2,3-Trichlorobenzene	89		91		70-130	2		30

Surrogate	LCS %Recovery Qual	LCSD %Recovery Qual	Acceptance Criteria
1,2-Dichloroethane-d4	104	104	70-130
Toluene-d8	101	101	70-130
4-Bromofluorobenzene	88	91	70-130
Dibromofluoromethane	98	100	70-130

Project Name: CITY OF LORAIN

Project Number: 15011

Lab Number: L2247388

**Report Date:** 11/02/22

arameter	LCS %Recovery Qual	LCSD %Recovery	% Qual	Recovery Limits	RPD	RPD Qual Limits
olatile Organics by GC/MS - Westborough	h Lab Associated sample(s):	02,05-07 Batch:	WG1686784-3	WG1686784-4		
Dichlorodifluoromethane	65	52		30-146	22	30
Chloromethane	78	64		52-130	20	30
Vinyl chloride	71	56	Q	67-130	24	30
Bromomethane	82	69		57-147	17	30
Chloroethane	64	53		50-151	19	30
Trichlorofluoromethane	92	75		70-139	20	30
1,1-Dichloroethene	104	84		65-135	21	30
Carbon disulfide	94	77		59-130	20	30
1,1,2-Trichloro-1,2,2-Trifluoroethane	104	86		50-139	19	30
Methylene chloride	92	83		70-130	10	30
Acetone	78	77		54-140	1	30
trans-1,2-Dichloroethene	101	84		70-130	18	30
Methyl Acetate	82	81		51-146	1	30
Methyl tert butyl ether	102	100		66-130	2	30
1,1-Dichloroethane	102	87		70-130	16	30
cis-1,2-Dichloroethene	99	86		70-130	14	30
Cyclohexane	98	80		59-142	20	30
Bromochloromethane	94	86		70-130	9	30
Chloroform	102	90		70-130	13	30
Carbon tetrachloride	109	91		70-130	18	30
1,1,1-Trichloroethane	111	93		70-130	18	30
2-Butanone	78	77		70-130	1	30
Benzene	102	88		70-130	15	30



Project Name: CITY OF LORAIN

Project Number: 15011

Lab Number: L2

L2247388

Report Date:

Parameter	LCS %Recovery Qual	LCSD %Recovery	%Recovery Qual Limits	RPD	RPD Qual Limits
/olatile Organics by GC/MS - Westborough La	ab Associated sample(s):	02,05-07 Batch:	WG1686784-3 WG168678	4-4	
1,2-Dichloroethane	98	91	70-130	7	30
Methyl cyclohexane	102	83	70-130	21	30
Trichloroethene	102	86	70-130	17	30
1,2-Dichloropropane	96	86	70-130	11	30
Bromodichloromethane	101	92	70-130	9	30
1,4-Dioxane	106	109	65-136	3	30
cis-1,3-Dichloropropene	104	96	70-130	8	30
Toluene	100	86	70-130	15	30
4-Methyl-2-pentanone	90	91	70-130	1	30
Tetrachloroethene	114	97	70-130	16	30
trans-1,3-Dichloropropene	108	103	70-130	5	30
1,1,2-Trichloroethane	102	98	70-130	4	30
Dibromochloromethane	104	99	70-130	5	30
1,2-Dibromoethane	98	96	70-130	2	30
2-Hexanone	81	82	70-130	1	30
Chlorobenzene	99	88	70-130	12	30
Ethylbenzene	104	89	70-130	16	30
p/m-Xylene	101	88	70-130	14	30
o-Xylene	101	89	70-130	13	30
Styrene	96	87	70-130	10	30
Bromoform	104	101	70-130	3	30
Isopropylbenzene	102	88	70-130	15	30
1,1,2,2-Tetrachloroethane	94	92	70-130	2	30



## Lab Control Sample Analysis Batch Quality Control

Project Name: CITY OF LORAIN

Project Number: 15011

Lab Number:

L2247388

Report Date:

11/02/22

Parameter	LCS %Recovery	Qual	LC: %Rec		% Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough L	ab Associated	sample(s):	02,05-07	Batch:	WG1686784-3	3 WG1686784	-4		
1,3,5-Trimethylbenzene	102		8	8		70-130	15		30
1,2,4-Trimethylbenzene	100		8	7		70-130	14		30
1,3-Dichlorobenzene	100		9	1		70-130	9		30
1,4-Dichlorobenzene	100		8	9		70-130	12		30
1,2-Dichlorobenzene	99		9	1		70-130	8		30
1,2-Dibromo-3-chloropropane	97		9	7		68-130	0		30
1,2,4-Trichlorobenzene	110		1	01		70-130	9		30
Naphthalene	93		9	1		70-130	2		30
1,2,3-Trichlorobenzene	109		1	03		70-130	6		30

Surrogate	LCS %Recovery Qual	LCSD %Recovery Qual	Acceptance Criteria
1,2-Dichloroethane-d4	103	105	70-130
Toluene-d8	103	102	70-130
4-Bromofluorobenzene	98	98	70-130
Dibromofluoromethane	100	100	70-130

## **SEMIVOLATILES**



L2247388

08/29/22 11:30

**Project Name:** CITY OF LORAIN

**Project Number:** 15011

**SAMPLE RESULTS** 

11/02/22

Report Date:

Lab Number:

Date Collected:

Lab ID: L2247388-01

Client ID: LRN005:TP-14:D082922 Sample Location: FORMER ST. JOE'S

Date Received: 09/01/22

Field Prep: Not Specified

Sample Depth:

Matrix: Soil 1,8270D Analytical Method: Analytical Date: 09/13/22 11:45

Analyst: IM 75% Percent Solids:

Extraction	Method:	EPA 3546
Extraction	Date:	09/10/22 17:27

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS -	Westborough Lab					
Benzaldehyde	ND		mg/kg	0.83		1
Phenol	ND		mg/kg	0.63		1
Bis(2-chloroethyl)ether	ND		mg/kg	0.57		1
2-Chlorophenol	ND		mg/kg	0.63		1
2-Methylphenol	ND		mg/kg	0.63		1
Bis(2-chloroisopropyl)ether	ND		mg/kg	0.76		1
Acetophenone	ND		mg/kg	0.63		1
n-Nitrosodi-n-propylamine	ND		mg/kg	0.63	4-	1
3-Methylphenol/4-Methylphenol	ND		mg/kg	0.91	×	1
Hexachloroethane	ND		mg/kg	0.50		1
Nitrobenzene	ND		mg/kg	0.57		1
sophorone	ND		mg/kg	0.57	-	1
2-Nitrophenol	ND		mg/kg	1.4		1
2,4-Dimethylphenol	ND		mg/kg	0.63		1
Bis(2-chloroethoxy)methane	ND		mg/kg	0.68		1
2,4-Dichlorophenol	ND		mg/kg	0.57		1
Naphthalene	ND		mg/kg	0.63		1
4-Chloroaniline	ND		mg/kg	0.63	-	1
Hexachlorobutadiene	ND		mg/kg	0.63		1
Caprolactam	ND		mg/kg	0.63		1
p-Chloro-m-cresol	ND		mg/kg	0.63		1
2-Methylnaphthalene	ND		mg/kg	0.76		1
Hexachlorocyclopentadiene	ND		mg/kg	1.8		1
1,2,4,5-Tetrachlorobenzene	ND		mg/kg	0.63		1
2,4,6-Trichlorophenol	ND		mg/kg	0.38		1
2,4,5-Trichlorophenol	ND		mg/kg	0.63		1 -
Biphenyl	ND		mg/kg	1.4	-	1
2-Chloronaphthalene	ND		mg/kg	0.63		1



Project Name: CITY OF LORAIN

Project Number: 15011

**SAMPLE RESULTS** 

Date Collected:

Lab Number:

Report Date:

08/29/22 11:30

L2247388

11/02/22

Lab ID: Client ID: L2247388-01

LRN005:TP-14:D082922 FORMER ST. JOE'S Date Received: Field Prep:

09/01/22 Not Specified

Sample Depth:

Sample Location:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS -	Westborough Lab					
2-Nitroaniline	ND		mg/kg	0.63		1
Dimethyl phthalate	ND		mg/kg	0.63		1
2,6-Dinitrotoluene	ND		mg/kg	0.63		1
Acenaphthylene	ND		mg/kg	0.50		1
3-Nitroaniline	ND		mg/kg	0.63		1
Acenaphthene	ND		mg/kg	0.50		1
2,4-Dinitrophenol	ND		mg/kg	3.0		1
4-Nitrophenol	ND		mg/kg	0.88		1
2,4-Dinitrotoluene	ND		mg/kg	0.63		1
Dibenzofuran	ND		mg/kg	0.63		1
2,3,4,6-Tetrachlorophenol	ND		mg/kg	0.63		1
Diethyl phthalate	ND		mg/kg	0.63		1
Fluorene	ND		mg/kg	0.63		1
4-Chlorophenyl phenyl ether	ND		mg/kg	0.63		1
4-Nitroaniline	ND		mg/kg	0.63	144	1
1,6-Dinitro-o-cresol	ND		mg/kg	1.6		1
NDPA/DPA	ND		mg/kg	0.50		1
4-Bromophenyl phenyl ether	ND		mg/kg	0.63		1
Hexachlorobenzene	ND		mg/kg	0.38		1
Pentachlorophenol	ND		mg/kg	0.50		1
Atrazine	ND		mg/kg	0.50	5-20	1
Phenanthrene	ND		mg/kg	0.38		1
Anthracene	ND		mg/kg	0.38	-	1
Carbazole	ND		mg/kg	0.63	-	1
Di-n-butylphthalate	ND		mg/kg	0.63		1
Fluoranthene	ND		mg/kg	0.38	-	1
Pyrene	ND		mg/kg	0.38		1
Butyl benzyl phthalate	6.0		mg/kg	0.63		1
3,3'-Dichlorobenzidine	ND		mg/kg	0.63		1
Benzo(a)anthracene	ND		mg/kg	0.38		1
Chrysene	ND		mg/kg	0.38		1
Bis(2-ethylhexyl)phthalate	1.3		mg/kg	0.63		1
Di-n-octylphthalate	ND		mg/kg	0.63		1
Benzo(b)fluoranthene	ND		mg/kg	0.38	-	1
Benzo(k)fluoranthene	ND		mg/kg	0.38		1
Benzo(a)pyrene	ND		mg/kg	0.50		1
Indeno(1,2,3-cd)pyrene	ND		mg/kg	0.50		1

Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-01 Date Collected: 08/29/22 11:30

Client ID: LRN005:TP-14:D082922 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS	6 - Westborough Lab					
Dibenzo(a,h)anthracene	ND		mg/kg	0.38		1
Benzo(ghi)perylene	ND		mg/kg	0.50		1

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2-Fluorophenol	16	Q	25-120	
Phenol-d6	66		10-120	
Nitrobenzene-d5	107		23-120	
2-Fluorobiphenyl	84		30-120	
2,4,6-Tribromophenol	4	Q	10-136	
4-Terphenyl-d14	96		18-120	



**Project Name:** CITY OF LORAIN

**Project Number:** 15011

**SAMPLE RESULTS** 

Lab Number: L2247388

Report Date: 11/02/22

Lab ID: L2247388-02 D Client ID: LRN005:TP-13:D082922 Sample Location: FORMER ST. JOE'S

Date Received: 09/01/22

Field Prep:

Date Collected:

Not Specified

08/29/22 10:30

Sample Depth:

Matrix: Soil 1,8270D Analytical Method: Analytical Date: 09/13/22 12:09

Analyst: IM 60% Percent Solids:

Extraction	Method:	EPA 3546
Extraction	Date:	09/10/22 17:27

Parameter	Result	Qualifier	Units	RL	MDL	<b>Dilution Factor</b>
Semivolatile Organics by GC/MS -	Westborough Lab					
Benzaldehyde	ND		mg/kg	5.3	_	5
Phenol	ND		mg/kg	4.0		5
Bis(2-chloroethyl)ether	ND		mg/kg	3.6	-	5
2-Chlorophenol	ND		mg/kg	4.0	-	5
2-Methylphenol	ND		mg/kg	4.0	<del></del>	5
Bis(2-chloroisopropyl)ether	ND		mg/kg	4.8	-	5
Acetophenone	ND		mg/kg	4.0		5
n-Nitrosodi-n-propylamine	ND		mg/kg	4.0	-	5
3-Methylphenol/4-Methylphenol	ND		mg/kg	5.8	( <del></del> )	5
Hexachloroethane	ND		mg/kg	3.2	-	5
Nitrobenzene	ND		mg/kg	3.6	11-0	5
Isophorone	ND		mg/kg	3.6	-	5
2-Nitrophenol	ND		mg/kg	8.7	-	5
2,4-Dimethylphenol	ND		mg/kg	4.0	-	5
Bis(2-chloroethoxy)methane	ND		mg/kg	4.4	-	5
2,4-Dichlorophenol	ND		mg/kg	3.6	1-4	5
Naphthalene	ND		mg/kg	4.0	_	5
4-Chloroaniline	ND		mg/kg	4.0	-	5
Hexachlorobutadiene	ND		mg/kg	4.0	-	5
Caprolactam	ND		mg/kg	4.0	-	5
p-Chloro-m-cresol	ND		mg/kg	4.0	-	5
2-Methylnaphthalene	ND		mg/kg	4.8	-	5
Hexachlorocyclopentadiene	ND		mg/kg	12	-	5
1,2,4,5-Tetrachlorobenzene	ND		mg/kg	4.0	-	5
2,4,6-Trichlorophenol	ND		mg/kg	2.4	-	5
2,4,5-Trichlorophenol	ND		mg/kg	4.0	7 <del>-</del>	5
Biphenyl	ND		mg/kg	9.2	_	5
2-Chloronaphthalene	ND		mg/kg	4.0	-	5



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-02 D Date Collected: 08/29/22 10:30

Client ID: LRN005:TP-13:D082922 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS -	Westborough Lab					
2-Nitroaniline	ND		mg/kg	4.0	-	5
Dimethyl phthalate	ND		mg/kg	4.0	-	5
2,6-Dinitrotoluene	ND		mg/kg	4.0	-	5
Acenaphthylene	ND		mg/kg	3.2	-	5
3-Nitroaniline	ND		mg/kg	4.0	-	5
Acenaphthene	ND		mg/kg	3.2	_	5
2,4-Dinitrophenol	ND		mg/kg	19	-	5
4-Nitrophenol	ND		mg/kg	5.6		5
2,4-Dinitrotoluene	ND		mg/kg	4.0	-	5
Dibenzofuran	ND		mg/kg	4.0	-	5
2,3,4,6-Tetrachlorophenol	ND		mg/kg	4.0	-	5
Diethyl phthalate	ND		mg/kg	4.0		5
Fluorene	ND		mg/kg	4.0	-	5
4-Chlorophenyl phenyl ether	ND		mg/kg	4.0	_	5
4-Nitroaniline	ND		mg/kg	4.0	-	5
4,6-Dinitro-o-cresol	ND		mg/kg	10		5
NDPA/DPA	ND		mg/kg	3.2	- / <del>-</del> /	5
4-Bromophenyl phenyl ether	ND		mg/kg	4.0	-	5
Hexachlorobenzene	ND		mg/kg	2.4	-	5
Pentachlorophenol	ND		mg/kg	3.2		5
Atrazine	ND		mg/kg	3.2		5
Phenanthrene	12.		mg/kg	2.4		5
Anthracene	3.1		mg/kg	2.4		5
Carbazole	ND		mg/kg	4.0	-	5
Di-n-butylphthalate	ND		mg/kg	4.0	34	5
Fluoranthene	20.		mg/kg	2.4		5
Pyrene	15.		mg/kg	2.4	-	5
Butyl benzyl phthalate	ND		mg/kg	4.0	-	5
3,3'-Dichlorobenzidine	ND		mg/kg	4.0		5
Benzo(a)anthracene	7.8		mg/kg	2.4		5
Chrysene	7.7		mg/kg	2.4		5
Bis(2-ethylhexyl)phthalate	9.3		mg/kg	4.0	- 1 <del>- 1</del> -	5
Di-n-octylphthalate	ND		mg/kg	4.0		5
Benzo(b)fluoranthene	9.5		mg/kg	2.4		5
Benzo(k)fluoranthene	3.0		mg/kg	2.4	-	5
Benzo(a)pyrene	6.8		mg/kg	3.2		5
Indeno(1,2,3-cd)pyrene	5.2		mg/kg	3.2		5



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

SAMPLE RESULTS

Lab ID: L2247388-02 D Date Collected: 08/29/22 10:30

Client ID: LRN005:TP-13:D082922 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS	S - Westborough Lab					
Dibenzo(a,h)anthracene	ND		mg/kg	2.4	_	5
Benzo(ghi)perylene	4.4		mg/kg	3.2	-	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria					
2-Fluorophenol	88		25-120					
Phenol-d6	98		10-120					
Nitrobenzene-d5	111		23-120					
2-Fluorobiphenyl	82		30-120					
2,4,6-Tribromophenol	102		10-136					
4-Terphenyl-d14	88		18-120					



L2247388

08/29/22 12:30

**Project Name:** CITY OF LORAIN

**Project Number:** 15011

**SAMPLE RESULTS** 

Report Date:

Lab Number:

**Date Collected:** 

11/02/22

Lab ID: D L2247388-03 Client ID: LRN005:TP-12-3:D082922

Sample Location: FORMER ST. JOE'S Date Received: 09/01/22 Field Prep: Not Specified

Sample Depth:

Matrix: Soil 1,8270D Analytical Method:

09/13/22 18:29 Analytical Date:

Analyst: MG 64% Percent Solids:

Extraction Method: EPA 3546 **Extraction Date:** 09/10/22 17:27

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS -	Westborough Lab					
Benzaldehyde	ND		mg/kg	5.0	_	5
Phenol	ND		mg/kg	3.8		5
Bis(2-chloroethyl)ether	ND		mg/kg	3.4	- ·	5
2-Chlorophenol	ND		mg/kg	3.8	104	5
2-Methylphenol	ND		mg/kg	3.8		5
Bis(2-chloroisopropyl)ether	ND		mg/kg	4.6	-	5
Acetophenone	ND		mg/kg	3.8	1-1	5
n-Nitrosodi-n-propylamine	ND		mg/kg	3.8	1,44	5
3-Methylphenol/4-Methylphenol	ND		mg/kg	5.5	( <del></del> )	5
Hexachloroethane	ND		mg/kg	3.0	-	5
Nitrobenzene	ND		mg/kg	3.4	11-0	5
sophorone	ND		mg/kg	3.4	-	5
2-Nitrophenol	ND		mg/kg	8.2	-	5
2,4-Dimethylphenol	ND		mg/kg	3.8	-	5
Bis(2-chloroethoxy)methane	ND		mg/kg	4.1	-	5
2,4-Dichlorophenol	ND		mg/kg	3.4	1,22	5
Naphthalene	ND		mg/kg	3.8	_	5
4-Chloroaniline	ND		mg/kg	3.8	-	5
Hexachlorobutadiene	ND		mg/kg	3.8	-	5
Caprolactam	ND		mg/kg	3.8	-	5
o-Chloro-m-cresol	ND		mg/kg	3.8		5
2-Methylnaphthalene	ND		mg/kg	4.6	-	5
Hexachlorocyclopentadiene	ND		mg/kg	11	-	5
1,2,4,5-Tetrachlorobenzene	ND		mg/kg	3.8	1-0	5
2,4,6-Trichlorophenol	ND		mg/kg	2.3	-	5
2,4,5-Trichlorophenol	ND		mg/kg	3.8	-	5
Biphenyl	ND		mg/kg	8.7	-	5
2-Chloronaphthalene	ND		mg/kg	3.8	_	5



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-03 D Date Collected: 08/29/22 12:30

Client ID: LRN005:TP-12-3:D082922 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	<b>Dilution Factor</b>
Semivolatile Organics by GC/MS - W	estborough Lab					
2-Nitroaniline	ND		mg/kg	3.8	-	5
Dimethyl phthalate	ND		mg/kg	3.8	-	5
2,6-Dinitrotoluene	ND		mg/kg	3.8	_	5
Acenaphthylene	ND		mg/kg	3.0		5
3-Nitroaniline	ND		mg/kg	3.8	_	5
Acenaphthene	3.5		mg/kg	3.0	-	5
2,4-Dinitrophenol	ND		mg/kg	18	-	5
4-Nitrophenol	ND		mg/kg	5.3	_	5
2,4-Dinitrotoluene	ND		mg/kg	3.8	-	5
Dibenzofuran	ND		mg/kg	3.8	_	5
2,3,4,6-Tetrachlorophenol	ND		mg/kg	3.8		5
Diethyl phthalate	ND		mg/kg	3.8		5
Fluorene	3.8		mg/kg	3.8	-	5
4-Chlorophenyl phenyl ether	ND		mg/kg	3.8		5
4-Nitroaniline	ND		mg/kg	3.8	-	5
4,6-Dinitro-o-cresol	ND		mg/kg	9.9		5
NDPA/DPA	ND		mg/kg	3.0	-	5
4-Bromophenyl phenyl ether	ND		mg/kg	3.8	-	5
Hexachlorobenzene	ND		mg/kg	2.3		5
Pentachlorophenol	ND		mg/kg	3.0	-	5
Atrazine	ND		mg/kg	3.0		5
Phenanthrene	32.		mg/kg	2.3	-	5
Anthracene	8.1		mg/kg	2.3		5
Carbazole	4.9		mg/kg	3.8	-	5
Di-n-butylphthalate	ND		mg/kg	3.8	-	5
Fluoranthene	47.		mg/kg	2.3	-	5
Pyrene	35.		mg/kg	2.3	-	5
Butyl benzyl phthalate	8.2		mg/kg	3.8		5
3,3'-Dichlorobenzidine	ND		mg/kg	3.8		5
Benzo(a)anthracene	21.		mg/kg	2.3	-	5
Chrysene	21.		mg/kg	2.3	-	5
Bis(2-ethylhexyl)phthalate	6.7		mg/kg	3.8		5
Di-n-octylphthalate	ND		mg/kg	3.8		5
Benzo(b)fluoranthene	25.		mg/kg	2.3	-	5
Benzo(k)fluoranthene	8.2		mg/kg	2.3		5
Benzo(a)pyrene	18.		mg/kg	3.0		5
	14.		mg/kg	3.0		



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

SAMPLE RESULTS

Lab ID: L2247388-03 D Date Collected: 08/29/22 12:30

Client ID: LRN005:TP-12-3:D082922 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS	G - Westborough Lab					
Dibenzo(a,h)anthracene	2.9		mg/kg	2.3	-	5
Benzo(ghi)perylene	12.		mg/kg	3.0		5

Surrogate	% Recovery	Acceptance Qualifier Criteria	
2-Fluorophenol	82	25-120	
Phenol-d6	85	10-120	
Nitrobenzene-d5	101	23-120	
2-Fluorobiphenyl	79	30-120	
2,4,6-Tribromophenol	92	10-136	
4-Terphenyl-d14	75	18-120	



L2247388

11/02/22

08/29/22 13:30

**Project Name:** CITY OF LORAIN

L2247388-04

**Project Number:** 15011

**SAMPLE RESULTS** 

Lab Number:

Report Date:

Date Collected:

Client ID: LRN005:TP-12-2:D082922 Date Received: 09/01/22 Sample Location: Field Prep: FORMER ST. JOE'S Not Specified

D

Sample Depth:

Lab ID:

Extraction Method: EPA 3546 Matrix: Soil **Extraction Date:** 09/10/22 17:27

Analytical Method: 1,8270D Analytical Date: 09/13/22 18:53

Analyst: MG 67% Percent Solids:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS -	Westborough Lab					
Benzaldehyde	ND		mg/kg	4.5	_	5
Phenoi	ND		mg/kg	3.4	_	5
Bis(2-chloroethyl)ether	ND		mg/kg	3.1	-	5
2-Chlorophenol	ND		mg/kg	3.4		5
2-Methylphenol	ND		mg/kg	3.4	-	5
Bis(2-chloroisopropyl)ether	ND		mg/kg	4.1		5
Acetophenone	ND		mg/kg	3.4	-	5
n-Nitrosodi-n-propylamine	ND		mg/kg	3.4	10	5
3-Methylphenol/4-Methylphenol	ND		mg/kg	4.9	( <del></del>	5
Hexachloroethane	ND		mg/kg	2.7	-	5
Nitrobenzene	ND		mg/kg	3.1	-	5
Isophorone	ND		mg/kg	3.1		5
2-Nitrophenol	ND		mg/kg	7.4	-	5
2,4-Dimethylphenol	ND		mg/kg	3.4		5
Bis(2-chloroethoxy)methane	ND		mg/kg	3.7	-	5
2,4-Dichlorophenol	ND		mg/kg	3.1		5
Naphthalene	ND		mg/kg	3.4		5
4-Chloroaniline	ND		mg/kg	3.4	-	5
Hexachlorobutadiene	ND		mg/kg	3.4	-	5
Caprolactam	ND		mg/kg	3.4		5
p-Chloro-m-cresol	ND		mg/kg	3.4	-	5
2-Methylnaphthalene	ND		mg/kg	4.1	-	5
Hexachlorocyclopentadiene	ND		mg/kg	9.8	-	5
1,2,4,5-Tetrachlorobenzene	ND		mg/kg	3.4	-	5
2,4,6-Trichlorophenol	ND		mg/kg	2.0	-	5
2,4,5-Trichlorophenol	ND		mg/kg	3.4	-	5
Biphenyl	ND		mg/kg	7.8	-	5
2-Chloronaphthalene	ND		mg/kg	3.4		5



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-04 D Date Collected: 08/29/22 13:30

Client ID: LRN005:TP-12-2:D082922 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	<b>Dilution Factor</b>
Semivolatile Organics by GC/MS -	Westborough Lab					
2-Nitroaniline	ND		mg/kg	3.4	-	5
Dimethyl phthalate	ND		mg/kg	3.4	-	5
2,6-Dinitrotoluene	ND		mg/kg	3.4	_	5
Acenaphthylene	ND		mg/kg	2.7		5
3-Nitroaniline	ND		mg/kg	3.4	-	5
Acenaphthene	ND		mg/kg	2.7	-	5
2,4-Dinitrophenol	ND		mg/kg	16	342	5
4-Nitrophenol	ND		mg/kg	4.8	_	5
2,4-Dinitrotoluene	ND		mg/kg	3.4	-	5
Dibenzofuran	ND		mg/kg	3.4	-	5
2,3,4,6-Tetrachlorophenol	ND		mg/kg	3.4	-	5
Diethyl phthalate	ND		mg/kg	3.4		5
Fluorene	ND		mg/kg	3.4		5
4-Chlorophenyl phenyl ether	ND		mg/kg	3.4		5
4-Nitroaniline	ND		mg/kg	3.4		5
4,6-Dinitro-o-cresol	ND		mg/kg	8.9		5
NDPA/DPA	ND		mg/kg	2.7	7 <del>-5</del>	5
4-Bromophenyl phenyl ether	ND		mg/kg	3.4		5
Hexachlorobenzene	ND		mg/kg	2.0		5
Pentachlorophenol	ND		mg/kg	2.7		5
Atrazine	ND		mg/kg	2.7		5
Phenanthrene	24.		mg/kg	2.0		5
Anthracene	7.8		mg/kg	2.0		5
Carbazole	ND		mg/kg	3.4	4	5
Di-n-butylphthalate	ND		mg/kg	3.4		5
Fluoranthene	40.		mg/kg	2.0	-	5
Pyrene	30.		mg/kg	2.0	-	5
Butyl benzyl phthalate	4.8		mg/kg	3.4		5
3,3'-Dichlorobenzidine	ND		mg/kg	3.4	<del></del>	5
Benzo(a)anthracene	16.		mg/kg	2.0	-	5
Chrysene	16.		mg/kg	2.0	-	5
Bis(2-ethylhexyl)phthalate	6.0		mg/kg	3.4	-	5
Di-n-octylphthalate	ND		mg/kg	3.4	-	5
Benzo(b)fluoranthene	17.		mg/kg	2.0	-	5
Benzo(k)fluoranthene	6.5		mg/kg	2.0		5
Benzo(a)pyrene	13.		mg/kg	2.7	-	5
Indeno(1,2,3-cd)pyrene	9.3		mg/kg	2.7		5



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

SAMPLE RESULTS

Lab ID: L2247388-04 D Date Collected: 08/29/22 13:30

Client ID: LRN005:TP-12-2:D082922 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS	6 - Westborough Lab					
Dibenzo(a,h)anthracene	2.0		mg/kg	2.0	-	5
Benzo(ghi)perylene	7.3		mg/kg	2.7		5

Surrogate	% Recovery	Acceptance Qualifier Criteria
2-Fluorophenol	82	25-120
Phenol-d6	86	10-120
Nitrobenzene-d5	105	23-120
2-Fluorobiphenyl	79	30-120
2,4,6-Tribromophenol	97	10-136
4-Terphenyl-d14	76	18-120



L2247388

08/29/22 14:30

**Project Name:** CITY OF LORAIN

**Project Number:** 15011

**SAMPLE RESULTS** 

Report Date: 11/02/22

Lab Number:

Date Collected:

Lab ID: D L2247388-05 LRN005:TP-12-1:D082922 Client ID: Sample Location: FORMER ST. JOE'S

Date Received: 09/01/22

Field Prep: Not Specified

Sample Depth:

Percent Solids:

Matrix: Soil Analytical Method: 1,8270D Analytical Date: 09/13/22 19:16

Analyst: MG 64% Extraction Method: EPA 3546 **Extraction Date:** 09/10/22 17:27

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS -	Westborough Lab					
Benzaldehyde	ND		mg/kg	4.9	_	5
Phenol	ND		mg/kg	3.7	_	5
Bis(2-chloroethyl)ether	ND		mg/kg	3.4	-	5
2-Chlorophenol	ND		mg/kg	3.7	- 10 ( <del>-1</del> )	5
2-Methylphenol	ND		mg/kg	3.7		5
Bis(2-chloroisopropyl)ether	ND		mg/kg	4.5	-	5
Acetophenone	ND		mg/kg	3.7	-	5
n-Nitrosodi-n-propylamine	ND		mg/kg	3.7	-	5
3-Methylphenol/4-Methylphenol	ND		mg/kg	5.4		5
Hexachloroethane	ND		mg/kg	3.0	-	5
Nitrobenzene	ND		mg/kg	3.4	-	5
Isophorone	ND		mg/kg	3.4	-	5
2-Nitrophenol	ND		mg/kg	8.0	_	5
2,4-Dimethylphenol	ND		mg/kg	3.7	-	5
Bis(2-chloroethoxy)methane	ND		mg/kg	4.0	-	5
2,4-Dichlorophenol	ND		mg/kg	3.4	1,24	5
Naphthalene	ND		mg/kg	3.7	-	5
4-Chloroaniline	ND		mg/kg	3.7		5
Hexachlorobutadiene	ND		mg/kg	3.7	-	5
Caprolactam	ND		mg/kg	3.7	-	5
p-Chloro-m-cresol	ND		mg/kg	3.7	_	5
2-Methylnaphthalene	ND		mg/kg	4.5	-	5
Hexachlorocyclopentadiene	ND		mg/kg	11	-	5
1,2,4,5-Tetrachlorobenzene	ND		mg/kg	3.7	-	5
2,4,6-Trichlorophenol	ND		mg/kg	2.2	-	5
2,4,5-Trichlorophenol	ND		mg/kg	3.7	-	5
Biphenyl	ND		mg/kg	8.5	_	5
2-Chloronaphthalene	ND		mg/kg	3.7	_	5



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-05 D Date Collected: 08/29/22 14:30

Client ID: LRN005:TP-12-1:D082922 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS	- Westborough Lab					
2-Nitroaniline	ND		mg/kg	3.7		5
Dimethyl phthalate	ND		mg/kg	3.7		5
2,6-Dinitrotoluene	ND		mg/kg	3.7	_	5
Acenaphthylene	ND		mg/kg	3.0	_	5
3-Nitroaniline	ND		mg/kg	3.7		5
Acenaphthene	ND		mg/kg	3.0		5
2,4-Dinitrophenol	ND		mg/kg	18	( <del>-4</del> )	5
4-Nitrophenol	ND		mg/kg	5.2	- 19 <u>-2</u>	5
2,4-Dinitrotoluene	ND		mg/kg	3.7	-	5
Dibenzofuran	ND		mg/kg	3.7	-	5
2,3,4,6-Tetrachlorophenol	ND		mg/kg	3.7	_	5
Diethyl phthalate	ND		mg/kg	3.7		5
Fluorene	ND		mg/kg	3.7	-	5
4-Chlorophenyl phenyl ether	ND		mg/kg	3.7		5
4-Nitroaniline	ND		mg/kg	3.7		5
4,6-Dinitro-o-cresol	ND		mg/kg	9.7		5
NDPA/DPA	ND		mg/kg	3.0	/ <del>-</del> /	5
4-Bromophenyl phenyl ether	ND		mg/kg	3.7		5
Hexachlorobenzene	ND		mg/kg	2.2	-	5
Pentachlorophenol	ND		mg/kg	3.0	_	5
Atrazine	ND		mg/kg	3.0	_	5
Phenanthrene	9.1		mg/kg	2.2	-	5
Anthracene	2.4		mg/kg	2.2	-	5
Carbazole	ND		mg/kg	3.7	-	5
Di-n-butylphthalate	ND		mg/kg	3.7	_	5
Fluoranthene	14.		mg/kg	2.2	-	5
Pyrene	10.		mg/kg	2.2	-	5
Butyl benzyl phthalate	ND		mg/kg	3.7	-	5
3,3'-Dichlorobenzidine	ND		mg/kg	3.7	-	5
Benzo(a)anthracene	6.1		mg/kg	2.2	- 5	5
Chrysene	6.4		mg/kg	2.2	-	5
Bis(2-ethylhexyl)phthalate	ND		mg/kg	3.7	- 1. <del>- 1</del> .	5
Di-n-octylphthalate	ND		mg/kg	3.7	-	5
Benzo(b)fluoranthene	7.3		mg/kg	2.2		5
Benzo(k)fluoranthene	ND		mg/kg	2.2	-	5
Benzo(a)pyrene	5.3		mg/kg	3.0	-	5
Indeno(1,2,3-cd)pyrene	3.6		mg/kg	3.0	<del></del>	5



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-05 D Date Collected: 08/29/22 14:30

Client ID: LRN005:TP-12-1:D082922 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS	- Westborough Lab					
Dibenzo(a,h)anthracene	ND		mg/kg	2.2	-	5
Benzo(ghi)perylene	3.1		mg/kg	3.0		5

Surrogate	% Recovery	A Qualifier	cceptance Criteria	
2-Fluorophenol	70		25-120	
Phenol-d6	77		10-120	
Nitrobenzene-d5	95		23-120	
2-Fluorobiphenyl	70		30-120	
2,4,6-Tribromophenol	81		10-136	
4-Terphenyl-d14	65		18-120	



**Project Name:** CITY OF LORAIN

**Project Number:** 15011

**SAMPLE RESULTS** 

Report Date: 11/02/22

Client ID: LRN005:CTP-3:D083022 Sample Location: FORMER ST. JOE'S

L2247388-06

Date Received: 09/01/22

Field Prep:

Lab Number:

Date Collected:

Not Specified

08/30/22 09:30

L2247388

Sample Depth:

Lab ID:

Matrix: Soil Analytical Method: 1,8270D Analytical Date:

09/13/22 19:40 MG

Analyst: 72% Percent Solids:

Extraction Method: EPA 3546 **Extraction Date:** 09/11/22 17:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS -	Westborough Lab					
Benzaldehyde	ND		mg/kg	0.88		1
Phenol	ND		mg/kg	0.67		1
Bis(2-chloroethyl)ether	ND		mg/kg	0.60		1
2-Chlorophenol	ND		mg/kg	0.67		1
2-Methylphenol	ND		mg/kg	0.67		1
Bis(2-chloroisopropyl)ether	ND		mg/kg	0.80	1,6-	1
Acetophenone	ND		mg/kg	0.67		1
n-Nitrosodi-n-propylamine	ND		mg/kg	0.67	4-	1
3-Methylphenol/4-Methylphenol	ND		mg/kg	0.96		1
Hexachloroethane	ND		mg/kg	0.53		1
Nitrobenzene	ND		mg/kg	0.60		1
Isophorone	ND		mg/kg	0.60		1
2-Nitrophenol	ND		mg/kg	1.4		1
2,4-Dimethylphenol	ND		mg/kg	0.67		1
Bis(2-chloroethoxy)methane	ND		mg/kg	0.72		1
2,4-Dichlorophenol	ND		mg/kg	0.60		1
Naphthalene	ND		mg/kg	0.67		1
4-Chloroaniline	ND		mg/kg	0.67		1
Hexachlorobutadiene	ND		mg/kg	0.67		1
Caprolactam	ND		mg/kg	0.67	14-	1
p-Chloro-m-cresol	ND		mg/kg	0.67		1
2-Methylnaphthalene	ND		mg/kg	0.80		1
Hexachlorocyclopentadiene	ND		mg/kg	1.9		1
1,2,4,5-Tetrachlorobenzene	ND		mg/kg	0.67		1
2,4,6-Trichlorophenol	ND		mg/kg	0.40	-	1
2,4,5-Trichlorophenol	ND		mg/kg	0.67		1
Biphenyl	ND		mg/kg	1.5		1
2-Chloronaphthalene	ND		mg/kg	0.67	-	1



**Project Name:** CITY OF LORAIN

**Project Number:** 15011

**SAMPLE RESULTS** 

Report Date: 11/02/22

Lab ID: L2247388-06

Client ID: LRN005:CTP-3:D083022 Sample Location: FORMER ST. JOE'S

Date Collected:

Lab Number:

08/30/22 09:30

L2247388

Date Received: 09/01/22

Field Prep:

Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS -	- Westborough Lab					
2-Nitroaniline	ND		mg/kg	0.67		1
Dimethyl phthalate	ND		mg/kg	0.67		1
2,6-Dinitrotoluene	ND		mg/kg	0.67		1
Acenaphthylene	ND		mg/kg	0.53		1
3-Nitroaniline	ND		mg/kg	0.67		1
Acenaphthene	0.56		mg/kg	0.53		1
2,4-Dinitrophenol	ND		mg/kg	3.2		1
4-Nitrophenol	ND		mg/kg	0.94		1
2,4-Dinitrotoluene	ND		mg/kg	0.67		1
Dibenzofuran	ND		mg/kg	0.67		1
2,3,4,6-Tetrachlorophenol	ND		mg/kg	0.67	( <del>4</del> )	1
Diethyl phthalate	ND		mg/kg	0.67		1
Fluorene	ND		mg/kg	0.67		1
4-Chlorophenyl phenyl ether	ND		mg/kg	0.67		1
4-Nitroaniline	ND		mg/kg	0.67		1
4,6-Dinitro-o-cresol	ND		mg/kg	1.7		1
NDPA/DPA	ND		mg/kg	0.53		1
4-Bromophenyl phenyl ether	ND		mg/kg	0.67		1
Hexachlorobenzene	ND		mg/kg	0.40	-	1
Pentachlorophenol	ND		mg/kg	0.53		1
Atrazine	ND		mg/kg	0.53		1
Phenanthrene	1.7		mg/kg	0.40		1
Anthracene	0.41		mg/kg	0.40		1
Carbazole	ND		mg/kg	0.67		1
Di-n-butylphthalate	ND		mg/kg	0.67		1.
Fluoranthene	1.3		mg/kg	0.40	-	1
Pyrene	1.1		mg/kg	0.40		1
Butyl benzyl phthalate	ND		mg/kg	0.67	-	1
3,3'-Dichlorobenzidine	ND		mg/kg	0.67		1
Benzo(a)anthracene	0.62		mg/kg	0.40		1
Chrysene	0.67		mg/kg	0.40		1
Bis(2-ethylhexyl)phthalate	2.3		mg/kg	0.67	-	1
Di-n-octylphthalate	ND		mg/kg	0.67		1
Benzo(b)fluoranthene	0.74		mg/kg	0.40		1
Benzo(k)fluoranthene	ND		mg/kg	0.40		1
Benzo(a)pyrene	0.60		mg/kg	0.53	-	1
Indeno(1,2,3-cd)pyrene	ND		mg/kg	0.53		1



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-06 Date Collected: 08/30/22 09:30

Client ID: LRN005:CTP-3:D083022 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS	S - Westborough Lab					
Dibenzo(a,h)anthracene	ND		mg/kg	0.40		1
Benzo(ghi)perylene	ND		mg/kg	0.53		1

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2-Fluorophenol	53		25-120	
Phenol-d6	53		10-120	
Nitrobenzene-d5	62		23-120	
2-Fluorobiphenyl	45		30-120	
2,4,6-Tribromophenol	53		10-136	
4-Terphenyl-d14	39		18-120	



**Project Name:** CITY OF LORAIN

**Project Number:** 15011

**SAMPLE RESULTS** 

Report Date: 11/02/22

Lab ID: L2247388-07

Client ID: LRN005:CTP-2:D083022 Sample Location: FORMER ST. JOE'S

Date Received: 09/01/22

Field Prep:

Lab Number:

Date Collected:

Not Specified

08/30/22 11:00

L2247388

Sample Depth:

Matrix: Soil 1,8270D Analytical Method: Analytical Date: 09/13/22 20:04

Analyst: MG 52% Percent Solids:

Extraction	Method:	EPA 3546
Extraction	Date:	09/11/22 17:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS -	Westborough Lab					
Benzaldehyde	ND		mg/kg	1.2		1
Phenol	ND		mg/kg	0.90		1
Bis(2-chloroethyl)ether	ND		mg/kg	0.81	-	1
2-Chlorophenol	ND		mg/kg	0.90	-	1
2-Methylphenol	ND		mg/kg	0.90		1
Bis(2-chloroisopropyl)ether	ND		mg/kg	1.1		1
Acetophenone	ND		mg/kg	0.90	-	1
n-Nitrosodi-n-propylamine	ND		mg/kg	0.90	4	1
3-Methylphenol/4-Methylphenol	ND		mg/kg	1.3		1
Hexachloroethane	ND		mg/kg	0.72		1
Nitrobenzene	ND		mg/kg	0.81		1
sophorone	ND		mg/kg	0.81		1
2-Nitrophenol	ND		mg/kg	1.9		1
2,4-Dimethylphenol	ND		mg/kg	0.90	-	1
Bis(2-chloroethoxy)methane	ND		mg/kg	0.97		1
2,4-Dichlorophenol	ND		mg/kg	0.81		1
Naphthalene	1.6		mg/kg	0.90	-	1
4-Chloroaniline	ND		mg/kg	0.90		1
Hexachlorobutadiene	ND		mg/kg	0.90		1
Caprolactam	ND		mg/kg	0.90		1
p-Chloro-m-cresol	ND		mg/kg	0.90	-	1
2-Methylnaphthalene	1.5		mg/kg	1.1		1
Hexachlorocyclopentadiene	ND		mg/kg	2.6		1
1,2,4,5-Tetrachlorobenzene	ND		mg/kg	0.90		1
2,4,6-Trichlorophenol	ND		mg/kg	0.54		1
2,4,5-Trichlorophenol	ND		mg/kg	0.90		1
Biphenyl	ND		mg/kg	2.0		1
2-Chloronaphthalene	ND		mg/kg	0.90		1



**Project Name:** CITY OF LORAIN

**Project Number:** 15011

Report Date:

11/02/22

L2247388

**SAMPLE RESULTS** 

Lab ID: L2247388-07

Client ID: LRN005:CTP-2:D083022 Sample Location: FORMER ST. JOE'S

Date Collected: 08/30/22 11:00

Date Received: 09/01/22

Field Prep:

Lab Number:

Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS -	Westborough Lab					
2-Nitroaniline	ND		mg/kg	0.90		1
Dimethyl phthalate	ND		mg/kg	0.90		1
2,6-Dinitrotoluene	ND		mg/kg	0.90		1
Acenaphthylene	ND		mg/kg	0.72		1
3-Nitroaniline	ND		mg/kg	0.90	.=-	1
Acenaphthene	3.4		mg/kg	0.72		1
2,4-Dinitrophenol	ND		mg/kg	4.3		1
4-Nitrophenol	ND		mg/kg	1.2		1
2,4-Dinitrotoluene	ND		mg/kg	0.90		1
Dibenzofuran	2.5		mg/kg	0.90		1
2,3,4,6-Tetrachlorophenol	ND		mg/kg	0.90		1
Diethyl phthalate	ND		mg/kg	0.90		1
Fluorene	3.9		mg/kg	0.90		1
4-Chlorophenyl phenyl ether	ND		mg/kg	0.90		1
4-Nitroaniline	ND		mg/kg	0.90		1
4,6-Dinitro-o-cresol	ND		mg/kg	2.3		1
NDPA/DPA	ND		mg/kg	0.72	7 <del></del> 5	1
4-Bromophenyl phenyl ether	ND		mg/kg	0.90		1
Hexachlorobenzene	ND		mg/kg	0.54	3	1
Pentachlorophenol	ND		mg/kg	0.72		1
Atrazine	ND		mg/kg	0.72	5	1
Phenanthrene	21.		mg/kg	0.54		1
Anthracene	7.5		mg/kg	0.54		1
Carbazole	3.4		mg/kg	0.90	74-	1
Di-n-butylphthalate	ND		mg/kg	0.90	3-	1
Fluoranthene	18.		mg/kg	0.54	7 <del>-4</del> 5	1
Pyrene	14.		mg/kg	0.54		1
Butyl benzyl phthalate	ND		mg/kg	0.90	-	1
3,3'-Dichlorobenzidine	ND		mg/kg	0.90		1
Benzo(a)anthracene	8.7		mg/kg	0.54	-	1
Chrysene	7.7		mg/kg	0.54		1
Bis(2-ethylhexyl)phthalate	9.6		mg/kg	0.90	-	1
Di-n-octylphthalate	ND		mg/kg	0.90		1
Benzo(b)fluoranthene	8.2		mg/kg	0.54	-	1
Benzo(k)fluoranthene	2.7		mg/kg	0.54	-	1
Benzo(a)pyrene	6.7		mg/kg	0.72		1
Indeno(1,2,3-cd)pyrene	3.9		mg/kg	0.72		1



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-07 Date Collected: 08/30/22 11:00

Client ID: LRN005:CTP-2:D083022 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS	S - Westborough Lab					
Dibenzo(a,h)anthracene	0.83		mg/kg	0.54		1
Benzo(ghi)perylene	2.9		mg/kg	0.72		1

		Acceptance	
Surrogate	% Recovery	Acceptance Qualifier Criteria	
2-Fluorophenol	55	25-120	
Phenol-d6	55	10-120	
Nitrobenzene-d5	67	23-120	
2-Fluorobiphenyl	47	30-120	
2,4,6-Tribromophenol	53	10-136	
4-Terphenyl-d14	43	18-120	

08/30/22 13:00

**Project Name:** CITY OF LORAIN

**Project Number:** 15011

**SAMPLE RESULTS** 

L2247388

Lab Number:

**Date Collected:** 

Report Date: 11/02/22

Lab ID: D L2247388-08

LRN005:CTP-1:D083022 Client ID: Sample Location: FORMER ST. JOE'S

Date Received: 09/01/22

Field Prep: Not Specified

Sample Depth:

Matrix: Soil 1,8270D Analytical Method: 09/19/22 11:58 Analytical Date:

Analyst: WR 86% Percent Solids:

Extraction Method: EPA 3546

**Extraction Date:** 09/11/22 17:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS -	Westborough Lab					
Benzaldehyde	ND		mg/kg	3.8	_	5
Phenol	ND		mg/kg	2.9		5
Bis(2-chloroethyl)ether	ND		mg/kg	2.6	- ·	5
2-Chlorophenol	ND		mg/kg	2.9	14-37	5
2-Methylphenol	ND		mg/kg	2.9		5
Bis(2-chloroisopropyl)ether	ND		mg/kg	3.4	-	5
Acetophenone	ND		mg/kg	2.9	1-1	5
n-Nitrosodi-n-propylamine	ND		mg/kg	2.9	-	5
3-Methylphenol/4-Methylphenol	ND		mg/kg	4.1		5
Hexachloroethane	ND		mg/kg	2.3	-	5
Nitrobenzene	ND		mg/kg	2.6	11-0	5
sophorone	ND		mg/kg	2.6	-	5
2-Nitrophenol	ND		mg/kg	6.2	-	5
2,4-Dimethylphenol	ND		mg/kg	2.9	-	5
Bis(2-chloroethoxy)methane	ND		mg/kg	3.1	-	5
2,4-Dichlorophenol	ND		mg/kg	2.6		5
Naphthalene	ND		mg/kg	2.9	_	5
4-Chloroaniline	ND		mg/kg	2.9	-	5
Hexachlorobutadiene	ND		mg/kg	2.9	-	5
Caprolactam	ND		mg/kg	2.9	_	5
o-Chloro-m-cresol	ND		mg/kg	2.9	_	5
2-Methylnaphthalene	ND		mg/kg	3.4	-	5
Hexachlorocyclopentadiene	ND		mg/kg	8.2	/	5
1,2,4,5-Tetrachlorobenzene	ND		mg/kg	2.9	-	5
2,4,6-Trichlorophenol	ND		mg/kg	1.7	_	5
2,4,5-Trichlorophenol	ND		mg/kg	2.9	-	5
Biphenyl	ND		mg/kg	6.5	_	5
2-Chloronaphthalene	ND		mg/kg	2.9		5



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-08 D Date Collected: 08/30/22 13:00

Client ID: LRN005:CTP-1:D083022 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS -	Westborough Lab					
2-Nitroaniline	ND		mg/kg	2.9	-	5
Dimethyl phthalate	ND		mg/kg	2.9	_	5
2,6-Dinitrotoluene	ND		mg/kg	2.9	_	5
Acenaphthylene	ND		mg/kg	2.3	-	5
3-Nitroaniline	ND		mg/kg	2.9	-	5
Acenaphthene	ND		mg/kg	2.3	_	5
2,4-Dinitrophenol	ND		mg/kg	14	-	5
4-Nitrophenol	ND		mg/kg	4.0		5
2,4-Dinitrotoluene	ND		mg/kg	2.9	-	5
Dibenzofuran	ND		mg/kg	2.9		5
2,3,4,6-Tetrachlorophenol	ND		mg/kg	2.9	-	5
Diethyl phthalate	ND		mg/kg	2.9		5
Fluorene	ND		mg/kg	2.9	_	5
4-Chlorophenyl phenyl ether	ND		mg/kg	2.9		5
4-Nitroaniline	ND		mg/kg	2.9		5
4,6-Dinitro-o-cresol	ND		mg/kg	7.5	-	5
NDPA/DPA	ND		mg/kg	2.3	/ <del>-</del> /	5
4-Bromophenyl phenyl ether	ND		mg/kg	2.9	-	5
Hexachlorobenzene	ND		mg/kg	1.7	-	5
Pentachlorophenol	ND		mg/kg	2.3		5
Atrazine	ND		mg/kg	2.3		5
Phenanthrene	2.0		mg/kg	1.7	-	5
Anthracene	ND		mg/kg	1.7		5
Carbazole	ND		mg/kg	2.9	-	5
Di-n-butylphthalate	ND		mg/kg	2.9	3-6	5
Fluoranthene	ND		mg/kg	1.7	-	5
Pyrene	ND		mg/kg	1.7	-	5
Butyl benzyl phthalate	ND		mg/kg	2.9	-	5
3,3'-Dichlorobenzidine	ND		mg/kg	2.9	\ <del>-</del>	5
Benzo(a)anthracene	ND		mg/kg	1.7	-	5
Chrysene	ND		mg/kg	1.7		5
Bis(2-ethylhexyl)phthalate	ND		mg/kg	2.9	-	5
Di-n-octylphthalate	ND		mg/kg	2.9	-	5
Benzo(b)fluoranthene	ND		mg/kg	1.7	-	5
Benzo(k)fluoranthene	ND		mg/kg	1.7		5
Benzo(a)pyrene	ND		mg/kg	2.3		5
Indeno(1,2,3-cd)pyrene	ND		mg/kg	2.3	- 4	5



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-08 D Date Collected: 08/30/22 13:00

Client ID: LRN005:CTP-1:D083022 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS	S - Westborough Lab					
Dibenzo(a,h)anthracene	ND		mg/kg	1.7	-	5
Benzo(ghi)perylene	ND		mg/kg	2.3	-	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2-Fluorophenol	65		25-120	
Phenol-d6	68		10-120	
Nitrobenzene-d5	69		23-120	
2-Fluorobiphenyl	67		30-120	
2,4,6-Tribromophenol	69		10-136	
4-Terphenyl-d14	65		18-120	



**Project Name:** CITY OF LORAIN

**Project Number:** 15011

**SAMPLE RESULTS** 

Report Date: 11/02/22

Lab ID: L2247388-09

Client ID: LRN005:CTP-5:D083022 Sample Location: FORMER ST. JOE'S

Date Received: Field Prep:

Lab Number:

Date Collected:

08/30/22 08:00 09/01/22

L2247388

Not Specified

Sample Depth:

Matrix: Soil 1,8270D Analytical Method: 09/14/22 11:11 Analytical Date:

Analyst: MG 69% Percent Solids:

Extraction Method: EPA 3546 **Extraction Date:** 09/11/22 17:16

Parameter	Result	Qualifier	Units	RL	MDL	<b>Dilution Factor</b>
Semivolatile Organics by GC/MS -	Westborough Lab					
Benzaldehyde	ND		mg/kg	0.92		1
Phenol	ND		mg/kg	0.70		1
Bis(2-chloroethyl)ether	ND		mg/kg	0.63	-	1
2-Chlorophenol	ND		mg/kg	0.70		1
2-Methylphenol	ND		mg/kg	0.70	<u></u> ;	1
Bis(2-chloroisopropyl)ether	ND		mg/kg	0.83		1
Acetophenone	ND		mg/kg	0.70		1
n-Nitrosodi-n-propylamine	ND		mg/kg	0.70	4	1
3-Methylphenol/4-Methylphenol	ND		mg/kg	1.0		1
Hexachloroethane	ND		mg/kg	0.56		1
Nitrobenzene	ND		mg/kg	0.63		1
Isophorone	ND		mg/kg	0.63		1
2-Nitrophenol	ND		mg/kg	1.5		1
2,4-Dimethylphenol	ND		mg/kg	0.70		1
Bis(2-chloroethoxy)methane	ND		mg/kg	0.75	-	1
2,4-Dichlorophenol	ND		mg/kg	0.63		1
Naphthalene	ND		mg/kg	0.70		1
4-Chloroaniline	ND		mg/kg	0.70	> <del></del>	1
Hexachlorobutadiene	ND		mg/kg	0.70	, <del>4-</del> 6	1
Caprolactam	ND		mg/kg	0.70	1	1
p-Chloro-m-cresol	ND		mg/kg	0.70		1
2-Methylnaphthalene	ND		mg/kg	0.83		1
Hexachlorocyclopentadiene	ND		mg/kg	2.0		1
1,2,4,5-Tetrachlorobenzene	ND		mg/kg	0.70	1.44	1
2,4,6-Trichlorophenol	ND		mg/kg	0.42		1
2,4,5-Trichlorophenol	ND		mg/kg	0.70		1
Biphenyl	ND		mg/kg	1.6		1
2-Chloronaphthalene	ND		mg/kg	0.70		1



L2247388

Project Name: CITY OF LORAIN Lab Number:

Project Number: 15011 Report Date: 11/02/22

SAMPLE RESULTS

Lab ID: L2247388-09 Date Collected: 08/30/22 08:00

Client ID: LRN005:CTP-5:D083022 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS	- Westborough Lab					
2-Nitroaniline	ND		mg/kg	0.70		1
Dimethyl phthalate	ND		mg/kg	0.70	-	1
2,6-Dinitrotoluene	ND		mg/kg	0.70		1
Acenaphthylene	ND		mg/kg	0.56		1
3-Nitroaniline	ND		mg/kg	0.70		1
Acenaphthene	ND		mg/kg	0.56		1
2,4-Dinitrophenol	ND		mg/kg	3.3		1
4-Nitrophenol	ND		mg/kg	0.97		1
2,4-Dinitrotoluene	ND		mg/kg	0.70		1
Dibenzofuran	ND		mg/kg	0.70	-	1
2,3,4,6-Tetrachlorophenol	ND		mg/kg	0.70	-	1
Diethyl phthalate	ND		mg/kg	0.70		1
Fluorene	ND		mg/kg	0.70		1
4-Chlorophenyl phenyl ether	ND		mg/kg	0.70		1
4-Nitroaniline	ND		mg/kg	0.70		1
4,6-Dinitro-o-cresol	ND		mg/kg	1.8		1
NDPA/DPA	ND		mg/kg	0.56		1
4-Bromophenyl phenyl ether	ND		mg/kg	0.70	-	1
Hexachlorobenzene	ND		mg/kg	0.42	-	1
Pentachlorophenol	ND		mg/kg	0.56		1
Atrazine	ND		mg/kg	0.56	5	1
Phenanthrene	3.1		mg/kg	0.42		1
Anthracene	0.84		mg/kg	0.42		1
Carbazole	ND		mg/kg	0.70		1
Di-n-butylphthalate	ND		mg/kg	0.70		1
Fluoranthene	6.5		mg/kg	0.42	-	1
Pyrene	5.0		mg/kg	0.42		1
Butyl benzyl phthalate	1.2		mg/kg	0.70	-	1
3,3'-Dichlorobenzidine	ND		mg/kg	0.70		1
Benzo(a)anthracene	2.2		mg/kg	0.42		1
Chrysene	2.1		mg/kg	0.42	-	1
Bis(2-ethylhexyl)phthalate	0.81		mg/kg	0.70		1
Di-n-octylphthalate	ND		mg/kg	0.70		1
Benzo(b)fluoranthene	3.2		mg/kg	0.42		1
Benzo(k)fluoranthene	0.98		mg/kg	0.42		1
Benzo(a)pyrene	2.4		mg/kg	0.56		1
Indeno(1,2,3-cd)pyrene	1.6		mg/kg	0.56		1



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

SAMPLE RESULTS

Lab ID: L2247388-09 Date Collected: 08/30/22 08:00

Client ID: LRN005:CTP-5:D083022 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS	S - Westborough Lab					
Dibenzo(a,h)anthracene	ND		mg/kg	0.42		1
Benzo(ghi)perylene	1.4		mg/kg	0.56		1

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
2-Fluorophenol	36		25-120	
Phenol-d6	45		10-120	
Nitrobenzene-d5	30		23-120	
2-Fluorobiphenyl	41		30-120	
2,4,6-Tribromophenol	49		10-136	
4-Terphenyl-d14	54		18-120	



L2247388

08/31/22 10:00

09/12/22 14:19

**Project Name:** CITY OF LORAIN

**Project Number:** 15011

**SAMPLE RESULTS** 

Lab Number:

Date Collected:

Report Date: 11/02/22

Lab ID: D L2247388-12 Client ID: LRN005:CTP-4:D083122

Date Received: 09/01/22

Extraction Method: EPA 3546

Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth:

Matrix: Soil Analytical Method: 1,8270D Analytical Date:

**Extraction Date:** 09/14/22 10:48

Analyst: MG 71% Percent Solids:

Parameter	Result	Qualifier	Units	RL	MDL	<b>Dilution Factor</b>
Semivolatile Organics by GC/MS -	Westborough Lab					
Benzaldehyde	ND		mg/kg	3.0	_	10
Phenol	ND		mg/kg	2.3		10
Bis(2-chloroethyl)ether	ND		mg/kg	2.1		10
2-Chlorophenol	ND		mg/kg	2.3	14-37	10
2-Methylphenol	ND		mg/kg	2.3		10
Bis(2-chloroisopropyl)ether	ND		mg/kg	2.8	-	10
Acetophenone	ND		mg/kg	2.3	1-1	10
n-Nitrosodi-n-propylamine	ND		mg/kg	2.3		10
3-Methylphenol/4-Methylphenol	ND		mg/kg	3.3		10
Hexachloroethane	ND		mg/kg	1.8	_	10
Nitrobenzene	ND		mg/kg	2.1	-	10
sophorone	ND		mg/kg	2.1	-	10
2-Nitrophenol	ND		mg/kg	5.0	_	10
2,4-Dimethylphenol	ND		mg/kg	2.3	-	10
Bis(2-chloroethoxy)methane	ND		mg/kg	2.5	-	10
2,4-Dichlorophenol	ND		mg/kg	2.1		10
Naphthalene	ND		mg/kg	2.3	_	10
4-Chloroaniline	ND		mg/kg	2.3	-	10
Hexachlorobutadiene	ND		mg/kg	2.3		10
Caprolactam	ND		mg/kg	2.3	-	10
o-Chloro-m-cresol	ND		mg/kg	2.3		10
2-Methylnaphthalene	ND		mg/kg	2.8	-	10
Hexachlorocyclopentadiene	ND		mg/kg	6.6	<del>-</del>	10
1,2,4,5-Tetrachlorobenzene	ND		mg/kg	2.3		10
2,4,6-Trichlorophenol	ND		mg/kg	1.4	-	10
2,4,5-Trichlorophenol	ND		mg/kg	2.3	7-	10
Biphenyl	ND		mg/kg	5.2	-	10
2-Chloronaphthalene	ND		mg/kg	2.3	-	10



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-12 D Date Collected: 08/31/22 10:00

Client ID: LRN005:CTP-4:D083122 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS	- Westborough Lab					
2-Nitroaniline	ND		mg/kg	2.3	-	10
Dimethyl phthalate	ND		mg/kg	2.3	_	10
2,6-Dinitrotoluene	ND		mg/kg	2.3	-	10
Acenaphthylene	ND		mg/kg	1.8	-	10
3-Nitroaniline	ND		mg/kg	2.3		10
Acenaphthene	ND		mg/kg	1.8	-	10
2,4-Dinitrophenol	ND		mg/kg	11		10
4-Nitrophenol	ND		mg/kg	3.2	-	10
2,4-Dinitrotoluene	ND		mg/kg	2.3		10
Dibenzofuran	ND		mg/kg	2.3	-	10
2,3,4,6-Tetrachlorophenol	ND		mg/kg	2.3	<del>-</del>	10
Diethyl phthalate	ND		mg/kg	2.3	<del>-</del> -	10
Fluorene	ND		mg/kg	2.3	-	10
4-Chlorophenyl phenyl ether	ND		mg/kg	2.3	<del>-</del>	10
4-Nitroaniline	ND		mg/kg	2.3		10
4,6-Dinitro-o-cresol	ND		mg/kg	6.0	-	10
NDPA/DPA	ND		mg/kg	1.8	/ <del>-</del> /	10
4-Bromophenyl phenyl ether	ND		mg/kg	2.3	_	10
Hexachlorobenzene	ND		mg/kg	1.4	-	10
Pentachlorophenol	ND		mg/kg	1.8	<del>-</del> -	10
Atrazine	ND		mg/kg	1.8	-	10
Phenanthrene	11.		mg/kg	1.4	-	10
Anthracene	2.4		mg/kg	1.4	-	10
Carbazole	ND		mg/kg	2.3	_	10
Di-n-butylphthalate	ND		mg/kg	2.3	-	10
Fluoranthene	13.		mg/kg	1.4	-	10
Pyrene	9.9		mg/kg	1.4	-	10
Butyl benzyl phthalate	13.		mg/kg	2.3	_	10
3,3'-Dichlorobenzidine	ND		mg/kg	2.3	_	10
Benzo(a)anthracene	5.0		mg/kg	1.4	-	10
Chrysene	5.1		mg/kg	1.4		10
Bis(2-ethylhexyl)phthalate	26.		mg/kg	2.3	-	10
Di-n-octylphthalate	ND		mg/kg	2.3	-	10
Benzo(b)fluoranthene	6.9		mg/kg	1.4	-	10
Benzo(k)fluoranthene	1.8		mg/kg	1.4		10
Benzo(a)pyrene	4.9		mg/kg	1.8	-	10
Indeno(1,2,3-cd)pyrene	3.3		mg/kg	1.8		10



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-12 D Date Collected: 08/31/22 10:00

Client ID: LRN005:CTP-4:D083122 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS	- Westborough Lab					
Dibenzo(a,h)anthracene	ND		mg/kg	1.4	-	10
Benzo(ghi)perylene	2.8		mg/kg	1.8		10

Surrogate	% Recovery	Acceptance Qualifier Criteria
2-Fluorophenol	52	25-120
Phenol-d6	52	10-120
Nitrobenzene-d5	65	23-120
2-Fluorobiphenyl	51	30-120
2,4,6-Tribromophenol	87	10-136
4-Terphenyl-d14	46	18-120



L2247388

11/02/22

**Project Name:** CITY OF LORAIN

**Project Number:** 15011

**SAMPLE RESULTS** 

Date Collected: 08/29/22 10:30

Lab Number:

Report Date:

Lab ID: L2247388-15 Client ID: Date Received: 09/01/22 LRN005:W-1:W082922 Sample Location: Field Prep: FORMER ST. JOE'S Not Specified

Sample Depth: Extraction Method: EPA 3510C Matrix: Water

**Extraction Date:** 09/03/22 13:49 Analytical Method: 1,8270D Analytical Date: 09/05/22 17:21

Analyst: SZ

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS -	Westborough Lab					
Benzaldehyde	ND		ug/l	5.0		1
Phenol	10		ug/l	5.0		1
2-Chlorophenol	ND		ug/l	2.0		1
2-Methylphenol	ND		ug/l	5.0		1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0		1
Acetophenone	ND		ug/l	5.0		1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0		1
Nitrobenzene	ND		ug/l	1.4	4	1
Isophorone	ND		ug/l	5.0		1
2-Nitrophenol	ND		ug/l	5.0		1
2,4-Dimethylphenol	ND		ug/l	5.0		1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0		1
2,4-Dichlorophenol	ND		ug/l	5.0		1
4-Chloroaniline	ND		ug/l	3.7		1
Caprolactam	ND		ug/l	10		1
p-Chloro-m-cresol	ND		ug/l	2.0		1
2-Methylnaphthalene	ND		ug/l	2.0		1
Hexachlorocyclopentadiene	ND		ug/l	20		1
1,2,4,5-Tetrachlorobenzene	ND		ug/l	1.7	-	1
2,4,6-Trichlorophenol	ND		ug/l	5.0		1
2,4,5-Trichlorophenol	ND		ug/l	5.0		1
Biphenyl	ND		ug/l	2.0	: <del></del> :	1
2-Chloronaphthalene	ND		ug/l	2.0		1
2-Nitroaniline	ND		ug/l	5.0		1
Dimethyl phthalate	ND		ug/l	5.0		1
Acenaphthylene	ND		ug/l	2.0		1
3-Nitroaniline	ND		ug/l	5.0		1
Acenaphthene	ND		ug/l	2.0		1

Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-15 Date Collected: 08/29/22 10:30

Client ID: LRN005:W-1:W082922 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - W	estborough Lab					
2,4-Dinitrophenol	ND		ug/l	20		1
4-Nitrophenol	ND		ug/l	10		1
Dibenzofuran	ND		ug/l	2.0	-	1
2,3,4,6-Tetrachlorophenol	ND		ug/l	5.0		1
Diethyl phthalate	ND		ug/l	5.0		1
Fluorene	ND		ug/l	2.0		1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0		1
4-Nitroaniline	ND		ug/l	5.0		1
NDPA/DPA	ND		ug/l	2.0		1
4-Bromophenyl phenyl ether	ND		ug/l	2.0		1
Atrazine	ND		ug/l	3.0	-	1
Phenanthrene	ND		ug/l	2.0	4	1
Anthracene	ND		ug/l	2.0	; <del></del>	1
Carbazole	ND		ug/l	2.0		1
Di-n-butylphthalate	ND		ug/l	5.0		1
Fluoranthene	ND		ug/l	2.0		1
Pyrene	ND		ug/l	2.0	j	1
Butyl benzyl phthalate	ND		ug/l	5.0		1
Chrysene	ND		ug/l	1.4		1
Di-n-octylphthalate	ND		ug/l	5.0		1

% Recovery	Qualifier	Acceptance Criteria	
48		21-120	
44		10-120	
55		23-120	
54		15-120	
55		10-120	
		44.446	
	55 54 55	55 54 55	55 23-120 54 15-120



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

SAMPLE RESULTS

Lab ID: L2247388-15 Date Collected: 08/29/22 10:30

Client ID: LRN005:W-1:W082922 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth:

Parameter

Matrix: Water Extraction Method: EPA 3510C

Result

Analytical Method: 1,8270D-SIM Extraction Date: 09/03/22 13:53
Analytical Date: 09/06/22 17:00

Analyst: DV

Parameter	Kesuit	Qualifier	Units	KL	MIDL	Dilution Factor
Semivolatile Organics by GC/MS	-SIM - Westborough L	ab				
Bis(2-chloroethyl)ether	ND		ug/l	0.10		1
n-Nitrosodi-n-propylamine	ND		ug/l	0.10		1
Hexachloroethane	ND		ug/l	0.20		1
Naphthalene	0.75		ug/l	0.10		1
Hexachlorobutadiene	ND		ug/l	0.40	()	1
2,6-Dinitrotoluene	ND		ug/l	0.40		1
2,4-Dinitrotoluene	ND		ug/l	0.40		1
4,6-Dinitro-o-cresol	ND		ug/l	0.70	-	1
Hexachlorobenzene	ND		ug/l	0.02		1
Pentachlorophenol	0.80		ug/l	0.10		1
3,3'-Dichlorobenzidine	ND		ug/l	0.40		1
Benzo(a)anthracene	ND		ug/l	0.05		1
Bis(2-ethylhexyl)phthalate	ND		ug/l	1.0		1
Benzo(b)fluoranthene	ND		ug/l	0.05		1
Benzo(k)fluoranthene	ND		ug/l	0.10		1
Benzo(a)pyrene	ND		ug/l	0.10		1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10		1
Dibenzo(a,h)anthracene	ND		ug/l	0.05		1
Benzo(ghi)perylene	ND		ug/l	0.10	-	1

Qualifier

Units

RL

MDL

**Dilution Factor** 

Surrogate	% Recovery	Acceptance Qualifier Criteria	
2-Fluorophenol	47	21-120	
Phenol-d6	38	10-120	
Nitrobenzene-d5	58	23-120	
2-Fluorobiphenyl	54	15-120	
2,4,6-Tribromophenol	78	10-120	
4-Terphenyl-d14	58	41-149	



**Project Name:** CITY OF LORAIN

**Project Number:** 15011

**SAMPLE RESULTS** 

**Report Date:** 11/02/22

Client ID: LRN005:W-2:W083022 Sample Location: FORMER ST. JOE'S

L2247388-16

Date Received: 09/01/22

Field Prep:

Date Collected:

Lab Number:

Not Specified

08/30/22 08:00

L2247388

Sample Depth:

Lab ID:

Matrix: Water Analytical Method: 1.8270D Analytical Date: 09/07/22 05:30

**Extraction Date:** 09/04/22 08:21

Extraction Method: EPA 3510C

SZ Analyst:

Result Qualifier Units RL MDL **Dilution Factor** Parameter Semivolatile Organics by GC/MS - Westborough Lab Benzaldehyde ND 5.0 1 ug/l Phenol ND 5.0 ug/l 1 2-Chlorophenol ND ug/l 2.0 ND 1 2-Methylphenol ug/l 5.0 Bis(2-chloroisopropyl)ether ND ug/l 2.0 1 Acetophenone ND ug/l 5.0 1 3-Methylphenol/4-Methylphenol ND 5.0 1 ug/l --Nitrobenzene ND 1.4 1 ug/l ND 1 Isophorone ug/l 5.0 --2-Nitrophenol ND 5.0 1 ug/l 2,4-Dimethylphenol ND 5.0 1 ug/l ND Bis(2-chloroethoxy)methane 1 ug/l 5.0 --2,4-Dichlorophenol ND 5.0 1 ug/l ND 3.7 1 4-Chloroaniline ug/l Caprolactam ND 10 1 ug/l --ND 2.0 1 p-Chloro-m-cresol ug/l ND 1 2-Methylnaphthalene ug/l 2.0 ND 20 1 Hexachlorocyclopentadiene ug/l --1,2,4,5-Tetrachlorobenzene ND 1.7 1 ug/l 1 ND 2,4,6-Trichlorophenol ug/I 5.0 2,4,5-Trichlorophenol ND 5.0 1 ug/l Biphenyl ND ug/l 2.0 1 ND 2-Chloronaphthalene 2.0 1 ug/I --2-Nitroaniline ND 5.0 1 ug/l --1 Dimethyl phthalate ND 5.0 ug/l ND 1 Acenaphthylene ug/l 2.0 3-Nitroaniline ND 1 5.0 ug/l ND 1 Acenaphthene ug/l 2.0



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-16 Date Collected: 08/30/22 08:00

Client ID: LRN005:W-2:W083022 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - W	estborough Lab					
2,4-Dinitrophenol	ND		ug/l	20		1
4-Nitrophenol	ND		ug/l	10		1
Dibenzofuran	ND		ug/l	2.0	-	1
2,3,4,6-Tetrachlorophenol	ND		ug/l	5.0		1
Diethyl phthalate	ND		ug/l	5.0		1
Fluorene	ND		ug/l	2.0		1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0		1
4-Nitroaniline	ND		ug/l	5.0		1
NDPA/DPA	ND		ug/l	2.0		1
4-Bromophenyl phenyl ether	ND		ug/l	2.0		1
Atrazine	ND		ug/l	3.0	-	1
Phenanthrene	ND		ug/l	2.0	4	1
Anthracene	ND		ug/l	2.0	; <del></del>	1
Carbazole	ND		ug/l	2.0		1
Di-n-butylphthalate	ND		ug/l	5.0		1
Fluoranthene	ND		ug/l	2.0		1
Pyrene	ND		ug/l	2.0	j	1
Butyl benzyl phthalate	ND		ug/l	5.0		1
Chrysene	ND		ug/l	1.4		1
Di-n-octylphthalate	ND		ug/l	5.0		1

% Recovery	Acceptance Qualifier Criteria
67	21-120
60	10-120
79	23-120
73	15-120
74	10-120
73	41-149
	73 74



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

SAMPLE RESULTS

Lab ID: L2247388-16 Date Collected: 08/30/22 08:00

Client ID: LRN005:W-2:W083022 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth:

Matrix: Water Extraction Method: EPA 3510C

Analytical Method: 1,8270D-SIM Extraction Date: 09/04/22 08:22
Analytical Date: 09/06/22 17:16

Analyst: DV

Parameter	Result	Qualifier	Units	RL	MDL	<b>Dilution Factor</b>
Semivolatile Organics by GC/MS	-SIM - Westborough La	ab				
Bis(2-chloroethyl)ether	ND		ug/l	0.10		1
n-Nitrosodi-n-propylamine	ND		ug/l	0.10		1
Hexachloroethane	ND		ug/l	0.20	-	1
Naphthalene	0.40		ug/l	0.10	-	1
Hexachlorobutadiene	ND		ug/l	0.40		1
2,6-Dinitrotoluene	ND		ug/l	0.40		1
2,4-Dinitrotoluene	ND		ug/l	0.40	-	1
4,6-Dinitro-o-cresol	ND		ug/l	0.70	4	1
Hexachlorobenzene	ND		ug/l	0.02		1
Pentachlorophenol	1.4		ug/l	0.10		1
3,3'-Dichlorobenzidine	ND		ug/l	0.40		1
Benzo(a)anthracene	0.08		ug/l	0.05		1
Bis(2-ethylhexyl)phthalate	1.7		ug/l	1.0		1
Benzo(b)fluoranthene	ND		ug/l	0.05		1
Benzo(k)fluoranthene	ND		ug/l	0.10		1
Benzo(a)pyrene	ND		ug/l	0.10		1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10		1
Dibenzo(a,h)anthracene	ND		ug/l	0.05		1
Benzo(ghi)perylene	ND		ug/l	0.10	-	1

Surrogate	% Recovery	Acceptance Qualifier Criteria	
2-Fluorophenol	64	21-120	
Phenol-d6	54	10-120	
Nitrobenzene-d5	84	23-120	
2-Fluorobiphenyl	76	15-120	
2,4,6-Tribromophenol	93	10-120	
4-Terphenyl-d14	76	41-149	



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

SAMPLE RESULTS

09/07/22 06:15

 Lab ID:
 L2247388-17
 Date Collected:
 08/30/22 13:30

 Client ID:
 LRN005:W-3:W083022
 Date Received:
 09/01/22

 Sample Location:
 FORMER ST. JOE'S
 Field Prep:
 Not Specified

Sample Depth:

Analytical Date:

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 1,8270D Extraction Date: 09/04/22 08:21

Analyst: SZ

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS -	Westborough Lab					
Benzaldehyde	ND		ug/l	5.0		1
Phenoi	16		ug/l	5.0		1
2-Chlorophenol	ND		ug/l	2.0		1
2-Methylphenol	ND		ug/l	5.0		1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	( <del></del> )	1
Acetophenone	ND		ug/l	5.0		1
3-Methylphenol/4-Methylphenol	8.6		ug/l	5.0		1
Nitrobenzene	ND		ug/l	1.4	- 4	1
Isophorone	ND		ug/l	5.0		1
2-Nitrophenol	ND		ug/l	5.0		1
2,4-Dimethylphenol	ND		ug/l	5.0		1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0		1
2,4-Dichlorophenol	ND		ug/l	5.0		1
4-Chloroaniline	ND		ug/l	3.7		1
Caprolactam	ND		ug/l	10		1
p-Chloro-m-cresol	ND		ug/l	2.0		1
2-Methylnaphthalene	ND		ug/l	2.0		1
Hexachlorocyclopentadiene	ND		ug/l	20		1
1,2,4,5-Tetrachlorobenzene	ND		ug/l	1.7		1
2,4,6-Trichlorophenol	ND		ug/l	5.0		1
2,4,5-Trichlorophenol	ND		ug/l	5.0		1
Biphenyl	ND		ug/l	2.0		1
2-Chloronaphthalene	ND		ug/l	2.0		1
2-Nitroaniline	ND		ug/l	5.0		1
Dimethyl phthalate	ND		ug/l	5.0		1
Acenaphthylene	ND		ug/l	2.0		1
3-Nitroaniline	ND		ug/l	5.0	-	1
Acenaphthene	ND		ug/l	2.0		1

Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-17 Date Collected: 08/30/22 13:30

Client ID: LRN005:W-3:W083022 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS -	Westborough Lab					
2,4-Dinitrophenol	ND		ug/l	20		1
4-Nitrophenol	ND		ug/l	10		1
Dibenzofuran	ND		ug/l	2.0		1
2,3,4,6-Tetrachlorophenol	ND		ug/l	5.0		1
Diethyl phthalate	ND		ug/l	5.0		1
Fluorene	ND		ug/l	2.0		1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0		1
4-Nitroaniline	ND		ug/l	5.0		1
NDPA/DPA	ND		ug/l	2.0		1
4-Bromophenyl phenyl ether	ND		ug/l	2.0		1
Atrazine	ND		ug/l	3.0		1
Phenanthrene	ND		ug/l	2.0		1
Anthracene	ND		ug/l	2.0	: <del></del> -	1
Carbazole	ND		ug/l	2.0		1
Di-n-butylphthalate	ND		ug/l	5.0		1
Fluoranthene	ND		ug/l	2.0		1
Pyrene	ND		ug/l	2.0		1
Butyl benzyl phthalate	ND		ug/l	5.0		1
Chrysene	ND		ug/l	1.4		1
Di-n-octylphthalate	ND		ug/l	5.0		1

Surrogate	% Recovery	Acceptance Qualifier Criteria
2-Fluorophenol	65	21-120
Phenol-d6	56	10-120
Nitrobenzene-d5	77	23-120
2-Fluorobiphenyl	74	15-120
2,4,6-Tribromophenol	76	10-120
4-Terphenyl-d14	73	41-149



L2247388

**Project Name:** CITY OF LORAIN

**Project Number:** 15011

Lab Number:

Report Date: 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-17

Client ID: LRN005:W-3:W083022 Sample Location: FORMER ST. JOE'S

Date Collected: 08/30/22 13:30 Date Received: 09/01/22

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8270D-SIM Analytical Date: 09/06/22 17:32

Analyst: DV Extraction Method: EPA 3510C **Extraction Date:** 09/04/22 08:22

Parameter	Result	Qualifier	Units	RL	MDL	<b>Dilution Factor</b>
Semivolatile Organics by GC/MS-	-SIM - Westborough La	ab				
Bis(2-chloroethyl)ether	ND		ug/l	0.10		1
n-Nitrosodi-n-propylamine	ND		ug/l	0.10		1
Hexachloroethane	ND		ug/l	0.20		1
Naphthalene	0.26		ug/l	0.10	-	1
Hexachlorobutadiene	ND		ug/l	0.40		1
2,6-Dinitrotoluene	ND		ug/l	0.40		1
2,4-Dinitrotoluene	ND		ug/l	0.40	-	1
4,6-Dinitro-o-cresol	ND		ug/l	0.70	-	1
Hexachlorobenzene	ND		ug/l	0.02		1
Pentachlorophenol	1.7		ug/l	0.10		1
3,3'-Dichlorobenzidine	ND		ug/l	0.40		1
Benzo(a)anthracene	0.23		ug/l	0.05		1
Bis(2-ethylhexyl)phthalate	ND		ug/l	1.0		1
Benzo(b)fluoranthene	0.31		ug/l	0.05		1
Benzo(k)fluoranthene	0.10		ug/l	0.10		1
Benzo(a)pyrene	0.22		ug/l	0.10		1
Indeno(1,2,3-cd)pyrene	0.21		ug/l	0.10		1
Dibenzo(a,h)anthracene	0.05		ug/l	0.05		1
Benzo(ghi)perylene	0.22		ug/l	0.10		1

Surrogate	% Recovery	Acceptance Qualifier Criteria	
2-Fluorophenol	59	21-120	
Phenol-d6	51	10-120	
Nitrobenzene-d5	82	23-120	
2-Fluorobiphenyl	75	15-120	
2,4,6-Tribromophenol	101	10-120	
4-Terphenyl-d14	78	41-149	



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

SAMPLE RESULTS

09/07/22 04:45

Lab ID: L2247388-18 Date Collected: 08/31/22 12:45

Client ID: LRN005:W-4:W083122 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth:

Analytical Date:

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 1,8270D Extraction Date: 09/05/22 17:49

Analyst: SZ

Parameter	Result	Qualifier	Units	RL	MDL	<b>Dilution Factor</b>
Semivolatile Organics by GC/MS -	Westborough Lab					
Benzaldehyde	ND		ug/l	5.0		1
Phenol	28		ug/l	5.0		1
2-Chlorophenol	ND		ug/l	2.0		1
2-Methylphenol	ND		ug/l	5.0	10,4	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	( <del></del> )	1
Acetophenone	ND		ug/l	5.0		1
3-Methylphenol/4-Methylphenol	11		ug/l	5.0	-	1
Nitrobenzene	ND		ug/l	1.4	4	1
Isophorone	ND		ug/l	5.0		1
2-Nitrophenol	ND		ug/l	5.0		1
2,4-Dimethylphenol	ND		ug/l	5.0	-	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0		1
2,4-Dichlorophenol	ND		ug/l	5.0		1
4-Chloroaniline	ND		ug/l	3.7		1
Caprolactam	ND		ug/l	10		1
p-Chloro-m-cresol	ND		ug/l	2.0		1
2-Methylnaphthalene	ND		ug/l	2.0		1
Hexachlorocyclopentadiene	ND		ug/l	20		1
1,2,4,5-Tetrachlorobenzene	ND		ug/l	1.7	, <del></del> -	1
2,4,6-Trichlorophenol	ND		ug/l	5.0		1
2,4,5-Trichlorophenol	ND		ug/l	5.0		1
Biphenyl	ND		ug/l	2.0		1
2-Chloronaphthalene	ND		ug/l	2.0		1
2-Nitroaniline	ND		ug/l	5.0		1
Dimethyl phthalate	ND		ug/l	5.0		1
Acenaphthylene	ND		ug/l	2.0		1
3-Nitroaniline	ND		ug/l	5.0		1
Acenaphthene	ND		ug/l	2.0		1



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-18 Date Collected: 08/31/22 12:45

Client ID: LRN005:W-4:W083122 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS -	Westborough Lab					
2,4-Dinitrophenol	ND		ug/l	20		1
4-Nitrophenol	ND		ug/l	10		1
Dibenzofuran	ND		ug/l	2.0	-	1
2,3,4,6-Tetrachlorophenol	ND		ug/l	5.0		1
Diethyl phthalate	ND		ug/l	5.0		1
Fluorene	ND		ug/l	2.0		1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0		1
4-Nitroaniline	ND		ug/l	5.0		1
NDPA/DPA	ND		ug/l	2.0		1
4-Bromophenyl phenyl ether	ND		ug/l	2.0		1
Atrazine	ND		ug/l	3.0		1
Phenanthrene	ND		ug/l	2.0		1
Anthracene	ND		ug/l	2.0	; <del></del>	1
Carbazole	ND		ug/l	2.0		1
Di-n-butylphthalate	ND		ug/l	5.0		1
Fluoranthene	ND		ug/l	2.0		1
Pyrene	ND		ug/l	2.0		1
Butyl benzyl phthalate	ND		ug/l	5.0		1
Chrysene	ND		ug/l	1.4		1
Di-n-octylphthalate	ND		ug/l	5.0		1

% Recovery	Acceptance Qualifier Criteria
77	21-120
68	10-120
82	23-120
80	15-120
85	10-120
81	41-149
	77 68 82 80 85



**Project Name:** CITY OF LORAIN

**Project Number:** 15011

**SAMPLE RESULTS** 

**Date Collected:** 

Lab Number:

L2247388

Report Date: 11/02/22

Lab ID: L2247388-18

Client ID: LRN005:W-4:W083122 Sample Location:

Date Received:

08/31/22 12:45 09/01/22

FORMER ST. JOE'S

Field Prep:

Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8270D-SIM Analytical Date: 09/06/22 17:49

Analyst: DV Extraction Method: EPA 3510C **Extraction Date:** 09/05/22 17:49

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS	-SIM - Westborough La	ab				
Bis(2-chloroethyl)ether	ND		ug/l	0.10		1
n-Nitrosodi-n-propylamine	ND		ug/l	0.10		1
Hexachloroethane	ND		ug/l	0.20	<del>-</del> -	1
Naphthalene	0.23		ug/l	0.10		1
Hexachlorobutadiene	ND		ug/l	0.40		1
2,6-Dinitrotoluene	ND		ug/l	0.40		1
2,4-Dinitrotoluene	ND		ug/l	0.40		1
4,6-Dinitro-o-cresol	ND		ug/l	0.70	-	1
Hexachlorobenzene	ND		ug/l	0.02		1
Pentachlorophenol	0.48		ug/l	0.10		1
3,3'-Dichlorobenzidine	ND		ug/l	0.40		1
Benzo(a)anthracene	ND		ug/l	0.05		1
Bis(2-ethylhexyl)phthalate	ND		ug/l	1.0		1
Benzo(b)fluoranthene	ND		ug/l	0.05		1
Benzo(k)fluoranthene	ND		ug/l	0.10		1
Benzo(a)pyrene	ND		ug/l	0.10		1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10		1
Dibenzo(a,h)anthracene	ND		ug/l	0.05	-	1
Benzo(ghi)perylene	ND		ug/l	0.10	-	1

Surrogate	% Recovery	Acceptance Qualifier Criteria	
2-Fluorophenol	74	21-120	
Phenol-d6	64	10-120	
Nitrobenzene-d5	91	23-120	
2-Fluorobiphenyl	78	15-120	
2,4,6-Tribromophenol	101	10-120	
4-Terphenyl-d14	77	41-149	



Project Name: CITY OF LORAIN

Project Number: 15011

Lab Number:

L2247388

**Report Date:** 11/02/22

Method Blank Analysis Batch Quality Control

Analytical Method:

1,8270D

Analytical Date:

09/05/22 14:44

Analyst:

SZ

Extraction Method: EPA 3510C Extraction Date: 09/03/22 13:49

arameter	Result	Qualifier	Units	RL		MDL
emivolatile Organics by GC/MS	S - Westborough	Lab for s	ample(s):	15-17	Batch:	WG1683311-1
Benzaldehyde	ND		ug/l	5.0		_
Phenol	ND		ug/l	5.0		
2-Chlorophenol	ND		ug/l	2.0		<del>-</del> -
2-Methylphenol	ND		ug/l	5.0		-
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0		<del></del> /
Acetophenone	ND		ug/l	5.0		_
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0		, <del>-</del> :
Nitrobenzene	ND		ug/l	1.4		-
Isophorone	ND		ug/l	5.0		
2-Nitrophenol	ND		ug/l	5.0		-
2,4-Dimethylphenol	ND		ug/l	5.0		-
Bis(2-chloroethoxy)methane	ND		ug/l	5.0		
2,4-Dichlorophenol	ND		ug/l	5.0		_
4-Chloroaniline	ND		ug/l	3.7		- ·
Caprolactam	ND		ug/l	10		_
p-Chloro-m-cresol	ND		ug/l	2.0		
2-Methylnaphthalene	ND		ug/l	2.0		-
Hexachlorocyclopentadiene	ND		ug/l	20		-
1,2,4,5-Tetrachlorobenzene	ND		ug/l	1.7		7 <del>-</del>
2,4,6-Trichlorophenol	ND		ug/l	5.0		_
2,4,5-Trichlorophenol	ND		ug/l	5.0		
Biphenyl	ND		ug/l	2.0		-
2-Chloronaphthalene	ND		ug/l	2.0		-
2-Nitroaniline	ND		ug/l	5.0		( <del>-</del> )
Dimethyl phthalate	ND		ug/l	5.0		
Acenaphthylene	ND		ug/l	2.0		
3-Nitroaniline	ND		ug/l	5.0		-
Acenaphthene	ND		ug/l	2.0		-
2,4-Dinitrophenol	ND		ug/l	20		19 <del>-</del> 1



**Project Name:** CITY OF LORAIN

**Project Number:** 15011 Lab Number:

L2247388

Report Date: 11/02/22

Method Blank Analysis Batch Quality Control

Analytical Method:

1,8270D

Analytical Date:

09/05/22 14:44

Analyst:

SZ

Extraction Method: EPA 3510C **Extraction Date:** 

09/03/22 13:49

arameter	Result	Qualifier	Units	RL		MDL
emivolatile Organics by GC/M	S - Westborough	Lab for s	sample(s):	15-17	Batch:	WG1683311-1
4-Nitrophenol	ND		ug/l	10		( <del>-</del>
Dibenzofuran	ND		ug/l	2.0		
2,3,4,6-Tetrachlorophenol	ND		ug/l	5.0		<del></del> :
Diethyl phthalate	ND		ug/l	5.0		-
Fluorene	ND		ug/l	2.0		-
4-Chlorophenyl phenyl ether	ND		ug/l	2.0		
4-Nitroaniline	ND		ug/l	5.0		
NDPA/DPA	ND		ug/l	2.0		-
4-Bromophenyl phenyl ether	ND		ug/l	2.0		~ ·
Atrazine	ND		ug/l	3.0		-
Phenanthrene	ND		ug/l	2.0		-
Anthracene	ND		ug/l	2.0		-
Carbazole	ND		ug/l	2.0		-
Di-n-butylphthalate	ND		ug/l	5.0		-
Fluoranthene	ND		ug/l	2.0		-
Pyrene	ND		ug/l	2.0		-
Butyl benzyl phthalate	ND		ug/l	5.0		- ( <del></del>
Chrysene	ND		ug/l	1.4		-
Di-n-octylphthalate	ND		ug/l	5.0		

		Acceptance
Surrogate	%Recovery Qua	alifier Criteria
2-Fluorophenol	54	21-120
Phenol-d6	44	10-120
Nitrobenzene-d5	69	23-120
2-Fluorobiphenyl	70	15-120
2,4,6-Tribromophenol	59	10-120
4-Terphenyl-d14	78	41-149



Project Name: CITY OF LORAIN

Project Number: 15011

Lab Number:

L2247388

**Report Date:** 11/02/22

Method Blank Analysis Batch Quality Control

Analytical Method: Analytical Date:

1,8270D-SIM 09/06/22 16:44 Extraction Method: EPA 3510C

Extraction Date:

09/03/22 13:53

Analyst: DV

arameter	Result	Qualifier	Units	RL	MDL	
emivolatile Organics by GC/l	MS-SIM - Westbo	orough Lab	for sample(s):	15-17	Batch:	WG1683312-
Bis(2-chloroethyl)ether	ND		ug/l	0.10		
n-Nitrosodi-n-propylamine	ND		ug/l	0.10	-	
Hexachloroethane	ND		ug/l	0.20	/ <del></del> .	
Naphthalene	ND		ug/l	0.10	-	
Hexachlorobutadiene	ND		ug/l	0.40		
2,6-Dinitrotoluene	ND		ug/l	0.40	-	
2,4-Dinitrotoluene	ND		ug/l	0.40	-	
4,6-Dinitro-o-cresol	ND		ug/l	0.70	15	
Hexachlorobenzene	ND		ug/l	0.02	-	
Pentachlorophenol	ND		ug/l	0.10	-	
3,3'-Dichlorobenzidine	ND		ug/l	0.40	-	
Benzo(a)anthracene	ND		ug/l	0.05	( <del>-</del> )	
Bis(2-ethylhexyl)phthalate	ND		ug/l	1.0		
Benzo(b)fluoranthene	ND		ug/l	0.05		
Benzo(k)fluoranthene	ND		ug/l	0.10	-	
Benzo(a)pyrene	ND		ug/l	0.10	-	
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10		
Dibenzo(a,h)anthracene	ND		ug/l	0.05	-	
Benzo(ghi)perylene	ND		ug/l	0.10	( <del>-</del> .	

		Acceptance
Surrogate	%Recovery Qua	alifier Criteria
2-Fluorophenol	52	21-120
Phenol-d6	43	10-120
Nitrobenzene-d5	75	23-120
2-Fluorobiphenyl	68	15-120
2,4,6-Tribromophenol	71	10-120
4-Terphenyl-d14	70	41-149



Project Name: CITY OF LORAIN

Project Number: 15011

Lab Number:

L2247388

**Report Date:** 11/02/22

Method Blank Analysis Batch Quality Control

Analytical Method:

1,8270D

Analytical Date:

09/06/22 21:16

Analyst:

SZ

Extraction Method: EPA 3510C Extraction Date: 09/05/22 17:49

arameter	Result	Qualifier	Units		RL	MDL
emivolatile Organics by GC/MS	S - Westborough	Lab for s	ample(s):	18	Batch:	WG1683691-1
Benzaldehyde	ND		ug/l		5.0	<u>-</u>
Phenol	ND		ug/l		5.0	
2-Chlorophenol	ND		ug/l		2.0	
2-Methylphenol	ND		ug/l		5.0	<del>-</del>
Bis(2-chloroisopropyl)ether	ND		ug/l		2.0	1 <del></del> ;
Acetophenone	ND		ug/l		5.0	
3-Methylphenol/4-Methylphenol	ND		ug/l		5.0	
Nitrobenzene	ND		ug/l		1.4	-
Isophorone	ND		ug/l		5.0	
2-Nitrophenol	ND		ug/l		5.0	<del></del>
2,4-Dimethylphenol	ND		ug/l		5.0	-
Bis(2-chloroethoxy)methane	ND		ug/l		5.0	7. <del></del> .
2,4-Dichlorophenol	ND		ug/l		5.0	
4-Chloroaniline	ND		ug/l		3.7	_
Caprolactam	ND		ug/l		10	
p-Chloro-m-cresol	ND		ug/l		2.0	1-1
2-Methylnaphthalene	ND		ug/l		2.0	- 19
Hexachlorocyclopentadiene	ND		ug/l		20	
1,2,4,5-Tetrachlorobenzene	ND		ug/l		1.7	, <del>-</del> ,
2,4,6-Trichlorophenol	ND		ug/l		5.0	-
2,4,5-Trichlorophenol	ND		ug/l		5.0	-
Biphenyl	ND		ug/l		2.0	-
2-Chloronaphthalene	ND		ug/l		2.0	-
2-Nitroaniline	ND		ug/l		5.0	(-)
Dimethyl phthalate	ND		ug/l		5.0	
Acenaphthylene	ND		ug/l		2.0	/ <del>-</del> /
3-Nitroaniline	ND		ug/l		5.0	
Acenaphthene	ND		ug/l		2.0	-
2,4-Dinitrophenol	ND		ug/l		20	1 <del>2</del> 1



Project Name: CITY OF LORAIN

Project Number: 15011

Lab Number:

L2247388

**Report Date:** 11/02/22

Method Blank Analysis Batch Quality Control

Analytical Method:

1,8270D

Analytical Date:

09/06/22 21:16

Analyst:

SZ

Extraction Method: EPA 3510C Extraction Date: 09/05/22 17:49

arameter	Result	Qualifier	Units		RL	MDL
emivolatile Organics by GC/MS -	Westborough	Lab for s	sample(s):	18	Batch:	WG1683691-1
4-Nitrophenol	ND		ug/l		10	_
Dibenzofuran	ND		ug/l		2.0	-
2,3,4,6-Tetrachlorophenol	ND		ug/l		5.0	
Diethyl phthalate	ND		ug/l		5.0	-
Fluorene	ND		ug/l		2.0	( <del></del> )
4-Chlorophenyl phenyl ether	ND		ug/l		2.0	_
4-Nitroaniline	ND		ug/l		5.0	-
NDPA/DPA	ND		ug/l		2.0	-
4-Bromophenyl phenyl ether	ND		ug/l		2.0	
Atrazine	ND		ug/l		3.0	<del>-</del>
Phenanthrene	ND		ug/l		2.0	-
Anthracene	ND		ug/l		2.0	-
Carbazole	ND		ug/l		2.0	-
Di-n-butylphthalate	ND		ug/l		5.0	-
Fluoranthene	ND		ug/l		2.0	-
Pyrene	ND		ug/l		2.0	-
Butyl benzyl phthalate	ND		ug/l		5.0	<del>-</del>
Chrysene	ND		ug/l		1.4	-
Di-n-octylphthalate	ND		ug/l		5.0	- 14 <del>-</del>

		Acceptance
Surrogate	%Recovery Qu	alifier Criteria
2-Fluorophenol	51	21-120
Phenol-d6	40	10-120
Nitrobenzene-d5	54	23-120
2-Fluorobiphenyl	59	15-120
2,4,6-Tribromophenol	52	10-120
4-Terphenyl-d14	66	41-149



**Project Name:** CITY OF LORAIN

**Project Number:** 15011 Lab Number:

L2247388

Report Date: 11/02/22

Method Blank Analysis Batch Quality Control

Analytical Method: Analytical Date:

1,8270D-SIM 09/06/22 15:56

Analyst:

DV

Extraction Method: EPA 3510C

09/05/22 17:49 **Extraction Date:** 

arameter	Result	Qualifier	Units	RL		MDL
emivolatile Organics by GC/	MS-SIM - Westbo	orough Lab	for sample(s)	18	Batch:	WG1683692-1
Bis(2-chloroethyl)ether	ND		ug/l	0.10		_
n-Nitrosodi-n-propylamine	ND		ug/l	0.10		
Hexachloroethane	ND		ug/l	0.20		-
Naphthalene	ND		ug/l	0.10		_
Hexachlorobutadiene	ND		ug/l	0.40		· —
2,6-Dinitrotoluene	ND		ug/l	0.40		_
2,4-Dinitrotoluene	ND		ug/l	0.40		-
4,6-Dinitro-o-cresol	ND		ug/l	0.70		-
Hexachlorobenzene	ND		ug/l	0.02		-
Pentachlorophenol	ND		ug/l	0.10		<del>-</del>
3,3'-Dichlorobenzidine	ND		ug/l	0.40		-
Benzo(a)anthracene	ND		ug/l	0.05		-
Bis(2-ethylhexyl)phthalate	ND		ug/l	1.0		-
Benzo(b)fluoranthene	ND		ug/l	0.05		-
Benzo(k)fluoranthene	ND		ug/l	0.10		_
Benzo(a)pyrene	ND		ug/l	0.10		-
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10		<del>-</del>
Dibenzo(a,h)anthracene	ND		ug/l	0.05		-
Benzo(ghi)perylene	ND		ug/l	0.10		( <del>-</del> ,

0/ Decement		Acceptance
%Recovery	Qualifier	Criteria
54		21-120
41		10-120
66		23-120
58		15-120
74		10-120
56		41-149
	54 41 66 58 74	54 41 66 58 74



Project Name: CITY OF LORAIN

Project Number: 15011

Lab Number:

L2247388

**Report Date:** 11/02/22

Method Blank Analysis Batch Quality Control

Analytical Method:

1,8270D

Analytical Date:

09/13/22 10:34

Analyst:

IM

Extraction Method: EPA 3546 Extraction Date: 09/10/22 17:27

arameter	Result	Qualifier	Units	RL		MDL
emivolatile Organics by GC/MS	- Westborough	Lab for s	ample(s):	01-09	Batch:	WG1685833-1
Benzaldehyde	ND		mg/kg	0.22		-
Phenol	ND		mg/kg	0.17		-
Bis(2-chloroethyl)ether	ND		mg/kg	0.15		<del></del> -
2-Chlorophenol	ND		mg/kg	0.17		
2-Methylphenol	ND		mg/kg	0.17		-
Bis(2-chloroisopropyl)ether	ND		mg/kg	0.20		-
Acetophenone	ND		mg/kg	0.17		-
n-Nitrosodi-n-propylamine	ND		mg/kg	0.17		
3-Methylphenol/4-Methylphenol	ND		mg/kg	0.24		-
Hexachloroethane	ND		mg/kg	0.13		
Nitrobenzene	ND		mg/kg	0.15		-
Isophorone	ND		mg/kg	0.15		-
2-Nitrophenol	ND		mg/kg	0.36		-
2,4-Dimethylphenol	ND		mg/kg	0.17		, <del>-</del> ,
Bis(2-chloroethoxy)methane	ND		mg/kg	0.18		-
2,4-Dichlorophenol	ND		mg/kg	0.15		-
Naphthalene	ND		mg/kg	0.17		-
4-Chloroaniline	ND		mg/kg	0.17		-
Hexachlorobutadiene	ND		mg/kg	0.17		<del>-</del> .
Caprolactam	ND		mg/kg	0.17		<del>-</del>
p-Chloro-m-cresol	ND		mg/kg	0.17		<del>-</del> -
2-Methylnaphthalene	ND		mg/kg	0.20		
Hexachlorocyclopentadiene	ND		mg/kg	0.47		<u>-</u>
1,2,4,5-Tetrachlorobenzene	ND		mg/kg	0.17		: ( <del>-</del>
2,4,6-Trichlorophenol	ND		mg/kg	0.10		-
2,4,5-Trichlorophenol	ND		mg/kg	0.17		<del>-</del>
Biphenyl	ND		mg/kg	0.38		7,4
2-Chloronaphthalene	ND		mg/kg	0.17		, <del>-</del> .
2-Nitroaniline	ND		mg/kg	0.17		



Project Name: CITY OF LORAIN

Project Number: 15011

Lab Number:

L2247388

**Report Date:** 11/02/22

Method Blank Analysis Batch Quality Control

Analytical Method:

1,8270D

Analytical Date:

09/13/22 10:34

Analyst:

IM

Extraction Method: EPA 3546 Extraction Date: 09/10/22 17:27

arameter	Result	Qualifier	Units	RL		MDL
emivolatile Organics by GC/M	IS - Westborough	Lab for s	ample(s):	01-09	Batch:	WG1685833-1
Dimethyl phthalate	ND		mg/kg	0.17		( <del>_</del>
2,6-Dinitrotoluene	ND		mg/kg	0.17		· -
Acenaphthylene	ND		mg/kg	0.13		\ <del></del>
3-Nitroaniline	ND		mg/kg	0.17		<del>-</del>
Acenaphthene	ND		mg/kg	0.13		-
2,4-Dinitrophenol	ND		mg/kg	0.80		-
4-Nitrophenol	ND		mg/kg	0.23		-
2,4-Dinitrotoluene	ND		mg/kg	0.17		
Dibenzofuran	ND		mg/kg	0.17		-
2,3,4,6-Tetrachlorophenol	ND		mg/kg	0.17		
Diethyl phthalate	ND		mg/kg	0.17		
Fluorene	ND		mg/kg	0.17		-
4-Chlorophenyl phenyl ether	ND		mg/kg	0.17		
4-Nitroaniline	ND		mg/kg	0.17		, <del>-</del>
4,6-Dinitro-o-cresol	ND		mg/kg	0.43		-
NDPA/DPA	ND		mg/kg	0.13		
4-Bromophenyl phenyl ether	ND		mg/kg	0.17		
Hexachlorobenzene	ND		mg/kg	0.10		-
Pentachlorophenol	ND		mg/kg	0.13		
Atrazine	ND		mg/kg	0.13		-
Phenanthrene	ND		mg/kg	0.10		-
Anthracene	ND		mg/kg	0.10		
Carbazole	ND		mg/kg	0.17		
Di-n-butylphthalate	ND		mg/kg	0.17		: ( <del>-</del> ):
Fluoranthene	ND		mg/kg	0.10		-
Pyrene	ND		mg/kg	0.10		/ <del>-</del>
Butyl benzyl phthalate	ND		mg/kg	0.17		5) <del></del> :
3,3'-Dichlorobenzidine	ND		mg/kg	0.17		-
Benzo(a)anthracene	ND		mg/kg	0.10		-



L2247388

Lab Number:

**Project Name:** CITY OF LORAIN

**Project Number:** Report Date: 15011 11/02/22

Method Blank Analysis Batch Quality Control

Analytical Method: Analytical Date:

1,8270D 09/13/22 10:34

Analyst:

IM

Extraction Method: EPA 3546

09/10/22 17:27 **Extraction Date:** 

arameter	Result	Qualifier	Units	RL		MDL
emivolatile Organics by GC	C/MS - Westborough	Lab for sa	ample(s):	01-09	Batch:	WG1685833-1
Chrysene	ND		mg/kg	0.10		_
Bis(2-ethylhexyl)phthalate	ND		mg/kg	0.17		A-3
Di-n-octylphthalate	ND		mg/kg	0.17		-
Benzo(b)fluoranthene	ND		mg/kg	0.10		-
Benzo(k)fluoranthene	ND		mg/kg	0.10		-
Benzo(a)pyrene	ND		mg/kg	0.13		-
Indeno(1,2,3-cd)pyrene	ND		mg/kg	0.13		-
Dibenzo(a,h)anthracene	ND		mg/kg	0.10		-
Benzo(ghi)perylene	ND		mg/kg	0.13		-

		Acceptance
Surrogate	%Recovery Qual	
2-Fluorophenol	77	25-120
Phenol-d6	76	10-120
Nitrobenzene-d5	88	23-120
2-Fluorobiphenyl	69	30-120
2,4,6-Tribromophenol	83	10-136
4-Terphenyl-d14	81	18-120



Project Name: CITY OF LORAIN

Project Number: 15011

Lab Number:

L2247388

**Report Date:** 11/02/22

Method Blank Analysis

**Batch Quality Control** 

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Analytical Method: 1

1,8270D

Analytical Date:

09/19/22 23:24

Analyst:

IM

Extraction Method: EPA 3546
Extraction Date: 09/12/22 03:21

Qualifier RL MDL **Parameter** Result Units Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 12 Batch: WG1689251-1 Benzaldehyde ND mg/kg 0.22 Phenol ND mg/kg 0.16 Bis(2-chloroethyl)ether ND mg/kg 0.15 2-Chlorophenol ND 0.16 mg/kg 2-Methylphenol ND 0.16 mg/kg Bis(2-chloroisopropyl)ether ND mg/kg 0.20 Acetophenone ND 0.16 mg/kg n-Nitrosodi-n-propylamine ND mg/kg 0.16 3-Methylphenol/4-Methylphenol ND 0.23 mg/kg Hexachloroethane ND 0.13 mg/kg --Nitrobenzene ND mg/kg 0.15 ND 0.15 Isophorone mg/kg 2-Nitrophenol ND mg/kg 0.35 \_\_ 2,4-Dimethylphenol ND mg/kg 0.16 Bis(2-chloroethoxy)methane ND mg/kg 0.18 2,4-Dichlorophenol ND mg/kg 0.15 Naphthalene ND mg/kg 0.16 4-Chloroaniline ND mg/kg 0.16 Hexachlorobutadiene ND mg/kg 0.16 ND Caprolactam 0.16 mg/kg p-Chloro-m-cresol ND mg/kg 0.16 ND 2-Methylnaphthalene mg/kg 0.20 Hexachlorocyclopentadiene ND mg/kg 0.46 1,2,4,5-Tetrachlorobenzene ND mg/kg 0.16 ND 2,4,6-Trichlorophenol mg/kg 0.098 ND 0.16 2,4,5-Trichlorophenol mg/kg --ND 0.37 Biphenyl mg/kg 2-Chloronaphthalene ND mg/kg 0.16 2-Nitroaniline ND mg/kg 0.16 \_\_



Project Name: CITY OF LORAIN

Project Number: 15011

Lab Number:

L2247388

**Report Date:** 11/02/22

Method Blank Analysis Batch Quality Control

Analytical Method:

1,8270D

Analytical Date:

09/19/22 23:24

Analyst:

IM

Extraction Method: EPA 3546

Extraction Date: 09/12/22 03:21

arameter	Result	Qualifier	Units		RL	MDL
emivolatile Organics by GC/MS	- Westborough	Lab for s	ample(s):	12	Batch:	WG1689251-1
Dimethyl phthalate	ND		mg/kg	C	).16	<u>-</u>
2,6-Dinitrotoluene	ND		mg/kg	(	).16	
Acenaphthylene	ND		mg/kg	(	).13	-
3-Nitroaniline	ND		mg/kg	C	).16	
Acenaphthene	ND		mg/kg	(	).13	( <del></del> )
2,4-Dinitrophenol	ND		mg/kg	(	).78	
4-Nitrophenol	ND		mg/kg	(	).23	-
2,4-Dinitrotoluene	ND		mg/kg	C	0.16	-
Dibenzofuran	ND		mg/kg	C	0.16	-
2,3,4,6-Tetrachlorophenol	ND		mg/kg	C	0.16	-
Diethyl phthalate	ND		mg/kg	C	).16	-
Fluorene	ND		mg/kg	C	0.16	
4-Chlorophenyl phenyl ether	ND		mg/kg	(	).16	-
4-Nitroaniline	ND		mg/kg	(	).16	-
4,6-Dinitro-o-cresol	ND		mg/kg	C	).42	-
NDPA/DPA	ND		mg/kg	(	0.13	-
4-Bromophenyl phenyl ether	ND		mg/kg	C	).16	- : : <del></del> :
Hexachlorobenzene	ND		mg/kg	0	.098	-
Pentachlorophenol	ND		mg/kg	(	).13	, <del></del> .
Atrazine	ND		mg/kg	C	0.13	
Phenanthrene	ND		mg/kg	0	.098	
Anthracene	ND		mg/kg	0	.098	-
Carbazole	ND		mg/kg	C	0.16	-
Di-n-butylphthalate	ND		mg/kg	C	0.16	
Fluoranthene	ND		mg/kg	0	.098	-
Pyrene	ND		mg/kg	0	.098	-
Butyl benzyl phthalate	ND		mg/kg	(	0.16	
3,3'-Dichlorobenzidine	ND		mg/kg	C	).16	_
Benzo(a)anthracene	ND		mg/kg	0	.098	-



Project Name: CITY OF LORAIN

Project Number: 15011

Lab Number:

L2247388

**Report Date:** 11/02/22

Method Blank Analysis Batch Quality Control

Analytical Method:

1,8270D

Analytical Date:

09/19/22 23:24

Analyst:

IM

Extraction Method: EPA 3546

Extraction Date:

09/12/22 03:21

Parameter	Result	Qualifier	Units	RL		MDL	
Semivolatile Organics by GC/I	MS - Westboroug	h Lab for s	sample(s):	12	Batch:	WG1689251-1	
Chrysene	ND		mg/kg	0	.098	-	
Bis(2-ethylhexyl)phthalate	ND		mg/kg	(	0.16		
Di-n-octylphthalate	ND		mg/kg	(	0.16	/ <del></del> :	
Benzo(b)fluoranthene	ND		mg/kg	0	.098	-	
Benzo(k)fluoranthene	ND		mg/kg	0	.098	-	
Benzo(a)pyrene	ND		mg/kg	(	0.13	-	
Indeno(1,2,3-cd)pyrene	ND		mg/kg	0.13		-	
Dibenzo(a,h)anthracene	ND		mg/kg	0	.098	-	
Benzo(ghi)perylene	ND		mg/kg	(	0.13	-	

		Acceptance
Surrogate	%Recovery Qua	lifier Criteria
2-Fluorophenol	106	25-120
Phenol-d6	106	10-120
Nitrobenzene-d5	113	23-120
2-Fluorobiphenyl	106	30-120
2,4,6-Tribromophenol	129	10-136
4-Terphenyl-d14	107	18-120



Project Name: CITY OF LORAIN

Project Number: 15011

Lab Number: L2247388

Report Date:

arameter	LCS %Recovery Qual	LCSD %Recovery	%Recovery Qual Limits	RPD	RPD Qual Limits	
emivolatile Organics by GC/MS - We	estborough Lab Associated sample	(s): 15-17 Batcl	n: WG1683311-2 WG1683	311-3		
Benzaldehyde	83	75	40-140	10	30	
Phenol	50	50	12-110	0	30	
2-Chlorophenol	65	60	27-123	8	30	
2-Methylphenol	65	58	30-130	11	30	
Bis(2-chloroisopropyl)ether	66	60	40-140	10	30	
Acetophenone	65	60	39-129	8	30	
3-Methylphenol/4-Methylphenol	65	59	30-130	10	30	
Nitrobenzene	64	58	40-140	10	30	
Isophorone	62	58	40-140	7	30	
2-Nitrophenol	61	56	30-130	9	30	
2,4-Dimethylphenol	57	54	30-130	5	30	
Bis(2-chloroethoxy)methane	67	60	40-140	11	30	
2,4-Dichlorophenol	71	62	30-130	14	30	
4-Chloroaniline	62	56	40-140	10	30	
Caprolactam	34	29	10-130	16	30	
p-Chloro-m-cresol	73	62	23-97	16	30	
2-Methylnaphthalene	69	61	40-140	12	30	
Hexachlorocyclopentadiene	59	55	40-140	7	30	
1,2,4,5-Tetrachlorobenzene	71	64	2-134	10	30	
2,4,6-Trichlorophenol	69	64	30-130	8	30	
2,4,5-Trichlorophenol	71	61	30-130	15	30	
Biphenyl	68	62	40-140	9	30	
2-Chloronaphthalene	64	60	40-140	6	30	



**Project Name:** CITY OF LORAIN

**Project Number:** 15011

Lab Number:

L2247388

Report Date:

arameter	LCS %Recovery Qual	LCSD %Recovery	%Recovery Qual Limits	RPD	RPD Qual Limits
emivolatile Organics by GC/MS - V	Vestborough Lab Associated sample(s):	15-17 Batch:	WG1683311-2 WG16833	11-3	
2-Nitroaniline	68	59	52-143	14	30
Dimethyl phthalate	67	59	40-140	13	30
Acenaphthylene	67	58	45-123	14	30
3-Nitroaniline	66	58	25-145	13	30
Acenaphthene	69	63	37-111	9	30
2,4-Dinitrophenol	57	23	20-130	85	Q 30
4-Nitrophenol	60	50	10-80	18	30
Dibenzofuran	72	64	40-140	12	30
2,3,4,6-Tetrachlorophenol	70	57	54-145	20	30
Diethyl phthalate	75	64	40-140	16	30
Fluorene	73	65	40-140	12	30
4-Chlorophenyl phenyl ether	75	66	40-140	13	30
4-Nitroaniline	68	62	51-143	9	30
NDPA/DPA	76	66	40-140	14	30
4-Bromophenyl phenyl ether	72	67	40-140	7	30
Atrazine	78	68	40-140	14	30
Phenanthrene	70	62	40-140	12	30
Anthracene	72	64	40-140	12	30
Carbazole	75	64	55-144	16	30
Di-n-butylphthalate	74	66	40-140	11	30
Fluoranthene	70	61	40-140	14	30
Pyrene	69	61	26-127	12	30
Butyl benzyl phthalate	70	64	40-140	9	30



CITY OF LORAIN

Lab Number:

L2247388

**Project Number:** 15011

**Project Name:** 

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - W	estborough Lab Associa	ated sample(s	): 15-17 Batch:	WG1683	3311-2 WG16833	11-3		
Chrysene	79		68		40-140	15		30
Di-n-octylphthalate	79		70		40-140	12		30

Surrogate	LCS %Recovery Qua	LCSD al %Recovery Q	Acceptance ual Criteria
A. 2. 2. 3. 3. 4. 4.			21-120
2-Fluorophenol Phenol-d6	57 48	55 47	10-120
Nitrobenzene-d5	65	57	23-120
2-Fluorobiphenyl	66	59	15-120
2,4,6-Tribromophenol	66	58	10-120
4-Terphenyl-d14	71	61	41-149

Project Name: CITY OF LORAIN

Project Number: 15011

Lab Number: L2247388

arameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recove	ry RPD	Qual	RPD Limits
							Quui	Limito
emivolatile Organics by GC/MS-SIM	- Westborough Lab	Associated sample	le(s): 15-17	Batch:	WG1683312-2	WG1683312-3		
Bis(2-chloroethyl)ether	70		86		40-140	21		40
n-Nitrosodi-n-propylamine	69		84		40-140	20		40
Hexachloroethane	54		68		40-140	23		40
Naphthalene	65		109		40-140	51	Q	40
Hexachlorobutadiene	60		76		40-140	24		40
2,6-Dinitrotoluene	70		77		40-140	10		40
2,4-Dinitrotoluene	75		84		37-111	11		40
4,6-Dinitro-o-cresol	43		45		40-140	5		40
Hexachlorobenzene	82		92		40-140	11		40
Pentachlorophenol	40		52		9-103	26		40
3,3'-Dichlorobenzidine	62		54		26-127	14		40
Benzo(a)anthracene	87		91		40-140	4		40
Bis(2-ethylhexyl)phthalate	137		141	Q	40-140	3		40
Benzo(b)fluoranthene	83		86		40-140	4		40
Benzo(k)fluoranthene	93		101		40-140	8		40
Benzo(a)pyrene	76		79		40-140	4		40
Indeno(1,2,3-cd)pyrene	94		97		40-140	3		40
Dibenzo(a,h)anthracene	93		101		40-140	8		40
Benzo(ghi)perylene	92	1	98		40-140	6		40



**Project Name:** CITY OF LORAIN Lab Number:

L2247388

**Project Number:** 

15011

Report Date:

11/02/22

	LCS		LCSD		%Recovery			RPD
Parameter	%Recovery	Qual	%Recovery	Qual	Limits	RPD	Qual	Limits

Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 15-17 Batch: WG1683312-2 WG1683312-3

Surrogate	LCS %Recovery Qua	LCSD I %Recovery Qu	Acceptance ual Criteria
2-Fluorophenol	55	67	21-120
Phenol-d6	48	58	10-120
Nitrobenzene-d5	72	88	23-120
2-Fluorobiphenyl	65	78	15-120
2,4,6-Tribromophenol	75	78	10-120
4-Terphenyl-d14	74	79	41-149

**Project Name:** CITY OF LORAIN

**Project Number:** 15011

Lab Number:

L2247388

Report Date:

arameter	LCS %Recovery Qual	LCSD %Recovery	%Recovery Qual Limits	RPD	RPD Qual Limits
emivolatile Organics by GC/MS - We	estborough Lab Associated sample	(s): 18 Batch:	WG1683691-2 WG1683691-	3	
Benzaldehyde	88	80	40-140	10	30
Phenol	58	52	12-110	11	30
2-Chlorophenol	69	67	27-123	3	30
2-Methylphenol	69	64	30-130	8	30
Bis(2-chloroisopropyl)ether	71	65	40-140	9	30
Acetophenone	70	66	39-129	6	30
3-Methylphenol/4-Methylphenol	68	62	30-130	9	30
Nitrobenzene	67	62	40-140	8	30
Isophorone	68	60	40-140	13	30
2-Nitrophenol	67	61	30-130	9	30
2,4-Dimethylphenol	60	58	30-130	3	30
Bis(2-chloroethoxy)methane	69	64	40-140	8	30
2,4-Dichlorophenol	76	69	30-130	10	30
4-Chloroaniline	68	63	40-140	8	30
Caprolactam	37	32	10-130	14	30
p-Chloro-m-cresol	74	68	23-97	8	30
2-Methylnaphthalene	73	66	40-140	10	30
Hexachlorocyclopentadiene	67	60	40-140	11	30
1,2,4,5-Tetrachlorobenzene	73	66	2-134	10	30
2,4,6-Trichlorophenol	69	65	30-130	6	30
2,4,5-Trichlorophenol	73	68	30-130	7	30
Biphenyl	74	66	40-140	11	30
2-Chloronaphthalene	69	62	40-140	11	30

**Project Name:** CITY OF LORAIN

**Project Number:** 15011

Lab Number:

L2247388

Report Date:

arameter	LCS %Recovery Qual	LCSD %Recovery	%Recovery Qual Limits	RPD	RPD Qual Limits
emivolatile Organics by GC/MS - W	/estborough Lab Associated sample(s):	18 Batch:	WG1683691-2 WG1683691-3		
2-Nitroaniline	66	59	52-143	11	30
Dimethyl phthalate	70	63	40-140	11	30
Acenaphthylene	69	63	45-123	9	30
3-Nitroaniline	64	63	25-145	2	30
Acenaphthene	68	64	37-111	6	30
2,4-Dinitrophenol	66	72	20-130	9	30
4-Nitrophenol	63	54	10-80	15	30
Dibenzofuran	72	65	40-140	10	30
2,3,4,6-Tetrachlorophenol	74	69	54-145	7	30
Diethyl phthalate	72	68	40-140	6	30
Fluorene	71	66	40-140	7	30
4-Chlorophenyl phenyl ether	74	67	40-140	10	30
4-Nitroaniline	70	63	51-143	11	30
NDPA/DPA	73	68	40-140	7	30
4-Bromophenyl phenyl ether	74	70	40-140	6	30
Atrazine	80	72	40-140	11	30
Phenanthrene	67	62	40-140	8	30
Anthracene	70	64	40-140	9	30
Carbazole	71	66	55-144	7	30
Di-n-butylphthalate	72	66	40-140	9	30
Fluoranthene	70	64	40-140	9	30
Pyrene	68	63	26-127	8	30
Butyl benzyl phthalate	71	67	40-140	6	30



**Project Name:** CITY OF LORAIN

Lab Number:

L2247388

**Project Number:** 15011 Report Date:

	LCS	LCSD	9	%Recovery			RPD
Parameter	%Recovery Qual	%Recovery	Qual	Limits	RPD	Qual	Limits
Semivolatile Organics by GC/MS - W	estborough Lab Associated sample(s)	): 18 Batch:	WG1683691-2	2 WG1683691-3			
Chrysene	75	66		40-140	13		30
Di-n-octylphthalate	76	70		40-140	8		30

Surrogate	LCS %Recovery Qua	LCSD al %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	65	59		21-120
Phenol-d6	56	51		10-120
Nitrobenzene-d5	69	61		23-120
2-Fluorobiphenyl	70	63		15-120
2,4,6-Tribromophenol	70	63		10-120
4-Terphenyl-d14	72	66		41-149



**Project Name:** CITY OF LORAIN

**Project Number:** 15011

Lab Number:

L2247388

Report Date:

arameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
emivolatile Organics by GC/MS-SIM	- Westborough Lab A	Associated sa	mple(s): 18 Bat	ch: WG1683	692-2 WG1683	3692-3		
Bis(2-chloroethyl)ether	59		75		40-140	24		40
n-Nitrosodi-n-propylamine	57		73		40-140	25		40
Hexachloroethane	46		59		40-140	25		40
Naphthalene	55		70		40-140	24		40
Hexachlorobutadiene	52		64		40-140	21		40
2,6-Dinitrotoluene	55		71		40-140	25		40
2,4-Dinitrotoluene	54		72		37-111	29		40
4,6-Dinitro-o-cresol	38	Q	40		40-140	5		40
Hexachlorobenzene	67		82		40-140	20		40
Pentachlorophenol	44		56		9-103	24		40
3,3'-Dichlorobenzidine	51		62		26-127	19		40
Benzo(a)anthracene	60		78		40-140	26		40
Bis(2-ethylhexyl)phthalate	90		117		40-140	26		40
Benzo(b)fluoranthene	57		71		40-140	22		40
Benzo(k)fluoranthene	61		84		40-140	32		40
Benzo(a)pyrene	51		66		40-140	26		40
Indeno(1,2,3-cd)pyrene	64		81		40-140	23		40
Dibenzo(a,h)anthracene	63		81		40-140	25		40
Benzo(ghi)perylene	63		81		40-140	25		40



**Project Name:** CITY OF LORAIN Lab Number:

L2247388

**Project Number:** 15011

Report Date:

11/02/22

	LCS		LCSD		%Recovery			RPD
Parameter	%Recovery	Qual	%Recovery	Qual	Limits	RPD	Qual	Limits

Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 18 Batch: WG1683692-2 WG1683692-3

Surrogate	LCS %Recovery Qua	LCSD I %Recovery Qual	Acceptance Criteria
- Garrogato	/interest Qua	, priceovery quar	
2-Fluorophenol	51	65	21-120
Phenol-d6	42	54	10-120
Nitrobenzene-d5	59	75	23-120
2-Fluorobiphenyl	53	66	15-120
2,4,6-Tribromophenol	63	83	10-120
4-Terphenyl-d14	49	63	41-149



Project Name: CITY OF LORAIN

Project Number: 15011

Lab Number: L2247388

arameter	LCS %Recovery	Qual	LCSD %Recovery	%Recovery Qual Limits	RPD	RPD Qual Limits
emivolatile Organics by GC/MS - W	estborough Lab Associa	ated sample(s)	: 01-09 Batch:	WG1685833-2 WG16858	33-3	
Benzaldehyde	103		84	40-140	20	50
Phenol	95	Q	77	26-90	21	50
Bis(2-chloroethyl)ether	82		70	40-140	16	50
2-Chlorophenol	96		76	25-102	23	50
2-Methylphenol	101		83	30-130	20	50
Bis(2-chloroisopropyl)ether	86		68	40-140	23	50
Acetophenone	83		69	14-144	18	50
n-Nitrosodi-n-propylamine	90		75	32-121	18	50
3-Methylphenol/4-Methylphenol	100		83	30-130	19	50
Hexachloroethane	88		70	40-140	23	50
Nitrobenzene	102		85	40-140	18	50
Isophorone	90		74	40-140	20	50
2-Nitrophenol	125		102	30-130	20	50
2,4-Dimethylphenol	99		80	30-130	21	50
Bis(2-chloroethoxy)methane	95		77	40-117	21	50
2,4-Dichlorophenol	100		81	30-130	21	50
Naphthalene	82		66	40-140	22	50
4-Chloroaniline	57		53	40-140	7	50
Hexachlorobutadiene	70		57	40-140	20	50
Caprolactam	110		92	15-130	18	50
p-Chloro-m-cresol	102		84	26-103	19	50
2-Methylnaphthalene	88		70	40-140	23	50
Hexachlorocyclopentadiene	55		42	40-140	27	50

Project Name: CITY OF LORAIN

Project Number: 15011

Lab Number: L2247388

arameter	LCS %Recovery G	Qual %	LCSD %Recovery	% Qual	Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - V	Vestborough Lab Associated	sample(s):	01-09 Batch:	WG1685833	-2 WG16858	333-3		
1,2,4,5-Tetrachlorobenzene	78		64		40-117	20	1	50
2,4,6-Trichlorophenol	90		76		30-130	17		50
2,4,5-Trichlorophenol	95		80		30-130	17		50
Biphenyl	83		68		37-127	20		50
2-Chloronaphthalene	84		68		40-140	21		50
2-Nitroaniline	124		104		47-134	18		50
Dimethyl phthalate	90		75		40-140	18		50
2,6-Dinitrotoluene	102		84		40-140	19		50
Acenaphthylene	92		76		40-140	19		50
3-Nitroaniline	101		93		26-129	8		50
Acenaphthene	84		70		31-137	18		50
2,4-Dinitrophenol	100		99		4-130	1		50
4-Nitrophenol	120	Q	102		11-114	16		50
2,4-Dinitrotoluene	110		94		40-132	16		50
Dibenzofuran	87		73		40-140	18		50
2,3,4,6-Tetrachlorophenol	92		76		58-132	19		50
Diethyl phthalate	95		80		40-140	17		50
Fluorene	91		76		40-140	18		50
4-Chlorophenyl phenyl ether	89		74		40-140	18		50
4-Nitroaniline	110		94		41-125	16		50
4,6-Dinitro-o-cresol	157	Q	135	Q	10-130	15		50
NDPA/DPA	94		77		36-157	20		50
4-Bromophenyl phenyl ether	88		74		40-140	17	1	50

Project Name: CITY OF LORAIN

Project Number: 15011

Lab Number: L2247388

arameter	LCS %Recovery Qual	LCSD %Recovery	%Recovery Qual Limits	RPD	RPD Qual Limits
emivolatile Organics by GC/MS - \	Westborough Lab Associated sample(s)	: 01-09 Batch	n: WG1685833-2 WG16858	33-3	
Hexachlorobenzene	87	73	40-140	18	50
Pentachlorophenol	76	64	17-109	17	50
Atrazine	88	74	40-140	17	50
Phenanthrene	86	70	40-140	21	50
Anthracene	87	73	40-140	18	50
Carbazole	91	75	54-128	19	50
Di-n-butylphthalate	99	83	40-140	18	50
Fluoranthene	91	75	40-140	19	50
Pyrene	92	75	35-142	20	50
Butyl benzyl phthalate	107	88	40-140	19	50
3,3'-Dichlorobenzidine	78	70	40-140	11	50
Benzo(a)anthracene	85	70	40-140	19	50
Chrysene	84	70	40-140	18	50
Bis(2-ethylhexyl)phthalate	106	87	40-140	20	50
Di-n-octylphthalate	106	88	40-140	19	50
Benzo(b)fluoranthene	90	76	40-140	17	50
Benzo(k)fluoranthene	86	70	40-140	21	50
Benzo(a)pyrene	87	73	40-140	18	50
Indeno(1,2,3-cd)pyrene	103	84	40-140	20	50
Dibenzo(a,h)anthracene	90	75	40-140	18	50
Benzo(ghi)perylene	91	77	40-140	17	50



**Project Name:** CITY OF LORAIN Lab Number:

L2247388

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LCSD LCS %Recovery RPD %Recovery %Recovery Limits Limits **Parameter** Qual Qual RPD Qual

Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-09 Batch: WG1685833-2 WG1685833-3

Surrogate	LCS	LCSD	Acceptance Ial Criteria
	%Recovery Qual	%Recovery Qu	ial Criteria
2-Fluorophenol	96	77	25-120
Phenol-d6	99	83	10-120
Nitrobenzene-d5	109	88	23-120
2-Fluorobiphenyl	83	71	30-120
2,4,6-Tribromophenol	99	82	10-136
4-Terphenyl-d14	93	76	18-120

**Project Name:** CITY OF LORAIN

**Project Number:** 15011

Lab Number:

L2247388

Report Date:

arameter	LCS %Recovery Qual	LCSD %Recovery	%Recovery Qual Limits	RPD	RPD Qual Limits
emivolatile Organics by GC/MS - We	estborough Lab Associated sample	e(s): 12 Batch:	WG1689251-2 WG1689251	-3	
Benzaldehyde	93	92	40-140	1	50
Phenol	85	81	26-90	5	50
Bis(2-chloroethyl)ether	76	73	40-140	4	50
2-Chlorophenol	86	82	25-102	5	50
2-Methylphenol	87	81	30-130	7	50
Bis(2-chloroisopropyl)ether	63	62	40-140	2	50
Acetophenone	81	78	14-144	4	50
n-Nitrosodi-n-propylamine	79	75	32-121	5	50
3-Methylphenol/4-Methylphenol	88	84	30-130	5	50
Hexachloroethane	79	77	40-140	3	50
Nitrobenzene	91	88	40-140	3	50
Isophorone	80	76	40-140	5	50
2-Nitrophenol	107	104	30-130	3	50
2,4-Dimethylphenol	91	85	30-130	7	50
Bis(2-chloroethoxy)methane	82	78	40-117	5	50
2,4-Dichlorophenol	98	91	30-130	7	50
Naphthalene	79	76	40-140	4	50
4-Chloroaniline	90	85	40-140	6	50
Hexachlorobutadiene	93	89	40-140	4	50
Caprolactam	88	82	15-130	7	50
p-Chloro-m-cresol	96	90	26-103	6	50
2-Methylnaphthalene	83	79	40-140	5	50
Hexachlorocyclopentadiene	122	116	40-140	5	50

Project Name: CITY OF LORAIN

Project Number: 15011

Lab Number:

L2247388

Report Date:

arameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - V	Vestborough Lab Associa	ted sample(s)	: 12 Batch:	WG1689251-2	2 WG1689251-3			
1,2,4,5-Tetrachlorobenzene	93		88		40-117	6		50
2,4,6-Trichlorophenol	108		104		30-130	4		50
2,4,5-Trichlorophenol	112		104		30-130	7		50
Biphenyl	83		79		37-127	5		50
2-Chloronaphthalene	89		84		40-140	6		50
2-Nitroaniline	106		97		47-134	9		50
Dimethyl phthalate	95		89		40-140	7		50
2,6-Dinitrotoluene	107		100		40-140	7		50
Acenaphthylene	91		86		40-140	6		50
3-Nitroaniline	87		81		26-129	7		50
Acenaphthene	79		73		31-137	8		50
2,4-Dinitrophenol	62		53		4-130	16		50
4-Nitrophenol	97		91		11-114	6		50
2,4-Dinitrotoluene	101		94		40-132	7		50
Dibenzofuran	82		76		40-140	8		50
2,3,4,6-Tetrachlorophenol	106		96		58-132	10		50
Diethyl phthalate	88		81		40-140	8		50
Fluorene	85		78		40-140	9		50
4-Chlorophenyl phenyl ether	90		84		40-140	7		50
4-Nitroaniline	96		86		41-125	11		50
4,6-Dinitro-o-cresol	138	Q	128		10-130	8		50
NDPA/DPA	87		80		36-157	8		50
4-Bromophenyl phenyl ether	93		86		40-140	8		50



**Project Name:** CITY OF LORAIN

**Project Number:** 15011

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11/02/22

arameter	LCS %Recovery Qual	LCSD %Recovery		Recovery Limits	RPD	RPD Qual Limits
emivolatile Organics by GC/MS -	Westborough Lab Associated sample	e(s): 12 Batch:	WG1689251-2	WG1689251-3		
Hexachlorobenzene	91	83		40-140	9	50
Pentachlorophenol	98	85		17-109	14	50
Atrazine	100	90		40-140	11	50
Phenanthrene	79	73		40-140	8	50
Anthracene	82	76		40-140	8	50
Carbazole	83	77		54-128	8	50
Di-n-butylphthalate	86	80		40-140	7	50
Fluoranthene	86	79		40-140	8	50
Pyrene	85	80		35-142	6	50
Butyl benzyl phthalate	91	84		40-140	8	50
3,3'-Dichlorobenzidine	77	71		40-140	8	50
Benzo(a)anthracene	82	76		40-140	8	50
Chrysene	82	76		40-140	8	50
Bis(2-ethylhexyl)phthalate	85	80		40-140	6	50
Di-n-octylphthalate	84	77		40-140	9	50
Benzo(b)fluoranthene	87	82		40-140	6	50
Benzo(k)fluoranthene	82	78		40-140	5	50
Benzo(a)pyrene	87	81		40-140	7	50
Indeno(1,2,3-cd)pyrene	96	89		40-140	8	50
Dibenzo(a,h)anthracene	84	78		40-140	7	50
Benzo(ghi)perylene	85	79		40-140	7	50



Project Name: CITY OF LORAIN

Lab Number:

L2247388 11/02/22

Project Number: 15011

Report Date:

LCS LCSD %Recovery RPD
Parameter %Recovery Qual %Recovery Qual Limits RPD Qual Limits

Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 12 Batch: WG1689251-2 WG1689251-3

Surrogate	LCS %Recovery Qual	LCSD %Recovery Qual	Acceptance Criteria
2-Fluorophenol	92	87	25-120
Phenol-d6	90	87	10-120
Nitrobenzene-d5	98	93	23-120
2-Fluorobiphenyl	91	87	30-120
2,4,6-Tribromophenol	116	104	10-136
4-Terphenyl-d14	91	83	18-120

#### PETROLEUM HYDROCARBONS



**Project Name:** CITY OF LORAIN

**Project Number:** 15011

**SAMPLE RESULTS** 

Lab Number: Report Date:

L2247388

11/02/22

Lab ID:

Client ID:

L2247388-01

LRN005:TP-14:D082922 Sample Location: FORMER ST. JOE'S

Date Collected:

08/29/22 11:30

Date Received: Field Prep:

09/01/22 Not Specified

Sample Depth:

Matrix:

Soil

Analytical Method: 1,8015D(M) Analytical Date: 09/09/22 22:45

Analyst: Percent Solids:

BAD 75%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Gasoline Range Organics - Westb	orough Lab					
TPH (C6-C12)	ND		mg/kg	6.60		1
Surrogate			% Recovery	Qualifier		eptance riteria
1,1,1-Trifluorotoluene			91			70-130
4-Bromofluorobenzene			85			70-130

Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

SAMPLE RESULTS

Lab ID: L2247388-01 Date Collected: 08/29/22 11:30

Client ID: LRN005:TP-14:D082922 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth:

Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 1,8015D(M) Extraction Date: 09/10/22 15:52
Analytical Date: 09/11/22 13:38

Analyst: AL Percent Solids: 75%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Diesel Range & Oil Range Orga	nics - Westborough Lab					
TPH (C10-C20)	68.7		mg/kg	19.4		1
TPH (C20-C34)	84.6		mg/kg	19.4	. ==	1
Surrogate			% Recovery	Qualifier		eptance riteria
o-Terphenyl			75			40-140

**Project Name:** CITY OF LORAIN

**Project Number:** 

15011

Lab Number:

L2247388

Report Date:

11/02/22

**SAMPLE RESULTS** 

Lab ID:

L2247388-02

Client ID:

LRN005:TP-13:D082922

Date Collected:

08/29/22 10:30

Date Received:

09/01/22

Sample Location:

FORMER ST. JOE'S

Field Prep:

Not Specified

Sample Depth:

Analytical Date:

Percent Solids:

Matrix:

Soil

Analytical Method:

1,8015D(M) 09/10/22 00:14

Analyst:

**BAD** 60%

Parameter	Result	Qualifier	Units	RL	MDL	<b>Dilution Factor</b>
Gasoline Range Organics - W	estborough Lab					
TPH (C6-C12)	ND		mg/kg	8.33		1
Ourse make						eptance

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
1,1,1-Trifluorotoluene	102		70-130	
4-Bromofluorobenzene	102		70-130	



09/10/22 15:52

**Extraction Date:** 

**Project Name:** Lab Number: CITY OF LORAIN L2247388

Report Date: **Project Number:** 15011 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-02

Date Collected: 08/29/22 10:30 Client ID: Date Received: 09/01/22 LRN005:TP-13:D082922 Sample Location: Field Prep: FORMER ST. JOE'S Not Specified

Sample Depth:

Extraction Method: EPA 3546 Matrix: Soil

Analytical Method: 1,8015D(M) 09/11/22 14:28 Analytical Date:

Analyst: AL 60% Percent Solids:

Parameter	Result	Qualifier	Units	RL	MDL	<b>Dilution Factor</b>
Diesel Range & Oil Range Org	anics - Westborough Lab					
TPH (C10-C20)	218.		mg/kg	73.0		1
TPH (C20-C34)	1480		mg/kg	73.0		1
Surrogate			% Recovery	Qualifier		eptance riteria
o-Terphenyl			74			40-140

**Project Name:** CITY OF LORAIN

**Project Number:** 15011

**SAMPLE RESULTS** 

Lab Number:

L2247388

Report Date:

11/02/22

Lab ID: L2247388-03

Client ID:

LRN005:TP-12-3:D082922

Sample Location:

FORMER ST. JOE'S

Date Collected:

08/29/22 12:30

Date Received:

09/01/22

Field Prep:

Not Specified

Sample Depth:

Matrix:

Soil

Analytical Method: Analytical Date:

1,8015D(M) 09/10/22 00:44

Analyst: Percent Solids: **BAD** 64%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Gasoline Range Organics - Westb	orough Lab					
TPH (C6-C12)	ND		mg/kg	7.70		1
Surrogate			% Recovery	Qualifier		eptance riteria
1,1,1-Trifluorotoluene			103			70-130
4-Bromofluorobenzene			105			70-130

Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

SAMPLE RESULTS

Lab ID: L2247388-03 RE\D Date Collected: 08/29/22 12:30

Client ID: LRN005:TP-12-3:D082922 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth:

Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 1,8015D(M) Extraction Date: 09/15/22 15:39
Analytical Date: 09/21/22 15:32

Analyst: SR Percent Solids: 64%

Parameter	Result Q	ualifier Units	RL	MDL	<b>Dilution Factor</b>
Diesel Range & Oil Range Orga	anics - Westborough Lab				
TPH (C10-C20)	229.	mg/kg	116	_	5
TPH (C20-C34)	1400	mg/kg	116	-	5
Surrogate		% Recovery	Qualifier		eptance riteria
o-Terphenyl		44			40-140



Project Name: CITY OF LORAIN

Project Number: 15011

CAMDIE DECILI

Lab Number:

L2247388

Report Date:

11/02/22

SAMPLE RESULTS

Lab ID:

L2247388-04

Client ID:

LRN005:TP-12-2:D082922

Sample Location: FORME

FORMER ST. JOE'S

Date Collected:

08/29/22 13:30

Date Received:

09/01/22

70-130

Field Prep:

Not Specified

Sample Depth:

Matrix:

Soil

Analytical Method: Analytical Date:

Percent Solids:

4-Bromofluorobenzene

1,8015D(M) 09/10/22 01:14

Analyst:

BAD 67% **Extraction Method:** 

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Gasoline Range Organics - Westbor	ough Lab					
TPH (C6-C12)	ND		mg/kg	7.17		1
Surrogate			% Recovery	Qualifier		eptance riteria
1,1,1-Trifluorotoluene			103			70-130

103

Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

SAMPLE RESULTS

Lab ID: L2247388-04 D Date Collected: 08/29/22 13:30

Client ID: LRN005:TP-12-2:D082922 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth:

Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 1,8015D(M) Extraction Date: 09/10/22 15:52
Analytical Date: 09/12/22 17:45

Analyst: MC Percent Solids: 67%

Parameter	Result	Qualifier Units	RL	MDL	Dilution Factor
Diesel Range & Oil Range Org.	anics - Westborough Lab				
TPH (C10-C20)	141.	mg/kg	43.8	-	2
TPH (C20-C34)	686.	mg/kg	43.8	7	2
Surrogate		% Recove	ry Qualifie		eptance riteria
o-Terphenyl		57			40-140

**Project Name:** CITY OF LORAIN

**Project Number:** 

15011

Lab Number:

L2247388

Report Date:

11/02/22

**SAMPLE RESULTS** 

Lab ID:

L2247388-05

Client ID:

LRN005:TP-12-1:D082922

Sample Location:

FORMER ST. JOE'S

Date Collected:

08/29/22 14:30

Date Received:

09/01/22

Field Prep:

Not Specified

Sample Depth:

Matrix:

Soil

Analytical Method: Analytical Date:

Percent Solids:

1,8015D(M) 09/10/22 01:44

Analyst:

**BAD** 64%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Facto
Gasoline Range Organics - Wes	stborough Lab					
TPH (C6-C12)	ND		mg/kg	7.58		1

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
1,1,1-Trifluorotoluene	104		70-130	
4-Bromofluorobenzene	105		70-130	



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

SAMPLE RESULTS

Lab ID: L2247388-05 RE Date Collected: 08/29/22 14:30

Client ID: LRN005:TP-12-1:D082922 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth:

Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 1,8015D(M) Extraction Date: 09/12/22 15:21
Analytical Date: 09/13/22 20:02

Analyst: MC Percent Solids: 64%

Parameter	Result	Qualifier Units	RL	MDL	Dilution Factor
Diesel Range & Oil Range Organic	cs - Westborough Lab				
TPH (C10-C20)	27.8	mg/kg	23.4	-	1
TPH (C20-C34)	151.	mg/kg	23.4	-	1
Surrogate		% Recovery	Qualifier		eptance riteria
o-Terphenyl		16	Q		40-140



**Project Name:** CITY OF LORAIN

**Project Number:** 15011

**SAMPLE RESULTS** 

Lab Number:

L2247388

Report Date:

11/02/22

Lab ID: L2247388-06

Client ID: Sample Location:

LRN005:CTP-3:D083022 FORMER ST. JOE'S

Date Collected: Date Received: 08/30/22 09:30

Field Prep:

09/01/22 Not Specified

Sample Depth:

Matrix:

Soil

Analytical Method: 1,8015D(M) Analytical Date: 09/10/22 02:14

Analyst: Percent Solids: **BAD** 72%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Gasoline Range Organics - Westb	orough Lab					
TPH (C6-C12)	ND		mg/kg	6.82		1
Surrogate			% Recovery	Qualifier		eptance riteria
1,1,1-Trifluorotoluene			103			70-130
4-Bromofluorobenzene			103			70-130

Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

SAMPLE RESULTS

Lab ID: L2247388-06 D Date Collected: 08/30/22 09:30

Client ID: LRN005:CTP-3:D083022 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth:

Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 1,8015D(M) Extraction Date: 09/11/22 21:07
Analytical Date: 09/12/22 10:48

Analyst: MC Percent Solids: 72%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Diesel Range & Oil Range Org	ganics - Westborough Lab					
TPH (C10-C20)	ND		mg/kg	286	_	5
TPH (C20-C34)	1050		mg/kg	286	-	5
Surrogate			% Recovery	Qualifier		eptance riteria
o-Terphenyl			56			40-140

**Project Name:** CITY OF LORAIN

**Project Number:** 15011

**SAMPLE RESULTS** 

Lab Number: Report Date:

L2247388

11/02/22

Lab ID:

L2247388-07

Client ID:

LRN005:CTP-2:D083022

Sample Location:

FORMER ST. JOE'S

Date Collected: Date Received: 08/30/22 11:00

Field Prep:

09/01/22 Not Specified

Sample Depth:

Matrix:

Soil

Analytical Method: Analytical Date:

Percent Solids:

1,8015D(M) 09/10/22 02:44

Analyst:

**BAD** 52%

<u> </u>		1				
Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Gasoline Range Organics - Wes	tborough Lab					
TPH (C6-C12)	ND		mg/kg	9.22	-	1
Surrogate			% Recovery	Qualifier		eptance riteria
4 4 4 T-10			404			70.420

TPH (C6-C12)	ND	mg/kg	9.22	-	1
Surrogate		% Recovery	Qualifier	Acceptance Criteria	
1,1,1-Trifluorotoluene		101		70-130	
4-Bromofluorobenzene		99		70-130	

Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

SAMPLE RESULTS

Lab ID: L2247388-07 D Date Collected: 08/30/22 11:00

Client ID: LRN005:CTP-2:D083022 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth:

Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 1,8015D(M) Extraction Date: 09/11/22 21:07
Analytical Date: 09/12/22 11:13

Analyst: MC Percent Solids: 52%

Parameter	Result	Qualifier Units	RL	MDL	Dilution Factor
Diesel Range & Oil Range Orga	anics - Westborough Lab				
TPH (C10-C20)	1050	mg/kg	405	_	5
TPH (C20-C34)	2250	mg/kg	405	-	5
Surrogate		% Recove	ry Qualifier		eptance riteria
o-Terphenyl		60			40-140

**Project Name:** CITY OF LORAIN

**Project Number:** 15011

**SAMPLE RESULTS** 

Report Date:

Lab Number:

L2247388 11/02/22

Date Collected:

Date Received:

08/30/22 13:00 09/01/22

FORMER ST. JOE'S

LRN005:CTP-1:D083022

Field Prep:

Not Specified

Sample Depth:

Lab ID:

Client ID:

Matrix:

Sample Location:

Soil

Analytical Method: Analytical Date:

1,8015D(M) 09/10/22 03:14

L2247388-08

Analyst: Percent Solids: **BAD** 86%

Result	Qualifier	Units	RL	MDL	Dilution Factor
ugh Lab					
ND		mg/kg	5.45		1
		% Recovery	Qualifier		eptance riteria
		102			70-130
		103		1.0	70-130
	ugh Lab	ugh Lab	ND mg/kg  **Recovery**  102	ugh Lab  ND mg/kg 5.45  **Recovery Qualifier**  102	ugh Lab  ND mg/kg 5.45  Recovery Qualifier C



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

SAMPLE RESULTS

Lab ID: L2247388-08 D Date Collected: 08/30/22 13:00

Client ID: LRN005:CTP-1:D083022 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth:

Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 1,8015D(M) Extraction Date: 09/11/22 21:07
Analytical Date: 09/12/22 11:38

Analyst: MC Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Diesel Range & Oil Range Org	anics - Westborough Lab					
TPH (C10-C20)	ND		mg/kg	241	_	5
TPH (C20-C34)	883.		mg/kg	241	-	5
Surrogate			% Recovery	Qualifier		eptance riteria
o-Terphenyl			67		10	40-140



Project Name: CITY OF LORAIN

Project Number: 15011

**SAMPLE RESULTS** 

Date Collected:

L2247388

11/02/22

Report Date:

Lab Number:

08/30/22 08:00

Date Received: Field Prep:

09/01/22 Not Specified

Sample Depth:

Matrix:

Lab ID:

Client ID:

Soil

Analytical Method: Analytical Date:

Sample Location:

1,8015D(M) 09/10/22 03:44

L2247388-09

LRN005:CTP-5:D083022

FORMER ST. JOE'S

Analyst: Percent Solids: BAD 69%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Gasoline Range Organics - Westb	orough Lab					
FPH (C6-C12)	ND		mg/kg	6.48		1
Surrogate			% Recovery	Qualifier		eptance riteria
1,1,1-Trifluorotoluene			102			70-130
4-Bromofluorobenzene			103			70-130

Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

SAMPLE RESULTS

Lab ID: L2247388-09 D Date Collected: 08/30/22 08:00

Client ID: LRN005:CTP-5:D083022 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth:

Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 1,8015D(M) Extraction Date: 09/11/22 21:07
Analytical Date: 09/12/22 09:59

Analyst: MC Percent Solids: 69%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Diesel Range & Oil Range Org	anics - Westborough Lab					
TPH (C10-C20)	ND		mg/kg	295	_	5
TPH (C20-C34)	822.		mg/kg	295	-	5
Surrogate			% Recovery	Qualifier		eptance riteria
o-Terphenyl			57		10	40-140

Project Name: CITY OF LORAIN

Project Number: 15011

**SAMPLE RESULTS** 

Lab Number: L2

L2247388

**Report Date:** 11/02/22

SAMPLE RESUL

Lab ID: L2247388-12

Client ID: LRN005:CTP-4:D083122 Sample Location: FORMER ST. JOE'S Date Collected: Date Received: 08/31/22 10:00

Field Prep:

09/01/22 Not Specified

Sample Depth:

Matrix: Soil

Analytical Method: 1,8015D(M)
Analytical Date: 09/10/22 04:14

Analyst: BAD Percent Solids: 71%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Gasoline Range Organics - West	borough Lab					
TPH (C6-C12)	ND		mg/kg	6.75		1
Surrogate			% Recovery	Qualifier		eptance riteria
1,1,1-Trifluorotoluene			101			70-130
4-Bromofluorobenzene			99			70-130



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-12 D Date Collected: 08/31/22 10:00

Client ID: LRN005:CTP-4:D083122 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth:

Matrix: Soil Extraction Method: EPA 3546

Analytical Method: 1,8015D(M) Extraction Date: 09/12/22 15:21
Analytical Date: 09/16/22 18:46

Analyst: JB Percent Solids: 71%

Parameter	Result	Qualifier Units	RL	MDL	<b>Dilution Factor</b>
Diesel Range & Oil Range Organ	nics - Westborough Lab				
TPH (C10-C20)	320.	mg/kg	42.0	-	2
TPH (C20-C34)	1420	mg/kg	42.0	-	2
Surrogate		% Reco	very Qualifie		eptance riteria
o-Terphenyl		52			40-140

Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

Method Blank Analysis Batch Quality Control

Analytical Method: Analytical Date: 1,8015D(M) 09/11/22 13:13

Analyst:

AL

Extraction Method: EPA 3546 Extraction Date: 09/10/22 15:52

Parameter	Resu	ılt Qualif	ier Units	RL	MDL	
Diesel Range & Oil	Range Organics - We	stborough La	ab for sample	(s): 01-02,04	Batch:	WG1685817-1
TPH (C10-C20)		ND	mg/kg	14.7	-	
TPH (C20-C34)		ND	mg/kg	14.7	1-1	

		Acceptance		
Surrogate	%Recovery	Qualifier	Criteria	
o-Terphenyl	88		40-140	



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 09/14/22 19:44

Analyst: MC

Extraction Method: EPA 3546

Extraction Date: 09/11/22 21:07

Parameter	Result	Qualifier	Units	RL	MDL	
Diesel Range & Oil Range O	rganics - Westbo	rough Lab fo	or sample(s):	05-09,12	Batch:	WG1685997-1
TPH (C10-C20)	ND		mg/kg	14.8	-	
TPH (C20-C34)	ND		mg/kg	14.8	0	

Surrogate		Acceptance		
	%Recovery Qu	ualifier	Criteria	
o-Terphenyl	64		40-140	



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8015D(M) Analytical Date: 09/09/22 22:15

Analyst: BAD

Parameter	Result	Qualifier	Units	RL	MDL
Gasoline Range Organics - W	estborough Lab	for sample(s	): 01-09,12	Batch:	WG1686786-4
TPH (C6-C12)	ND		mg/kg	5.00	_

Surrogate		Acceptance		
	%Recovery Q	ualifier	Criteria	
1,1,1-Trifluorotoluene	100		70-130	
4-Bromofluorobenzene	97		70-130	



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 09/16/22 17:57

Analyst: JB

Extraction Method: EPA 3546 Extraction Date: 09/14/22 20:22

		Units	RL	MDL	
- Westborou	igh Lab for	sample(s):	03	Batch:	WG1687540-1
ND		mg/kg	14.7		_
ND		mg/kg	14.7		
	627	V 2.7			

Surrogate		Acceptance		
	%Recovery Qualifi	er Criteria		
o-Terphenyl	55	40-140		



**Project Name:** CITY OF LORAIN

Lab Number:

L2247388

**Project Number:** 15011

Report Date:

11/02/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Diesel Range & Oil Range Organics -	Westborough Lab Asso	ociated samp	ole(s): 01-02,04	Batch:	WG1685817-2			
TPH (C10-C20)	84		_		40-140	-		40
TPH (C20-C34)	79		-		40-140	(4)		40

Surrogate	LCS	LCSD	Acceptance
	%Recovery Qua	I %Recovery Q	ual Criteria
o-Terphenyl	75		40-140

**Project Name:** CITY OF LORAIN

Lab Number:

L2247388

11/02/22

**Project Number:** 15011

Report Date:

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Diesel Range & Oil Range Organics -	Westborough Lab Ass	ociated samp	le(s): 05-09,12	Batch:	WG1685997-2			
TPH (C10-C20)	67				40-140			40
TPH (C20-C34)	63		-		40-140	-		40

Surrogate	LCS %Recovery Qu	ual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	56				40-140

**Project Name:** CITY OF LORAIN

Lab Number:

L2247388

**Project Number:** 15011

Report Date: 11/02/22

Parameter		LCS %Recovery	Qual		.CSD ecovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Gasoline Range Organics	- Westborough Lab	Associated sa	ample(s):	01-09,12	Batch:	WG1686786-2	WG1686786-3			
TPH (C6-C12)		96			100		80-120	4		20

Surrogate	LCS %Recovery Qua	LCSD I %Recovery Qual	Acceptance Criteria
1,1,1-Trifluorotoluene	105	104	70-130
4-Bromofluorobenzene	99	98	70-130

Project Name: CITY OF LORAIN

Lab Number:

L2247388

Project Number: 15011

Report Date:

11/02/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	
Diesel Range & Oil Range Organics -	Westborough Lab Asso	ociated sam	ple(s): 03 Bato	n: WG168	7540-2				
TPH (C10-C20)	110		<u>.</u>		40-140	- 129		40	
TPH (C20-C34)	70		-		40-140	-		40	

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	67				40-140

# Matrix Spike Analysis Batch Quality Control

Project Name:

**CITY OF LORAIN** 

Project Number: 1

15011

Lab Number:

L2247388

Report Date:

11/02/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	/ Qual	MSD Found	MSD %Recover		Recovery Limits	RPD Qua	RPD Il Limits
Gasoline Range Organics - 14:D082922	Westborough Lab	Associa	ted sample(s)	: 01-09,12	QC Batch ID	): WG1686	3786-6 QC	Sample: L	.2247388-0	1 Client ID:	LRN005:TP-
TPH (C6-C12)	ND	18.5	22.3	120		- 1 <del>-</del> 1	( <del>A</del> r)		80-120	-	20

	MS	MSD	Acceptance	
Surrogate	% Recovery Qualifier	% Recovery Qualifier	Criteria	
1,1,1-Trifluorotoluene	104		70-130	
4-Bromofluorobenzene	99		70-130	



Lab Duplicate Analysis
Batch Quality Control

Lab Number:

L2247388

Report Date:

11/02/22

Parameter	Native Sample	Duplicate \$	Sample	Units	RPD	Qual	RPD Limits	
Diesel Range & Oil Range Organics - Westborough L LRN005:CTP-5:D083022	ab Associated sample(s)	: 05-09,12	QC Batch	ID: WG1685997	-3 QC	Sample:	L2247388-09	Client ID
TPH (C10-C20)	ND	ND		mg/kg	NC		40	
TPH (C20-C34)	822	732		mg/kg	12		40	

		Acceptance				
Surrogate	%Recovery Qualifi	er %Recovery Qualifie	r Criteria			
o-Terphenyl	57	70	40-140			

**Project Name:** 

**Project Number:** 

CITY OF LORAIN

15011

Lab Duplicate Analysis
Batch Quality Control

Lab Number:

L2247388

Report Date:

11/02/22

**Project Name:** CITY OF LORAIN

**Project Number:** 15011

**RPD** Limits **Parameter Native Sample Duplicate Sample** Units **RPD** Qual

Gasoline Range Organics - Westborough Lab Associated sample(s): 01-09,12 QC Batch ID: WG1686786-5 QC Sample: L2247388-01 Client ID:

LRN005:TP-14:D082922

ND 20 TPH (C6-C12) ND mg/kg NC

			Acceptance			
Surrogate	%Recovery Qualifie	r %Recovery Qualifier	r Criteria			
1,1,1-Trifluorotoluene	91	99	70-130			
4-Bromofluorobenzene	85	93	70-130			

#### **PCBS**



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-01 Date Collected: 08/29/22 11:30

Client ID: LRN005:TP-14:D082922 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth:

Matrix: Soil Extraction Method: EPA 3540C
Analytical Method: 1,8082A Extraction Date: 09/15/22 12:45

Analytical Date: 09/17/22 00:57 Cleanup Method: EPA 3665A
Analyst: MEO Cleanup Date: 09/16/22
Percent Solids: 75% Cleanup Method: EPA 3660B

Percent Solids: 75% Cleanup Method: EPA 3660 Cleanup Date: 09/16/22

Parameter	Result	Qualifier	Units	RL	MDL	<b>Dilution Factor</b>	Column
Polychlorinated Biphenyls by	GC - Westborough Lab						
Aroclor 1016	ND		mg/kg	0.0423	_	1	Α
Aroclor 1221	ND		mg/kg	0.0423	( <del></del> )	1	Α
Aroclor 1232	ND		mg/kg	0.0423	-	1	Α
Aroclor 1242	ND		mg/kg	0.0423	\ <del>-</del>	1	Α
Aroclor 1248	ND		mg/kg	0.0423		1	Α
Aroclor 1254	ND		mg/kg	0.0423	-	1	Α
Aroclor 1260	ND		mg/kg	0.0423		1	Α
Aroclor 1262	ND		mg/kg	0.0423	-	1	Α
Aroclor 1268	ND		mg/kg	0.0423		1	Α
PCBs, Total	ND		mg/kg	0.0423	-	1	Α

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	63		30-150	Α
Decachlorobiphenyl	65		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	67		30-150	В
Decachlorobiphenyl	66		30-150	В



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-02 Date Collected: 08/29/22 10:30

Client ID: LRN005:TP-13:D082922 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth:

Matrix: Soil Extraction Method: EPA 3540C
Analytical Method: 1,8082A Extraction Date: 09/15/22 12:45

Analytical Date: 09/17/22 01:05 Cleanup Method: EPA 3665A

Analyst: MEO Cleanup Date: 09/16/22

Percent Solids: 60% Cleanup Method: EPA 3660B

Percent Solids: 60% Cleanup Method: EPA 3660 Cleanup Date: 09/16/22

Parameter	Result	Qualifier	Units	RL	MDL	<b>Dilution Factor</b>	Column
Polychlorinated Biphenyls by	y GC - Westborough Lab						
Aroclor 1016	ND		mg/kg	0.0544	_	1	Α
Aroclor 1221	ND		mg/kg	0.0544	-	1	Α
Aroclor 1232	ND		mg/kg	0.0544	-	1	Α
Aroclor 1242	ND		mg/kg	0.0544	\ <del>-</del>	1	Α
Aroclor 1248	ND		mg/kg	0.0544	( <del></del> )	1	Α
Aroclor 1254	0.0762		mg/kg	0.0544	-	1	В
Aroclor 1260	ND		mg/kg	0.0544	-	1	Α
Aroclor 1262	ND		mg/kg	0.0544		1	Α
Aroclor 1268	ND		mg/kg	0.0544	-	1	Α
PCBs, Total	0.0762		mg/kg	0.0544	-	1	В

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	65		30-150	Α
Decachlorobiphenyl	52		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	60		30-150	В
Decachlorobiphenyl	52		30-150	В



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-03 Date Collected: 08/29/22 12:30

Client ID: LRN005:TP-12-3:D082922 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth:

Matrix: Soil Extraction Method: EPA 3540C
Analytical Method: 1,8082A Extraction Date: 09/15/22 12:45

Analytical Date: 09/17/22 01:14 Cleanup Method: EPA 3665A
Analyst: MEO Cleanup Date: 09/16/22
Percent Solids: 64% Cleanup Method: EPA 3660B

Cleanup Date: 09/16/22

Parameter	Result	Qualifier	Units	RL	MDL	<b>Dilution Factor</b>	Column
Polychlorinated Biphenyls b	y GC - Westborough Lab						
Aroclor 1016	ND		mg/kg	0.0509	<u>-</u>	1	Α
Aroclor 1221	ND		mg/kg	0.0509	-	1	Α
Aroclor 1232	ND		mg/kg	0.0509	-	1	Α
Aroclor 1242	ND		mg/kg	0.0509	<del>-</del>	1	Α
Aroclor 1248	0.473		mg/kg	0.0509	<b>→</b>	1	Α
Aroclor 1254	ND		mg/kg	0.0509	-	1	Α
Aroclor 1260	ND		mg/kg	0.0509	_	1	Α
Aroclor 1262	ND		mg/kg	0.0509		1	Α
Aroclor 1268	ND		mg/kg	0.0509	-	1	Α
PCBs, Total	0.473		mg/kg	0.0509	-	1	Α

		Acceptance	
% Recovery	Qualifier	Criteria	Column
74		30-150	Α
61		30-150	Α
65		30-150	В
62		30-150	В
	74 61 65	74 61 65	% Recovery         Qualifier         Criteria           74         30-150           61         30-150           65         30-150

Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-04 Date Collected: 08/29/22 13:30

Client ID: LRN005:TP-12-2:D082922 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth:

Matrix: Soil Extraction Method: EPA 3540C
Analytical Method: 1,8082A Extraction Date: 09/15/22 12:45

Analytical Date: 09/17/22 01:22 Cleanup Method: EPA 3665A
Analyst: MEO Cleanup Date: 09/16/22
Percent Solids: 67% Cleanup Method: EPA 3660B

Percent Solids: 67% Cleanup Method: EPA 3660 Cleanup Date: 09/16/22

Parameter	Result	Qualifier	Units	RL	MDL	<b>Dilution Factor</b>	Column
Polychlorinated Biphenyls b	y GC - Westborough Lab						
Aroclor 1016	ND		mg/kg	0.0471	_	1	Α
Aroclor 1221	ND		mg/kg	0.0471	<del>-</del> ,	1	Α
Aroclor 1232	ND		mg/kg	0.0471	-	1	Α
Aroclor 1242	ND		mg/kg	0.0471	<del>-</del>	1	Α
Aroclor 1248	ND		mg/kg	0.0471		1	Α
Aroclor 1254	0.0945		mg/kg	0.0471	-	1	В
Aroclor 1260	0.100		mg/kg	0.0471		1	Α
Aroclor 1262	ND		mg/kg	0.0471		1	Α
Aroclor 1268	ND		mg/kg	0.0471		1	Α
PCBs, Total	0.194		mg/kg	0.0471	-	1	В

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	63		30-150	Α
Decachlorobiphenyl	49		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	64		30-150	В
Decachlorobiphenyl	48		30-150	В



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-05 Date Collected: 08/29/22 14:30

Client ID: LRN005:TP-12-1:D082922 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth:

Matrix: Soil Extraction Method: EPA 3540C
Analytical Method: 1,8082A Extraction Date: 09/15/22 12:45

Analytical Date: 09/17/22 01:31 Cleanup Method: EPA 3665A
Analyst: MEO Cleanup Date: 09/16/22
Percent Solids: 64% Cleanup Method: EPA 3660B

Percent Solids: 64% Cleanup Method: EPA 3660 Cleanup Date: 09/16/22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls b	y GC - Westborough Lab						
Aroclor 1016	ND		mg/kg	0.0514	-	1	Α
Aroclor 1221	ND		mg/kg	0.0514		1	Α
Aroclor 1232	ND		mg/kg	0.0514	_	1	Α
Aroclor 1242	ND		mg/kg	0.0514	-	1	Α
Aroclor 1248	ND		mg/kg	0.0514	- ( <del></del> )	1	Α
Aroclor 1254	0.0701		mg/kg	0.0514	-	1	В
Aroclor 1260	ND		mg/kg	0.0514		1	Α
Aroclor 1262	ND		mg/kg	0.0514		1	Α
Aroclor 1268	ND		mg/kg	0.0514		1	Α
PCBs, Total	0.0701		mg/kg	0.0514		1	В

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	62		30-150	Α
Decachlorobiphenyl	44		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	63		30-150	В
Decachlorobiphenyl	53		30-150	В



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-06 Date Collected: 08/30/22 09:30

Client ID: LRN005:CTP-3:D083022 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth:

Matrix: Soil Extraction Method: EPA 3540C
Analytical Method: 1,8082A Extraction Date: 09/15/22 12:45

Analytical Date: 09/17/22 01:39 Cleanup Method: EPA 3665A
Analyst: MEO Cleanup Date: 09/16/22
Percent Solids: 72% Cleanup Method: EPA 3660B

Percent Solids: 72% Cleanup Method: EPA 3660 Cleanup Date: 09/16/22

Parameter	Result	Qualifier	Units	RL	MDL	<b>Dilution Factor</b>	Column
Polychlorinated Biphenyls by	y GC - Westborough Lab						
Aroclor 1016	ND		mg/kg	0.0456	-	1	Α
Aroclor 1221	ND		mg/kg	0.0456	<del>-</del> ,	1	Α
Aroclor 1232	ND		mg/kg	0.0456	-	1	Α
Aroclor 1242	ND		mg/kg	0.0456	\ <u></u>	1	Α
Aroclor 1248	ND		mg/kg	0.0456		1	Α
Aroclor 1254	0.386		mg/kg	0.0456	-	1	В
Aroclor 1260	ND		mg/kg	0.0456	-	1	Α
Aroclor 1262	ND		mg/kg	0.0456	-	1	Α
Aroclor 1268	ND		mg/kg	0.0456		1	Α
PCBs, Total	0.386		mg/kg	0.0456	-	1	В

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	70		30-150	Α
Decachlorobiphenyl	41		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	54		30-150	В
Decachlorobiphenyl	36		30-150	В



09/16/22

Cleanup Date:

Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-07 Date Collected: 08/30/22 11:00

Client ID: LRN005:CTP-2:D083022 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth:

Matrix: Soil Extraction Method: EPA 3540C
Analytical Method: 1,8082A Extraction Date: 09/15/22 12:45

Analytical Date: 09/17/22 01:47 Cleanup Method: EPA 3665A
Analyst: MEO Cleanup Date: 09/16/22
Percent Solids: 52% Cleanup Method: EPA 3660B

MDL Result Qualifier Units RL **Dilution Factor** Column **Parameter** Polychlorinated Biphenyls by GC - Westborough Lab Aroclor 1016 ND mg/kg 0.0602 1 Α --Aroclor 1221 ND mg/kg 0.0602 Α 1 Aroclor 1232 ND mg/kg 0.0602 Α Aroclor 1242 ND 0.0602 1 mg/kg Α Aroclor 1248 0.272 mg/kg 0.0602 1 A 0.139 1 Aroclor 1254 mg/kg 0.0602 --В 0.0602 Aroclor 1260 ND 1 Α mg/kg --Aroclor 1262 ND 0.0602 1 A mg/kg ND 1 Aroclor 1268 0.0602 mg/kg --Α PCBs, Total 0.411 0.0602 В 1 mg/kg

		Acceptance	
% Recovery	Qualifier	Criteria	Column
58		30-150	Α
33		30-150	Α
58		30-150	В
43		30-150	В
	58 33 58	58 33 58	% Recovery         Qualifier         Criteria           58         30-150           33         30-150           58         30-150

Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-08 Date Collected: 08/30/22 13:00

Client ID: LRN005:CTP-1:D083022 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth:

Matrix: Soil Extraction Method: EPA 3540C
Analytical Method: 1,8082A Extraction Date: 09/15/22 12:45

Analytical Date: 09/17/22 01:56 Cleanup Method: EPA 3665A Analyst: MEO Cleanup Date: 09/16/22

Analyst: MEO Cleanup Date: 09/16/22
Percent Solids: 86% Cleanup Method: EPA 3660B
Cleanup Date: 09/16/22

Parameter	Result	Qualifier	Units	RL	MDL	<b>Dilution Factor</b>	Column
Polychlorinated Biphenyls b	y GC - Westborough Lab						
Aroclor 1016	ND		mg/kg	0.0383	_	1	Α
Aroclor 1221	ND		mg/kg	0.0383	( <del></del> )	1	Α
Aroclor 1232	ND		mg/kg	0.0383	-	1	Α
Aroclor 1242	ND		mg/kg	0.0383	\ <del>-</del>	1	Α
Aroclor 1248	ND		mg/kg	0.0383	2 <del>-</del>	1	Α
Aroclor 1254	0.0590		mg/kg	0.0383	-	1	В
Aroclor 1260	ND		mg/kg	0.0383	·	1	Α
Aroclor 1262	ND		mg/kg	0.0383	-	1	Α
Aroclor 1268	ND		mg/kg	0.0383	-	1	Α
PCBs, Total	0.0590		ma/ka	0.0383	_	1	В

		Acceptance	
% Recovery	Qualifier	Criteria	Column
75		30-150	Α
52		30-150	Α
71		30-150	В
50		30-150	В
	75 52 71	75 52 71	% Recovery         Qualifier         Criteria           75         30-150           52         30-150           71         30-150

Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-09 Date Collected: 08/30/22 08:00

Client ID: LRN005:CTP-5:D083022 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth:

Matrix: Soil Extraction Method: EPA 3540C
Analytical Method: 1,8082A Extraction Date: 09/15/22 12:45

Analytical Date: 09/17/22 02:04 Cleanup Method: EPA 3665A
Analyst: MEO Cleanup Date: 09/16/22

Percent Solids: 69% Cleanup Method: EPA 3660B Cleanup Date: 09/16/22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by	y GC - Westborough Lab			1.00			
Aroclor 1016	ND		mg/kg	0.0477	_	1	Α
Aroclor 1221	ND		mg/kg	0.0477	- 17 <del>-0</del>	1	Α
Aroclor 1232	ND		mg/kg	0.0477	-	1	Α
Aroclor 1242	ND		mg/kg	0.0477	-	1	Α
Aroclor 1248	ND		mg/kg	0.0477	<del>-</del>	1	Α
Aroclor 1254	ND		mg/kg	0.0477		1	Α
Aroclor 1260	ND		mg/kg	0.0477	·	1	Α
Aroclor 1262	ND		mg/kg	0.0477		1	Α
Aroclor 1268	ND		mg/kg	0.0477	<del>-</del>	1	Α
PCBs, Total	ND		mg/kg	0.0477		1	Α

		Acceptance	
% Recovery	Qualifier	Criteria	Column
66		30-150	Α
42		30-150	Α
62		30-150	В
44		30-150	В
	66 42 62	66 42 62	% Recovery         Qualifier         Criteria           66         30-150           42         30-150           62         30-150



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-12 Date Collected: 08/31/22 10:00

Client ID: LRN005:CTP-4:D083122 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth:

Matrix: Soil Extraction Method: EPA 3540C
Analytical Method: 1,8082A Extraction Date: 09/15/22 12:45

Analytical Method: 1,8082A

Analytical Date: 09/17/22 02:13

Analyst: MEO

Cleanup Method: EPA 3665A

Cleanup Date: 09/16/22

Analyst: MEO Cleanup Date: 09/16/22
Percent Solids: 71% Cleanup Method: EPA 3660B
Cleanup Date: 09/16/22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls b	y GC - Westborough Lab						
Aroclor 1016	ND		mg/kg	0.0451	_	1	Α
Aroclor 1221	ND		mg/kg	0.0451	_	1	Α
Aroclor 1232	ND		mg/kg	0.0451	-	1	Α
Aroclor 1242	ND		mg/kg	0.0451	-	1	Α
Aroclor 1248	ND		mg/kg	0.0451		1	Α
Aroclor 1254	ND		mg/kg	0.0451	_	1	Α
Aroclor 1260	ND		mg/kg	0.0451	-	1	Α
Aroclor 1262	ND		mg/kg	0.0451	-	1	Α
Aroclor 1268	ND		mg/kg	0.0451	_	1	Α
PCBs, Total	ND		mg/kg	0.0451	_	1	Α

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	67		30-150	Α
Decachlorobiphenyl	36		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	61		30-150	В
Decachlorobiphenyl	38		30-150	В



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-15 Date Collected: 08/29/22 10:30

Client ID: LRN005:W-1:W082922 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth:

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 1,8082A Extraction Date: 09/18/22 08:22

Analytical Date: 09/18/22 17:08 Cleanup Method: EPA 3665A
Analyst: MEO Cleanup Date: 09/18/22

Analyst: MEO Cleanup Date: 09/18/22
Cleanup Method: EPA 3660B
Cleanup Date: 09/18/22

Parameter	Result	Qualifier	Units	RL	MDL	<b>Dilution Factor</b>	Column
Polychlorinated Biphenyls b	y GC - Westborough Lab						
Aroclor 1016	ND		ug/l	0.036	_	1	Α
Aroclor 1221	ND		ug/l	0.036	-	1	Α
Aroclor 1232	ND		ug/l	0.036		1	Α
Aroclor 1242	ND		ug/l	0.036	-	1	Α
Aroclor 1248	ND		ug/l	0.036	<del>-</del>	1	Α
Aroclor 1254	ND		ug/l	0.036	_	1	Α
Aroclor 1260	ND		ug/l	0.036		1	Α
Aroclor 1262	ND		ug/l	0.036	-	1	Α
Aroclor 1268	ND		ug/l	0.036	-	1	Α
PCBs, Total	ND		ua/I	0.036	_	1	Α

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	80		30-150	Α
Decachlorobiphenyl	80		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	68		30-150	В
Decachlorobiphenyl	75		30-150	В



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-16 Date Collected: 08/30/22 08:00

Client ID: LRN005:W-2:W083022 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth:

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 1,8082A Extraction Date: 09/18/22 08:22

Analytical Date: 09/18/22 17:17 Cleanup Method: EPA 3665A
Analyst: MEO Cleanup Date: 09/18/22

Cleanup Method: EPA 3660B Cleanup Date: 09/18/22

Parameter	Result	Qualifier	Units	RL	MDL	<b>Dilution Factor</b>	Column
Polychlorinated Biphenyls by	y GC - Westborough Lab						
Aroclor 1016	ND		ug/l	0.036	_	1	Α
Aroclor 1221	ND		ug/l	0.036	-	1	Α
Aroclor 1232	ND		ug/l	0.036		1	Α
Aroclor 1242	ND		ug/l	0.036	-	1	Α
Aroclor 1248	ND		ug/l	0.036	<del>-</del>	1	Α
Aroclor 1254	ND		ug/l	0.036	_	1	Α
Aroclor 1260	ND		ug/l	0.036		1	Α
Aroclor 1262	ND		ug/l	0.036		1	Α
Aroclor 1268	ND		ug/l	0.036		1	Α
PCBs, Total	ND		ug/l	0.036	_	1	Α

		Acceptance	
% Recovery	Qualifier	Criteria	Column
96		30-150	Α
71		30-150	Α
109		30-150	В
72		30-150	В
	96 71 109	96 71 109	% Recovery         Qualifier         Criteria           96         30-150           71         30-150           109         30-150

Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-17 Date Collected: 08/30/22 13:30

Client ID: LRN005:W-3:W083022 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth:

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 1,8082A Extraction Date: 09/21/22 09:24

Analytical Date: 09/22/22 13:47 Cleanup Method: EPA 3665A

Analyst: MEO Cleanup Date: 09/21/22
Cleanup Method: EPA 3660B
Cleanup Date: 09/21/22

Parameter	Result	Qualifier	Units	RL	MDL	<b>Dilution Factor</b>	Column
Polychlorinated Biphenyls b	y GC - Westborough Lab						
Aroclor 1016	ND		ug/l	0.036	_	1	Α
Aroclor 1221	ND		ug/l	0.036	-	1	Α
Aroclor 1232	ND		ug/l	0.036	-	1	Α
Aroclor 1242	ND		ug/l	0.036	_	1	Α
Aroclor 1248	ND		ug/l	0.036	-	1	Α
Aroclor 1254	0.10		ug/l	0.036	_	1	Α
Aroclor 1260	ND		ug/l	0.036	-	1	Α
Aroclor 1262	ND		ug/l	0.036	-	1	Α
Aroclor 1268	ND		ug/l	0.036	-	1	Α
PCBs, Total	0.10		ua/I	0.036		1	Α

		Acceptance	
% Recovery	Qualifier	Criteria	Column
85		30-150	Α
53		30-150	Α
81		30-150	В
55		30-150	В
	85 53 81	85 53 81	% Recovery         Qualifier         Criteria           85         30-150           53         30-150           81         30-150

Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-18 Date Collected: 08/31/22 12:45

Client ID: LRN005:W-4:W083122 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth:

Matrix: Water Extraction Method: EPA 3510C
Analytical Method: 1,8082A Extraction Date: 09/18/22 08:22

Analytical Date: 09/18/22 17:33 Cleanup Method: EPA 3665A
Analyst: MEO Cleanup Date: 09/18/22

Analyst: MEO Cleanup Date: 09/18/22
Cleanup Method: EPA 3660B
Cleanup Date: 09/18/22

Parameter	Result	Qualifier	Units	RL	MDL	<b>Dilution Factor</b>	Column
Polychlorinated Biphenyls by	GC - Westborough Lab						
Aroclor 1016	ND		ug/l	0.036	_	1	Α
Aroclor 1221	ND		ug/l	0.036		1	Α
Aroclor 1232	ND		ug/l	0.036	-	1	Α
Aroclor 1242	ND		ug/l	0.036	-	1	Α
Aroclor 1248	ND		ug/l	0.036		1	Α
Aroclor 1254	ND		ug/l	0.036	_	1	Α
Aroclor 1260	ND		ug/l	0.036		1	Α
Aroclor 1262	ND		ug/l	0.036	-	1	Α
Aroclor 1268	ND		ug/l	0.036	-	1	Α
PCBs, Total	ND		ug/l	0.036	-	1	Α

		Acceptance	
% Recovery	Qualifier	Criteria	Column
78		30-150	Α
70		30-150	Α
81		30-150	В
79		30-150	В
	78 70 81	78 70 81	% Recovery         Qualifier         Criteria           78         30-150           70         30-150           81         30-150



**Project Name:** CITY OF LORAIN

**Project Number:** 15011 Lab Number:

L2247388

Report Date: 11/02/22

**Method Blank Analysis Batch Quality Control** 

**Analytical Method:** 

1,8082A

Analytical Date:

09/17/22 00:31

Analyst:

MEO

Extraction Method: EPA 3540C

**Extraction Date:** Cleanup Method: 09/15/22 12:45 EPA 3665A

Cleanup Date:

09/16/22

Cleanup Method: Cleanup Date:

**EPA 3660B** 

09/16/22

Parameter	Result	Qualifier	Units	RL	ME	L	Colum
Polychlorinated Biphenyls b	y GC - Westboroug	h Lab for s	ample(s):	01-09,12	Batch:	WG1	687871-1
Aroclor 1016	ND		mg/kg	0.0328	-	-	Α
Aroclor 1221	ND		mg/kg	0.0328	-	•	Α
Aroclor 1232	ND		mg/kg	0.0328		•	Α
Aroclor 1242	ND		mg/kg	0.0328	-	•	Α
Aroclor 1248	ND		mg/kg	0.0328	-	-7	Α
Aroclor 1254	ND		mg/kg	0.0328	79	•	Α
Aroclor 1260	ND		mg/kg	0.0328	-	-	Α
Aroclor 1262	ND		mg/kg	0.0328	-	-	Α
Aroclor 1268	ND		mg/kg	0.0328	-	•	Α
PCBs, Total	ND		mg/kg	0.0328			Α

Landa and the second		-	Acceptance	e
Surrogate	%Recovery Qua	lifier	Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	72		30-150	Α
Decachlorobiphenyl	68		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	73		30-150	В
Decachlorobiphenyl	67		30-150	В



**Project Name:** CITY OF LORAIN

**Project Number:** 15011 Lab Number:

L2247388

Report Date: 11/02/22

**Method Blank Analysis Batch Quality Control** 

**Analytical Method:** 

1,8082A

Analytical Date:

09/18/22 16:43

Analyst:

MEO

Extraction Method: EPA 3510C

**Extraction Date:** Cleanup Method: 09/18/22 08:22 EPA 3665A

Cleanup Date:

09/18/22

Cleanup Method:

**EPA 3660B** 

Cleanup Date:

09/18/22

Parameter	Result	Qualifier	Units	RL	М	DL	Column
olychlorinated Biphenyl	s by GC - Westboroug	gh Lab for s	ample(s):	15-16,18	Batch:	WG168	8863-1
Aroclor 1016	ND		ug/l	0.036		_	Α
Aroclor 1221	ND		ug/l	0.036	-	-	Α
Aroclor 1232	ND		ug/l	0.036	-	-	Α
Aroclor 1242	ND		ug/l	0.036	-		Α
Aroclor 1248	ND		ug/l	0.036	- 19-	-,	Α
Aroclor 1254	ND		ug/l	0.036	-	•	Α
Aroclor 1260	ND		ug/l	0.036	-	-	Α
Aroclor 1262	ND		ug/l	0.036	-	-	Α
Aroclor 1268	ND		ug/l	0.036	-	-	Α
PCBs, Total	ND		ug/l	0.036	-	-	Α

		- 1	Acceptance	e
Surrogate	%Recovery C		Criteria	
2,4,5,6-Tetrachloro-m-xylene	58		30-150	Α
Decachlorobiphenyl	84		30-150	Α
2,4,5,6-Tetrachloro-m-xylene	60		30-150	В
Decachlorobiphenyl	89		30-150	В



L2247388

Lab Number:

**Project Name:** CITY OF LORAIN

Report Date: **Project Number:** 15011 11/02/22

**Method Blank Analysis Batch Quality Control** 

**Analytical Method:** 

1,8082A

Analytical Date:

09/22/22 13:22

Analyst:

MEO

Extraction Method: EPA 3510C 09/21/22 09:24 **Extraction Date: EPA 3665A** Cleanup Method: Cleanup Date: 09/21/22 Cleanup Method: **EPA 3660B** Cleanup Date: 09/21/22

Parameter	Result	Qualifier	Units		RL	MDL	Column
Polychlorinated Biphenyls by G	C - Westborough	Lab for s	ample(s):	17	Batch:	WG1690120	-1
Aroclor 1016	ND		ug/l	0	.036	_	Α
Aroclor 1221	ND		ug/l	0	.036		Α
Aroclor 1232	ND		ug/l	0	.036		Α
Aroclor 1242	ND		ug/l	0	.036	-	Α
Aroclor 1248	ND		ug/l	0	.036		Α
Aroclor 1254	ND		ug/l	0	.036	-	Α
Aroclor 1260	ND		ug/l	0	.036		Α
Aroclor 1262	ND		ug/l	0	.036	_	Α
Aroclor 1268	ND		ug/l	0	.036		Α
PCBs, Total	ND		ug/l	0	.036	-	Α

	Acceptance							
Surrogate	%Recovery Qualif	ier Criteria	Column					
2,4,5,6-Tetrachloro-m-xylene	86	30-150	Α					
Decachlorobiphenyl	73	30-150	Α					
2,4,5,6-Tetrachloro-m-xylene	84	30-150	В					
Decachlorobiphenyl	73	30-150	В					



## Lab Control Sample Analysis Batch Quality Control

**Project Name:** CITY OF LORAIN

Lab Number:

L2247388

**Project Number:** 15011

Report Date: 11/02/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - W	estborough Lab Associa	ated sample(s)	: 01-09,12	Batch: WG1	687871-2 WG	1687871-3			
Aroclor 1016	76		77		40-140	1		50	Α
Aroclor 1260	66		66		40-140	0		50	Α

Surrogate	LCS %Recovery Qua	LCSD al %Recovery Qual	Acceptance Criteria Column
2,4,5,6-Tetrachloro-m-xylene	71	76	30-150 A
Decachlorobiphenyl	68	70	30-150 A
2,4,5,6-Tetrachloro-m-xylene	70	75	30-150 B
Decachlorobiphenyl	68	70	30-150 B



## Lab Control Sample Analysis Batch Quality Control

**Project Name:** CITY OF LORAIN

Lab Number:

L2247388

**Project Number:** 15011

Report Date: 11/02/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - V	Vestborough Lab Associa	ated sample(s)	: 15-16,18	Batch: WG1	688863-2 WG	31688863-3			
Aroclor 1016	76		75		40-140	1		50	Α
Aroclor 1260	75		76		40-140	1		50	Α

Surrogate	LCS %Recovery Qua	LCSD Il %Recovery Qual	Acceptance Criteria Column
2,4,5,6-Tetrachloro-m-xylene	69	66	30-150 A
Decachlorobiphenyl	80	79	30-150 A
2,4,5,6-Tetrachloro-m-xylene	63	61	30-150 B
Decachlorobiphenyl	94	90	30-150 B

## Lab Control Sample Analysis Batch Quality Control

**Project Name:** CITY OF LORAIN

Lab Number:

L2247388

**Project Number:** 15011

Report Date: 11/02/22

	LCS	LCSD	9	%Recovery			RPD	
Parameter	%Recovery Qual	%Recovery	Qual	Limits	RPD	Qual	Limits	Column
Polychlorinated Biphenyls by GC - We	estborough Lab Associated sample(s	): 17 Batch:	WG1690120-2	WG1690120-3				
Aroclor 1016	87	83		40-140	5		50	Α
Aroclor 1260	76	74		40-140	3		50	Α

Surrogate	LCS %Recovery Qua	LCSD I %Recovery Qual	Acceptance Criteria Column
2,4,5,6-Tetrachloro-m-xylene	83	83	30-150 A
Decachlorobiphenyl	73	74	30-150 A
2,4,5,6-Tetrachloro-m-xylene	80	80	30-150 B
Decachlorobiphenyl	74	73	30-150 B



## **METALS**



**Project Name:** Lab Number: CITY OF LORAIN L2247388 **Project Number: Report Date:** 15011 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-01

Date Collected: 08/29/22 11:30 Client ID: LRN005:TP-14:D082922 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth: TCLP/SPLP Ext. Date: 09/03/22 06:39

Matrix: Soil

Percent Solids: Parameter	75% Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EF	PA 1311 -	Mansfield I	Lab								
Arsenic, TCLP	ND		mg/l	1.00	-	1	09/07/22 00:2	3 09/28/22 00:16	EPA 3015	1,6010D	BV
Barium, TCLP	ND		mg/l	0.500	4	1	09/07/22 00:2	3 09/28/22 00:16	EPA 3015	1,6010D	BV
Cadmium, TCLP	ND		mg/l	0.100	-	1	09/07/22 00:2	3 09/28/22 00:16	EPA 3015	1,6010D	BV
Chromium, TCLP	ND		mg/l	0.200	-	1	09/07/22 00:2	3 09/28/22 00:16	EPA 3015	1,6010D	BV
Lead, TCLP	ND		mg/l	0.500	-	1	09/07/22 00:2	3 09/28/22 00:16	EPA 3015	1,6010D	BV
Mercury, TCLP	ND		mg/l	0.0010	-	1	09/07/22 02:5	0 09/09/22 16:18	EPA 7470A	1,7470A	DMB
Selenium, TCLP	ND		mg/l	0.500		1	09/07/22 00:2	3 09/28/22 15:17	EPA 3015	1,6010D	NB
Silver, TCLP	ND		mg/l	0.100	-	1	09/07/22 00:2	3 09/28/22 00:16	EPA 3015	1,6010D	BV



08/29/22 11:30

Date Collected:

Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-01

Client ID: LRN005:TP-14:D082922 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth:

Matrix: Soil Percent Solids: 75%

Prep Dilution Date Date Analytical Method Qualifier Factor Prepared Analyzed Method **Parameter** Result Units RL MDL **Analyst** Total Metals - Mansfield Lab Arsenic, Total 7.99 mg/kg 1.01 2 09/03/22 12:25 09/24/22 11:58 EPA 3050B 1,6010D MC Barium, Total 80.2 mg/kg 1.01 2 09/03/22 12:25 09/24/22 11:58 EPA 3050B 1,6010D MC 2 Cadmium, Total ND mg/kg 1.01 09/03/22 12:25 09/24/22 11:58 EPA 3050B 1,6010D MC 2 Chromium, Total 10.1 mg/kg 1.01 09/03/22 12:25 09/24/22 11:58 EPA 3050B 1,6010D MC 20.3 5.03 2 09/03/22 12:25 09/24/22 11:58 EPA 3050B 1,6010D MC Lead, Total mg/kg --0.092 1 1,7471B Mercury, Total 0.084 09/05/22 07:00 09/12/22 08:15 EPA 7471B **DMB** mg/kg --2 Selenium, Total ND mg/kg 2.01 09/03/22 12:25 09/24/22 11:58 EPA 3050B 1,6010D MC Silver, Total ND 1.01 2 1,6010D MC mg/kg 09/03/22 12:25 09/24/22 11:58 EPA 3050B



**Project Name:** Lab Number: CITY OF LORAIN L2247388 **Project Number: Report Date:** 15011 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-02

Date Collected: 08/29/22 10:30 Client ID: LRN005:TP-13:D082922 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth: TCLP/SPLP Ext. Date: 09/03/22 06:39

Matrix: Soil 60%

Percent Solids:	60%					Dilution	Date	Date	Prep	Analytical	
Parameter	Result	Qualifier	Units	RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
TCLP Metals by Ef	PA 1311 -	Mansfield I	Lab								
Arsenic, TCLP	ND		mg/l	1.00	-	1	09/07/22 00:23	3 09/28/22 00:48	EPA 3015	1,6010D	BV
Barium, TCLP	ND		mg/l	0.500	4	1	09/07/22 00:23	3 09/28/22 00:48	EPA 3015	1,6010D	BV
Cadmium, TCLP	ND		mg/l	0.100	-	1	09/07/22 00:23	3 09/28/22 00:48	EPA 3015	1,6010D	BV
Chromium, TCLP	ND		mg/l	0.200		1	09/07/22 00:23	3 09/28/22 00:48	EPA 3015	1,6010D	BV
Lead, TCLP	ND		mg/l	0.500	-	1	09/07/22 00:23	3 09/28/22 00:48	EPA 3015	1,6010D	BV
Mercury, TCLP	ND		mg/l	0.0010		1	09/07/22 02:5	0 09/09/22 16:35	EPA 7470A	1,7470A	DMB
Selenium, TCLP	ND		mg/l	0.500	-	1	09/07/22 00:23	3 09/28/22 00:48	EPA 3015	1,6010D	BV
Silver, TCLP	ND		mg/l	0.100		1	09/07/22 00:23	3 09/28/22 00:48	EPA 3015	1,6010D	BV



**Project Name:** Lab Number: CITY OF LORAIN L2247388

**Project Number: Report Date:** 15011 11/02/22

SAMPLE RESULTS

Lab ID: L2247388-02

Date Collected: 08/29/22 10:30 Client ID: LRN005:TP-13:D082922 Date Received: 09/01/22 Sample Location: Not Specified Field Prep: FORMER ST. JOE'S

Sample Depth:

Matrix: Soil 60%

Percent Solids: Parameter	60% Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Man	sfield Lab										
Arsenic, Total	4.91		mg/kg	0.660	-	1	09/03/22 12:2	5 09/24/22 00:47	EPA 3050B	1,6010D	МС
Barium, Total	70.9		mg/kg	0.660		1	09/03/22 12:2	5 09/24/22 00:47	EPA 3050B	1,6010D	MC
Cadmium, Total	ND		mg/kg	0.660	-	1	09/03/22 12:2	5 09/24/22 00:47	EPA 3050B	1,6010D	MC
Chromium, Total	11.6		mg/kg	0.660	-	1	09/03/22 12:2	5 09/24/22 00:47	EPA 3050B	1,6010D	MC
Lead, Total	123		mg/kg	3.30	-	1	09/03/22 12:2	5 09/24/22 00:47	EPA 3050B	1,6010D	MC
Mercury, Total	2.51		mg/kg	0.106	_	1	09/05/22 07:0	0 09/12/22 08:31	EPA 7471B	1,7471B	DMB
Selenium, Total	ND		mg/kg	1.32		1	09/03/22 12:2	5 09/24/22 00:47	EPA 3050B	1,6010D	МС
Silver, Total	ND		mg/kg	0.660		1	09/03/22 12:2	5 09/24/22 00:47	EPA 3050B	1,6010D	MC



**Project Name:** Lab Number: CITY OF LORAIN L2247388 **Project Number: Report Date:** 15011 11/02/22

SAMPLE RESULTS

Lab ID: L2247388-03 Date Collected:

08/29/22 12:30 Client ID: LRN005:TP-12-3:D082922 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth: TCLP/SPLP Ext. Date: 09/03/22 06:39

Matrix: Soil

Percent Solids:	64% Result		64% Result					Dilution	Date	Date	Prep	Analytical	
Parameter	Result	Qualifier	Units	RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst		
TCLP Metals by El	PA 1311 -	Mansfield I	Lab										
Arsenic, TCLP	ND		mg/l	1.00	-	1	09/07/22 00:23	3 09/28/22 00:53	EPA 3015	1,6010D	BV		
Barium, TCLP	ND		mg/l	0.500	4	1	09/07/22 00:23	3 09/28/22 00:53	EPA 3015	1,6010D	BV		
Cadmium, TCLP	ND		mg/l	0.100	-	1	09/07/22 00:23	3 09/28/22 00:53	EPA 3015	1,6010D	BV		
Chromium, TCLP	ND		mg/l	0.200		1	09/07/22 00:23	3 09/28/22 00:53	EPA 3015	1,6010D	BV		
Lead, TCLP	1.20		mg/l	0.500	-	1	09/07/22 00:23	3 09/28/22 00:53	EPA 3015	1,6010D	BV		
Mercury, TCLP	ND		mg/l	0.0010		1	09/07/22 02:5	0 09/09/22 16:38	EPA 7470A	1,7470A	DMB		
Selenium, TCLP	ND		mg/l	0.500	-	1	09/07/22 00:23	3 09/28/22 00:53	EPA 3015	1,6010D	BV		
Silver, TCLP	ND		mg/l	0.100		1	09/07/22 00:23	3 09/28/22 00:53	EPA 3015	1,6010D	BV		



**Project Name:** Lab Number: CITY OF LORAIN L2247388 **Project Number: Report Date:** 

15011

11/02/22

**SAMPLE RESULTS** 

Client ID: LRN005:TP-12-3:D082922 Sample Location: FORMER ST. JOE'S

L2247388-03

Date Collected: 08/29/22 12:30 Date Received: 09/01/22

Field Prep: Not Specified

Sample Depth:

Lab ID:

Matrix: Soil Percent Solids: 64%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Man	sfield Lab										
Arsenic, Total	6.59		mg/kg	0.586	-	1	09/03/22 12:2	5 09/24/22 00:52	EPA 3050B	1,6010D	МС
Barium, Total	54.2		mg/kg	0.586	_	1	09/03/22 12:2	5 09/24/22 00:52	EPA 3050B	1,6010D	МС
Cadmium, Total	ND		mg/kg	0.586	-	1	09/03/22 12:2	5 09/24/22 00:52	EPA 3050B	1,6010D	МС
Chromium, Total	19.0		mg/kg	0.586	-	1	09/03/22 12:2	5 09/24/22 00:52	EPA 3050B	1,6010D	МС
Lead, Total	276		mg/kg	2.93	-	1	09/03/22 12:2	5 09/24/22 00:52	EPA 3050B	1,6010D	МС
Mercury, Total	0.444		mg/kg	0.098	-	1	09/05/22 07:0	0 09/12/22 08:34	EPA 7471B	1,7471B	DMB
Selenium, Total	ND		mg/kg	1.17		1	09/03/22 12:2	5 09/24/22 00:52	EPA 3050B	1,6010D	МС
Silver, Total	ND		mg/kg	0.586	-	1	09/03/22 12:2	5 09/24/22 00:52	EPA 3050B	1,6010D	МС



**Project Name:** Lab Number: CITY OF LORAIN L2247388 **Project Number: Report Date:** 15011 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-04

Date Collected: 08/29/22 13:30 Client ID: LRN005:TP-12-2:D082922 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth: TCLP/SPLP Ext. Date: 09/03/22 06:39

Matrix: Soil 67% Percent Solids:

Percent Solids:	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EF	PA 1311 -	Mansfield I	Lab								
Arsenic, TCLP	ND		mg/l	1.00	-	1	09/07/22 00:2	3 09/28/22 00:58	EPA 3015	1,6010D	BV
Barium, TCLP	ND		mg/l	0.500	4	1	09/07/22 00:2	3 09/28/22 00:58	EPA 3015	1,6010D	BV
Cadmium, TCLP	ND		mg/l	0.100	-	- 1	09/07/22 00:2	3 09/28/22 00:58	EPA 3015	1,6010D	BV
Chromium, TCLP	ND		mg/l	0.200	_	1	09/07/22 00:2	3 09/28/22 00:58	EPA 3015	1,6010D	BV
Lead, TCLP	0.526		mg/l	0.500	-	1	09/07/22 00:2	3 09/28/22 00:58	EPA 3015	1,6010D	BV
Mercury, TCLP	ND		mg/l	0.0010		1	09/07/22 02:5	0 09/09/22 16:41	EPA 7470A	1,7470A	DMB
Selenium, TCLP	ND		mg/l	0.500	-	1	09/07/22 00:2	3 09/28/22 00:58	EPA 3015	1,6010D	BV
Silver, TCLP	ND		mg/l	0.100	-	1	09/07/22 00:2	3 09/28/22 00:58	EPA 3015	1,6010D	BV



08/29/22 13:30

Date Collected:

Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

SAMPLE RESULTS

Lab ID: L2247388-04

Client ID: LRN005:TP-12-2:D082922 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Percent Solids: 67%

Parameter Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Man	sfield Lab										
Arsenic, Total	5.19		mg/kg	0.569	-	1	09/03/22 12:2	5 09/24/22 00:56	EPA 3050B	1,6010D	МС
Barium, Total	68.0		mg/kg	0.569	4	1	09/03/22 12:2	5 09/24/22 00:56	EPA 3050B	1,6010D	МС
Cadmium, Total	0.677		mg/kg	0.569	-	1	09/03/22 12:2	5 09/24/22 00:56	EPA 3050B	1,6010D	МС
Chromium, Total	13.6		mg/kg	0.569	-	1	09/03/22 12:2	5 09/24/22 00:56	EPA 3050B	1,6010D	МС
Lead, Total	297		mg/kg	2.84	-	1	09/03/22 12:2	5 09/24/22 00:56	EPA 3050B	1,6010D	МС
Mercury, Total	0.716		mg/kg	0.093	-	1	09/05/22 07:0	0 09/12/22 08:44	EPA 7471B	1,7471B	DMB
Selenium, Total	ND		mg/kg	1.14		1	09/03/22 12:2	5 09/24/22 00:56	EPA 3050B	1,6010D	МС
Silver, Total	ND		mg/kg	0.569		1	09/03/22 12:2	5 09/24/22 00:56	EPA 3050B	1,6010D	MC



**Project Name:** Lab Number: CITY OF LORAIN L2247388 **Project Number: Report Date:** 15011 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-05 Date Collected:

08/29/22 14:30 Client ID: LRN005:TP-12-1:D082922 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth: TCLP/SPLP Ext. Date: 09/03/22 06:39

Matrix: Soil 64% Percent Solids:

Dile					70	: 04%	Percent Solids:
DL Fa	L N	RL	Units	Qualifier	ilt	Result	Parameter
			ab	lansfield La	1 - N	EPA 1311	TCLP Metals by E
	.00	1.00	mg/l			ND	Arsenic, TCLP
-	500	0.500	mg/l			ND	Barium, TCLP
-	100	0.100	mg/l			ND	Cadmium, TCLP
-	200	0.200	mg/l			ND	Chromium, TCLP
-	500	0.500	mg/l		3	0.653	Lead, TCLP
-	010	0.0010	mg/l			ND	Mercury, TCLP
-	500	0.500	mg/l			ND	Selenium, TCLP
	100	0.100	mg/l			ND	Silver, TCLP
-	Aller.	10.000				ND	



**Project Name:** Lab Number: CITY OF LORAIN L2247388 **Project Number: Report Date:** 11/02/22

15011

**SAMPLE RESULTS** 

Lab ID: L2247388-05 Date Collected: 08/29/22 14:30 Client ID: LRN005:TP-12-1:D082922 Date Received: 09/01/22

Field Prep: Sample Location: FORMER ST. JOE'S Not Specified

Sample Depth:

Matrix: Soil 64% Percent Solids:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Man	sfield Lab										
Arsenic, Total	5.76		mg/kg	0.610	-	1	09/03/22 12:2	5 09/24/22 01:01	EPA 3050B	1,6010D	МС
Barium, Total	58.7		mg/kg	0.610	_	1	09/03/22 12:2	5 09/24/22 01:01	EPA 3050B	1,6010D	МС
Cadmium, Total	0.671		mg/kg	0.610		1	09/03/22 12:2	5 09/24/22 01:01	EPA 3050B	1,6010D	МС
Chromium, Total	31.7		mg/kg	0.610	-	1	09/03/22 12:2	5 09/24/22 01:01	EPA 3050B	1,6010D	МС
Lead, Total	421		mg/kg	3.05	-	1	09/03/22 12:2	5 09/24/22 01:01	EPA 3050B	1,6010D	МС
Mercury, Total	1.67		mg/kg	0.099		1	09/05/22 07:0	0 09/12/22 08:48	EPA 7471B	1,7471B	DMB
Selenium, Total	ND		mg/kg	1.22		1	09/03/22 12:2	5 09/24/22 01:01	EPA 3050B	1,6010D	МС
Silver, Total	ND		ma/ka	0.610		1	09/03/22 12:2	5 09/24/22 01:01	EPA 3050B	1,6010D	MC



**Project Name:** Lab Number: CITY OF LORAIN L2247388

**Project Number: Report Date:** 15011 11/02/22

SAMPLE RESULTS

Lab ID: L2247388-06

Date Collected: 08/30/22 09:30 Client ID: LRN005:CTP-3:D083022 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth: TCLP/SPLP Ext. Date: 09/03/22 06:39

Matrix: Soil 72%

Percent Solids:	12%					Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	
Parameter	Result	Qualifier	Units	RL	MDL	i actor	riepaieu	Analyzeu	Metriou	- Inclined	Analyst
TCLP Metals by EF	PA 1311 -	Mansfield I	Lab								
Arsenic, TCLP	ND		mg/l	1.00	-	1	09/07/22 00:2	3 09/28/22 01:16	EPA 3015	1,6010D	BV
Barium, TCLP	ND		mg/l	0.500	4	1	09/07/22 00:2	3 09/28/22 15:12	EPA 3015	1,6010D	NB
Cadmium, TCLP	ND		mg/l	0.100	-	- 1	09/07/22 00:2	3 09/28/22 01:16	EPA 3015	1,6010D	BV
Chromium, TCLP	ND		mg/l	0.200	-	1	09/07/22 00:2	3 09/28/22 01:16	EPA 3015	1,6010D	BV
Lead, TCLP	ND		mg/l	0.500	-	1	09/07/22 00:2	3 09/28/22 01:16	EPA 3015	1,6010D	BV
Mercury, TCLP	ND		mg/l	0.0010	-	1	09/07/22 02:5	0 09/09/22 16:48	EPA 7470A	1,7470A	DMB
Selenium, TCLP	ND		mg/l	0.500		1	09/07/22 00:2	3 09/28/22 01:16	EPA 3015	1,6010D	BV
Silver, TCLP	ND		mg/l	0.100	-	1	09/07/22 00:2	3 09/28/22 01:16	EPA 3015	1,6010D	BV



**Project Name:** Lab Number: CITY OF LORAIN L2247388

**Project Number: Report Date:** 15011 11/02/22

SAMPLE RESULTS

Lab ID: L2247388-06

Date Collected: 08/30/22 09:30 Client ID: LRN005:CTP-3:D083022 Date Received: 09/01/22 Field Prep: Sample Location: FORMER ST. JOE'S Not Specified

Sample Depth:

Matrix: Soil 72% Percent Solids:

Parameter Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Man	sfield Lab										
Arsenic, Total	7.14		mg/kg	0.542	-	1	09/03/22 12:2	5 09/24/22 01:06	EPA 3050B	1,6010D	МС
Barium, Total	44.3		mg/kg	0.542	-	1	09/03/22 12:2	5 09/24/22 01:06	EPA 3050B	1,6010D	MC
Cadmium, Total	0.726		mg/kg	0.542	-	1	09/03/22 12:2	5 09/24/22 01:06	EPA 3050B	1,6010D	МС
Chromium, Total	21.6		mg/kg	0.542	-	1	09/03/22 12:2	5 09/24/22 01:06	EPA 3050B	1,6010D	МС
Lead, Total	27.9		mg/kg	2.71	-	1	09/03/22 12:2	5 09/24/22 01:06	EPA 3050B	1,6010D	MC
Mercury, Total	0.612		mg/kg	0.087	-	1	09/05/22 07:0	0 09/12/22 08:51	EPA 7471B	1,7471B	DMB
Selenium, Total	ND		mg/kg	1.08		1	09/03/22 12:2	5 09/24/22 01:06	EPA 3050B	1,6010D	МС
Silver, Total	ND		mg/kg	0.542	-	1	09/03/22 12:2	5 09/24/22 01:06	EPA 3050B	1,6010D	МС



**Project Name:** Lab Number: CITY OF LORAIN L2247388 **Project Number: Report Date:** 15011 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-07

Date Collected: 08/30/22 11:00 Client ID: LRN005:CTP-2:D083022 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth: TCLP/SPLP Ext. Date: 09/03/22 06:39

Matrix: Soil

Percent Solids: Parameter	52% Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EF	PA 1311 -	Mansfield I	Lab								
Arsenic, TCLP	ND		mg/l	1.00	-	1	09/07/22 00:2	3 09/28/22 01:21	EPA 3015	1,6010D	BV
Barium, TCLP	ND		mg/l	0.500	4	1	09/07/22 00:2	3 09/28/22 15:49	EPA 3015	1,6010D	NB
Cadmium, TCLP	ND		mg/l	0.100	-	- 1	09/07/22 00:2	3 09/28/22 01:21	EPA 3015	1,6010D	BV
Chromium, TCLP	ND		mg/l	0.200	_	1	09/07/22 00:2	3 09/28/22 01:21	EPA 3015	1,6010D	BV
Lead, TCLP	ND		mg/l	0.500	-	1	09/07/22 00:2	3 09/28/22 01:21	EPA 3015	1,6010D	BV
Mercury, TCLP	ND		mg/l	0.0010		1	09/07/22 02:5	0 09/09/22 16:51	EPA 7470A	1,7470A	DMB
Selenium, TCLP	ND		mg/l	0.500	-	1	09/07/22 00:2	3 09/28/22 01:21	EPA 3015	1,6010D	BV
Silver, TCLP	ND		mg/l	0.100	-	1	09/07/22 00:2	3 09/28/22 01:21	EPA 3015	1,6010D	BV



**Project Name:** Lab Number: CITY OF LORAIN L2247388 **Project Number: Report Date:** 15011 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-07

Date Collected: 08/30/22 11:00 Client ID: LRN005:CTP-2:D083022 Date Received: 09/01/22 Sample Location: Not Specified Field Prep: FORMER ST. JOE'S

Sample Depth:

Matrix: Soil

Percent Solids:	52% Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Man	sfield Lab										
Arsenic, Total	9.71		mg/kg	0.737	-	1	09/03/22 12:2	5 09/24/22 01:11	EPA 3050B	1,6010D	МС
Barium, Total	76.2		mg/kg	0.737	4	1	09/03/22 12:2	5 09/24/22 01:11	EPA 3050B	1,6010D	MC
Cadmium, Total	1.27		mg/kg	0.737	-	1	09/03/22 12:2	5 09/24/22 01:11	EPA 3050B	1,6010D	MC
Chromium, Total	47.8		mg/kg	0.737	-	1	09/03/22 12:2	5 09/24/22 01:11	EPA 3050B	1,6010D	MC
Lead, Total	61.8		mg/kg	3.69	-	1	09/03/22 12:2	5 09/24/22 01:11	EPA 3050B	1,6010D	MC
Mercury, Total	0.710		mg/kg	0.121	-	1	09/05/22 07:0	0 09/12/22 08:54	EPA 7471B	1,7471B	DMB
Selenium, Total	ND		mg/kg	1.47		1	09/03/22 12:2	5 09/24/22 01:11	EPA 3050B	1,6010D	МС
Silver, Total	ND		mg/kg	0.737	-	1	09/03/22 12:2	5 09/24/22 01:11	EPA 3050B	1,6010D	MC



**Project Name:** Lab Number: CITY OF LORAIN L2247388 **Project Number: Report Date:** 15011 11/02/22

SAMPLE RESULTS

Lab ID: L2247388-08

Date Collected: 08/30/22 13:00 Client ID: LRN005:CTP-1:D083022 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth: TCLP/SPLP Ext. Date: 09/03/22 06:39

Matrix: Soil 86%

Percent Solids: Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EF	PA 1311 -	Mansfield	Lab								
Arsenic, TCLP	ND		mg/l	1.00	-	1	09/07/22 00:2	3 09/28/22 01:25	EPA 3015	1,6010D	BV
Barium, TCLP	ND		mg/l	0.500	4	1	09/07/22 00:2	3 09/28/22 15:53	EPA 3015	1,6010D	NB
Cadmium, TCLP	ND		mg/l	0.100	-	1	09/07/22 00:2	3 09/28/22 01:25	EPA 3015	1,6010D	BV
Chromium, TCLP	ND		mg/l	0.200	-	1	09/07/22 00:2	3 09/28/22 01:25	EPA 3015	1,6010D	BV
Lead, TCLP	ND		mg/l	0.500	-	1	09/07/22 00:2	3 09/28/22 01:25	EPA 3015	1,6010D	BV
Mercury, TCLP	ND		mg/l	0.0010		1	09/07/22 02:5	0 09/09/22 16:54	EPA 7470A	1,7470A	DMB
Selenium, TCLP	ND		mg/l	0.500		1	09/07/22 00:2	3 09/28/22 01:25	EPA 3015	1,6010D	BV
Silver, TCLP	ND		mg/l	0.100	-	1	09/07/22 00:2	3 09/28/22 01:25	EPA 3015	1,6010D	BV



**Project Name:** Lab Number: CITY OF LORAIN L2247388

**Project Number: Report Date:** 15011 11/02/22

SAMPLE RESULTS

Lab ID: L2247388-08

Date Collected: 08/30/22 13:00 Client ID: LRN005:CTP-1:D083022 Date Received: 09/01/22 Sample Location: Field Prep: FORMER ST. JOE'S Not Specified

Sample Depth:

Matrix: Soil 86%

Percent Solids: Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Man	sfield Lab										
Arsenic, Total	6.09		mg/kg	0.450	-	1	09/03/22 12:2	5 09/24/22 01:16	EPA 3050B	1,6010D	МС
Barium, Total	43.1		mg/kg	0.450		1	09/03/22 12:2	5 09/24/22 01:16	EPA 3050B	1,6010D	MC
Cadmium, Total	0.823		mg/kg	0.450	-	1	09/03/22 12:2	5 09/24/22 01:16	EPA 3050B	1,6010D	MC
Chromium, Total	10.0		mg/kg	0.450	_	1	09/03/22 12:2	5 09/24/22 01:16	EPA 3050B	1,6010D	MC
Lead, Total	651		mg/kg	2.25	-	1	09/03/22 12:2	5 09/24/22 01:16	EPA 3050B	1,6010D	MC
Mercury, Total	0.890		mg/kg	0.075	-	1	09/05/22 07:0	0 09/12/22 08:58	EPA 7471B	1,7471B	DMB
Selenium, Total	ND		mg/kg	0.900	-	1	09/03/22 12:2	5 09/24/22 01:16	EPA 3050B	1,6010D	MC
Silver, Total	ND		mg/kg	0.450	-	1	09/03/22 12:2	5 09/24/22 01:16	EPA 3050B	1,6010D	МС



**Project Name:** Lab Number: CITY OF LORAIN L2247388 **Project Number: Report Date:** 15011 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-09

Date Collected: 08/30/22 08:00 Client ID: LRN005:CTP-5:D083022 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth: TCLP/SPLP Ext. Date: 09/03/22 06:39

Matrix: Soil

Percent Solids: Parameter	69% Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EF	PA 1311 -	Mansfield I	Lab								
Arsenic, TCLP	ND		mg/l	1.00	-	1	09/07/22 00:2	3 09/28/22 01:30	EPA 3015	1,6010D	BV
Barium, TCLP	ND		mg/l	0.500	4	1	09/07/22 00:2	3 09/28/22 15:58	EPA 3015	1,6010D	NB
Cadmium, TCLP	ND		mg/l	0.100	-	- 1	09/07/22 00:2	3 09/28/22 01:30	EPA 3015	1,6010D	BV
Chromium, TCLP	ND		mg/l	0.200		1	09/07/22 00:2	3 09/28/22 01:30	EPA 3015	1,6010D	BV
Lead, TCLP	0.927		mg/l	0.500	-	1	09/07/22 00:2	3 09/28/22 01:30	EPA 3015	1,6010D	BV
Mercury, TCLP	ND		mg/l	0.0010	-	1	09/07/22 02:5	0 09/09/22 16:58	EPA 7470A	1,7470A	DMB
Selenium, TCLP	ND		mg/l	0.500	-	1	09/07/22 00:2	3 09/28/22 01:30	EPA 3015	1,6010D	BV
Silver, TCLP	ND		mg/l	0.100	-	1	09/07/22 00:2	3 09/28/22 01:30	EPA 3015	1,6010D	BV



**Project Name:** Lab Number: CITY OF LORAIN L2247388

**Project Number: Report Date:** 15011 11/02/22

SAMPLE RESULTS

Lab ID: L2247388-09

Date Collected: 08/30/22 08:00 Client ID: LRN005:CTP-5:D083022 Date Received: 09/01/22 Sample Location: Not Specified Field Prep: FORMER ST. JOE'S

Sample Depth:

Matrix: Soil 69%

Percent Solids: Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Man	sfield Lab										
Arsenic, Total	5.56		mg/kg	0.550	-	1	09/03/22 12:2	5 09/24/22 01:21	EPA 3050B	1,6010D	МС
Barium, Total	64.1		mg/kg	0.550	_	1	09/03/22 12:2	5 09/24/22 01:21	EPA 3050B	1,6010D	МС
Cadmium, Total	0.605		mg/kg	0.550		1	09/03/22 12:2	5 09/24/22 01:21	EPA 3050B	1,6010D	МС
Chromium, Total	16.0		mg/kg	0.550	-	1	09/03/22 12:2	5 09/24/22 01:21	EPA 3050B	1,6010D	МС
Lead, Total	244		mg/kg	2.75	-	1	09/03/22 12:2	5 09/24/22 01:21	EPA 3050B	1,6010D	МС
Mercury, Total	0.688		mg/kg	0.093	-	1	09/05/22 07:0	0 09/12/22 09:01	EPA 7471B	1,7471B	DMB
Selenium, Total	ND		mg/kg	1.10		1	09/03/22 12:2	5 09/24/22 01:21	EPA 3050B	1,6010D	МС
Silver, Total	ND		mg/kg	0.550	_	1	09/03/22 12:2	5 09/24/22 01:21	EPA 3050B	1,6010D	МС



**Project Name:** Lab Number: CITY OF LORAIN L2247388 **Project Number:** 15011 **Report Date:** 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-10

**Date Collected:** 08/30/22 12:00 Client ID: LRN005:VL-2:D083022 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth: TCLP/SPLP Ext. Date: 09/03/22 06:39

Matrix: Soil 92% Percent Solids:

Prep Dilution Date Date **Analytical** Method **Factor** Parameter Result Qualifier Units RL MDL Prepared Analyzed Method **Analyst** 

TCLP Metals by EPA 1311 - Mansfield Lab Lead, TCLP 3.42 mg/l 0.500 1 09/07/22 00:23 09/28/22 01:35 EPA 3015 1,6010D BV



**Date Collected:** 

**Project Name:** Lab Number: CITY OF LORAIN L2247388 **Project Number:** 15011 **Report Date:** 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-10

08/30/22 12:00 Client ID: LRN005:VL-2:D083022 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: **Not Specified** 

Sample Depth:

Matrix: Soil 92%

Percent Solids: Prep **Analytical** Dilution Date Date Method **Factor** Method Prepared Analyzed

Parameter Result Qualifier Units RL MDL **Analyst** Total Metals - Mansfield Lab 564 Lead, Total mg/kg 2.13 1 09/03/22 12:25 09/24/22 01:35 EPA 3050B 1,6010D MC



**Project Name:** Lab Number: CITY OF LORAIN L2247388 **Project Number:** 15011 **Report Date:** 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-11

**Date Collected:** 08/30/22 10:00 Client ID: LRN005:VL-1:D083022 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth: TCLP/SPLP Ext. Date: 09/03/22 06:39

Matrix: Soil 75% Percent Solids:

Prep Dilution Date Date **Analytical** Method **Factor** Parameter Result Qualifier Units RL MDL Prepared Analyzed Method **Analyst** 

TCLP Metals by EPA 1311 - Mansfield Lab Lead, TCLP 1.20 mg/l 0.500 1 09/07/22 00:23 09/28/22 01:39 EPA 3015 1,6010D BV



**Date Collected:** 

**Project Name:** Lab Number: CITY OF LORAIN L2247388 **Project Number:** 15011 **Report Date:** 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-11

08/30/22 10:00 Client ID: LRN005:VL-1:D083022 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: **Not Specified** 

Sample Depth:

Matrix: Soil 75%

Percent Solids: Prep **Analytical** Dilution Date Date Method **Factor** Method Result Prepared Analyzed

Parameter Qualifier Units RL MDL **Analyst** Total Metals - Mansfield Lab 271 Lead, Total mg/kg 2.58 1 09/03/22 12:25 09/24/22 01:40 EPA 3050B 1,6010D MC



**Project Name:** Lab Number: CITY OF LORAIN L2247388 **Project Number: Report Date:** 15011 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-12

Date Collected: 08/31/22 10:00 Client ID: LRN005:CTP-4:D083122 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth: TCLP/SPLP Ext. Date: 09/03/22 06:39

Matrix: Soil 71% Percent Solids:

Percent Solids:	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EF	PA 1311 -	Mansfield I	Lab								
Arsenic, TCLP	ND		mg/l	1.00	-	1	09/07/22 00:23	3 09/28/22 01:44	EPA 3015	1,6010D	BV
Barium, TCLP	ND		mg/l	0.500	_	1	09/07/22 00:23	3 09/28/22 01:44	EPA 3015	1,6010D	BV
Cadmium, TCLP	ND		mg/l	0.100	-	1	09/07/22 00:23	3 09/28/22 01:44	EPA 3015	1,6010D	BV
Chromium, TCLP	ND		mg/l	0.200		1	09/07/22 00:23	3 09/28/22 01:44	EPA 3015	1,6010D	BV
Lead, TCLP	0.791		mg/l	0.500	-	1	09/07/22 00:23	3 09/28/22 01:44	EPA 3015	1,6010D	BV
Mercury, TCLP	ND		mg/l	0.0010	_	1	09/07/22 02:5	0 09/09/22 17:01	EPA 7470A	1,7470A	DMB
Selenium, TCLP	ND		mg/l	0.500	-	1	09/07/22 00:23	3 09/28/22 01:44	EPA 3015	1,6010D	BV
Silver, TCLP	ND		mg/l	0.100	-	1	09/07/22 00:23	3 09/28/22 01:44	EPA 3015	1,6010D	BV



08/31/22 10:00

Date Collected:

Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-12

Client ID: LRN005:CTP-4:D083122 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Percent Solids: 71%

Percent Solids: Prep Dilution Date Date Analytical Method Qualifier **Factor** Prepared Analyzed Method **Parameter** Result Units RL MDL **Analyst** Total Metals - Mansfield Lab Arsenic, Total 7.25 mg/kg 0.549 1 09/03/22 12:25 09/24/22 01:45 EPA 3050B 1,6010D MC Barium, Total 73.7 mg/kg 0.549 1 09/03/22 12:25 09/24/22 01:45 EPA 3050B 1,6010D MC 1 Cadmium, Total 1.05 mg/kg 0.549 09/03/22 12:25 09/24/22 01:45 EPA 3050B 1,6010D MC Chromium, Total 29.7 mg/kg 0.549 1 09/03/22 12:25 09/24/22 01:45 EPA 3050B 1,6010D MC 2.74 343 1 09/03/22 12:25 09/24/22 01:45 EPA 3050B 1,6010D MC Lead, Total mg/kg --1 1,7471B Mercury, Total 0.391 0.091 09/05/22 07:00 09/12/22 09:04 EPA 7471B **DMB** mg/kg --Selenium, Total ND mg/kg 1.10 1 09/03/22 12:25 09/24/22 01:45 EPA 3050B 1,6010D MC Silver, Total ND 0.549 1 09/03/22 12:25 09/24/22 01:45 EPA 3050B 1,6010D MC mg/kg



**Project Name:** Lab Number: CITY OF LORAIN L2247388 **Project Number:** 15011 **Report Date:** 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-13

**Date Collected:** 08/31/22 10:00 Client ID: LRN005:VL-3:D083122 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth: TCLP/SPLP Ext. Date: 09/03/22 06:39

Matrix: Soil 82% Percent Solids:

Prep Dilution Date Date **Analytical** Method **Factor** Parameter Result Qualifier Units RL MDL Prepared Analyzed Method **Analyst** 

TCLP Metals by EPA 1311 - Mansfield Lab Lead, TCLP 2.13 mg/l 0.500 1 09/07/22 00:23 09/28/22 01:48 EPA 3015 1,6010D BV



**Project Name:** Lab Number: CITY OF LORAIN L2247388 **Project Number:** 15011 **Report Date:** 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-13

**Date Collected:** 08/31/22 10:00 Client ID: LRN005:VL-3:D083122 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: **Not Specified** 

Sample Depth:

Matrix: Soil 82% Percent Solids:

Prep **Analytical** Dilution Date Date Method **Factor** Method Result Prepared Analyzed

Parameter Qualifier Units RL MDL **Analyst** Total Metals - Mansfield Lab 702 Lead, Total mg/kg 2.36 1 09/03/22 12:25 09/24/22 01:50 EPA 3050B 1,6010D MC



Project Name:CITY OF LORAINLab Number:L2247388Project Number:15011Report Date:11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-14 Date Collected: 08/31/22 12:00

Client ID: LRN005:VL-4:D083122 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth: TCLP/SPLP Ext. Date: 09/03/22 06:39

Matrix: Soil Percent Solids: 77%

Prep Dilution Date Date **Analytical** Method **Factor** Parameter Result Qualifier Units RL MDL Prepared Analyzed Method **Analyst** 

TCLP Metals by EPA 1311 - Mansfield Lab

Lead, TCLP ND mg/l 0.500 -- 1 09/07/22 00:23 09/28/22 01:53 EPA 3015 1,6010D BV



**Project Name:** Lab Number: CITY OF LORAIN L2247388 **Project Number:** 15011 **Report Date:** 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-14

**Date Collected:** 08/31/22 12:00 Client ID: LRN005:VL-4:D083122 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: **Not Specified** 

Sample Depth:

Matrix: Soil 77% Percent Solids:

Prep **Analytical** Dilution Date Date Method Factor Prepared Analyzed Method

Parameter Result Qualifier Units RL MDL **Analyst** Total Metals - Mansfield Lab 48.8 Lead, Total mg/kg 5.09 2 09/03/22 12:25 09/24/22 12:44 EPA 3050B 1,6010D MC



Date Collected:

L2247388

08/29/22 10:30

Project Name: CITY OF LORAIN Lab Number:

Project Number: 15011 Report Date: 11/02/22

SAMPLE RESULTS

Lab ID: L2247388-15

Client ID: LRN005:W-1:W082922 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Ma	nsfield Lab										
Aluminum, Total	0.0137		mg/l	0.0100	-	1	09/02/22 23:5	5 09/22/22 13:33	EPA 3005A	1,6020B	SV
Antimony, Total	0.00736		mg/l	0.00400	-	1	09/02/22 23:5	5 09/22/22 13:33	EPA 3005A	1,6020B	SV
Arsenic, Total	0.00275		mg/l	0.00050		1	09/02/22 23:5	5 09/22/22 13:33	EPA 3005A	1,6020B	SV
Barium, Total	0.07026		mg/l	0.00050	-	1	09/02/22 23:5	5 09/22/22 13:33	EPA 3005A	1,6020B	SV
Beryllium, Total	ND		mg/l	0.00050	-	1	09/02/22 23:5	5 09/22/22 13:33	EPA 3005A	1,6020B	SV
Cadmium, Total	ND		mg/l	0.00020	-	1	09/02/22 23:5	5 09/22/22 13:33	EPA 3005A	1,6020B	SV
Chromium, Total	ND		mg/l	0.00100	-	1	09/02/22 23:5	5 09/22/22 13:33	EPA 3005A	1,6020B	SV
Cobalt, Total	ND		mg/l	0.00050	1-	1	09/02/22 23:5	5 09/22/22 13:33	EPA 3005A	1,6020B	SV
Lead, Total	0.00180		mg/l	0.00100	4	1	09/02/22 23:5	5 09/22/22 13:33	EPA 3005A	1,6020B	SV
Mercury, Total	ND		mg/l	0.00020	-	1	09/03/22 04:1	0 09/11/22 14:37	EPA 7470A	1,7470A	AW
Nickel, Total	0.00423		mg/l	0.00200	-	1	09/02/22 23:5	5 09/22/22 13:33	EPA 3005A	1,6020B	SV
Selenium, Total	ND		mg/l	0.00500	-	1	09/02/22 23:5	5 09/22/22 13:33	EPA 3005A	1,6020B	SV
Silver, Total	ND		mg/l	0.00040	-	1	09/02/22 23:5	5 09/22/22 13:33	EPA 3005A	1,6020B	SV
Thallium, Total	ND		mg/l	0.00100	-	1	09/02/22 23:5	5 09/22/22 13:33	EPA 3005A	1,6020B	SV
Vanadium, Total	ND		mg/l	0.00500	-	1	09/02/22 23:5	5 09/22/22 13:33	EPA 3005A	1,6020B	SV
Zinc, Total	0.06157		mg/l	0.01000	_	1	09/02/22 23:5	5 09/22/22 13:33	EPA 3005A	1,6020B	SV



08/30/22 08:00

Date Collected:

Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-16

Client ID: LRN005:W-2:W083022 Date Received: 09/01/22 Sample Location: FORMER ST. JOE'S Field Prep: Not Specified

Sample Depth:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Ma	nsfield Lab										
Aluminum, Total	0.0251		mg/l	0.0100	-	1	09/02/22 23:5	5 09/22/22 14:45	EPA 3005A	1,6020B	SV
Antimony, Total	ND		mg/l	0.00400	_	1	09/02/22 23:5	5 09/22/22 14:45	EPA 3005A	1,6020B	SV
Arsenic, Total	0.00604		mg/l	0.00050	_	1	09/02/22 23:5	5 09/22/22 14:45	EPA 3005A	1,6020B	SV
Barium, Total	0.06635		mg/l	0.00050	-	1	09/02/22 23:5	5 09/22/22 14:45	EPA 3005A	1,6020B	SV
Beryllium, Total	ND		mg/l	0.00050	_	1	09/02/22 23:5	5 09/22/22 14:45	EPA 3005A	1,6020B	SV
Cadmium, Total	ND		mg/l	0.00020	-	1	09/02/22 23:5	5 09/22/22 14:45	EPA 3005A	1,6020B	SV
Chromium, Total	ND		mg/l	0.00100	-	1	09/02/22 23:5	5 09/22/22 14:45	EPA 3005A	1,6020B	SV
Cobalt, Total	ND		mg/l	0.00050		1	09/02/22 23:5	5 09/22/22 14:45	EPA 3005A	1,6020B	SV
Lead, Total	0.00533		mg/l	0.00100	_	1	09/02/22 23:5	5 09/22/22 14:45	EPA 3005A	1,6020B	sv
Mercury, Total	ND		mg/l	0.00020	-	1	09/03/22 04:1	0 09/11/22 15:22	EPA 7470A	1,7470A	AW
Nickel, Total	0.01115		mg/l	0.00200	-	1	09/02/22 23:5	5 09/22/22 14:45	EPA 3005A	1,6020B	sv
Selenium, Total	ND		mg/l	0.00500	-	1	09/02/22 23:5	5 09/22/22 14:45	EPA 3005A	1,6020B	SV
Silver, Total	ND		mg/l	0.00040	_	1	09/02/22 23:5	5 09/22/22 14:45	EPA 3005A	1,6020B	sv
Thallium, Total	ND		mg/l	0.00100	-	1	09/02/22 23:5	5 09/22/22 14:45	EPA 3005A	1,6020B	sv
Vanadium, Total	ND		mg/l	0.00500	-	1	09/02/22 23:5	5 09/22/22 14:45	EPA 3005A	1,6020B	sv
Zinc, Total	0.1062		mg/l	0.01000	_	1	09/02/22 23:5	5 09/22/22 14:45	EPA 3005A	1,6020B	SV



Project Name: CITY OF LORAIN Lab Number:

Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

SAMPLE RESULTS

Lab ID:

L2247388-17

Client ID: LRN005:W-3:W083022 Sample Location: FORMER ST. JOE'S Date Received:

Date Collected:

08/30/22 13:30

FORMER ST. JOE'S Field Prep:

09/01/22 Not Specified

Sample Depth:

Matrix:

Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Ma	nsfield Lab										
Aluminum, Total	0.277		mg/l	0.0100	-	1	09/02/22 23:5	5 09/22/22 14:50	EPA 3005A	1,6020B	SV
Antimony, Total	0.00839		mg/l	0.00400	_	1	09/02/22 23:5	5 09/22/22 14:50	EPA 3005A	1,6020B	sv
Arsenic, Total	0.00330		mg/l	0.00050		-1	09/02/22 23:5	5 09/22/22 14:50	EPA 3005A	1,6020B	sv
Barium, Total	0.05826		mg/l	0.00050	_	1	09/02/22 23:5	5 09/22/22 14:50	EPA 3005A	1,6020B	SV
Beryllium, Total	ND		mg/l	0.00050	_	1	09/02/22 23:5	5 09/22/22 14:50	EPA 3005A	1,6020B	sv
Cadmium, Total	0.00057		mg/l	0.00020	_	1	09/02/22 23:5	5 09/22/22 14:50	EPA 3005A	1,6020B	SV
Chromium, Total	0.00162		mg/l	0.00100	-	1	09/02/22 23:5	5 09/22/22 14:50	EPA 3005A	1,6020B	sv
Cobalt, Total	0.00069		mg/l	0.00050	-	1	09/02/22 23:5	5 09/22/22 14:50	EPA 3005A	1,6020B	sv
Lead, Total	0.01374		mg/l	0.00100	_	1	09/02/22 23:5	5 09/22/22 14:50	EPA 3005A	1,6020B	sv
Mercury, Total	ND		mg/l	0.00020	-	1	09/03/22 04:1	0 09/11/22 15:25	EPA 7470A	1,7470A	AW
Nickel, Total	0.00778		mg/l	0.00200		1	09/02/22 23:5	5 09/22/22 14:50	EPA 3005A	1,6020B	sv
Selenium, Total	ND		mg/l	0.00500	_	1	09/02/22 23:5	5 09/22/22 14:50	EPA 3005A	1,6020B	sv
Silver, Total	ND		mg/l	0.00040	_	1	09/02/22 23:5	5 09/22/22 14:50	EPA 3005A	1,6020B	sv
Thallium, Total	ND		mg/l	0.00100	_	1	09/02/22 23:5	5 09/22/22 14:50	EPA 3005A	1,6020B	sv
Vanadium, Total	ND		mg/l	0.00500		1	09/02/22 23:5	5 09/22/22 14:50	EPA 3005A	1,6020B	sv
Zinc, Total	0.3442		mg/l	0.01000	_	1	09/02/22 23:5	5 09/22/22 14:50	EPA 3005A	1,6020B	sv



**Project Name:** CITY OF LORAIN

Lab Number:

L2247388

**Project Number:** 

15011

**Report Date:** 

11/02/22

SAMPLE RESULTS

Lab ID:

L2247388-18

LRN005:W-4:W083122

Date Collected: Date Received: 08/31/22 12:45

Client ID: Sample Location:

FORMER ST. JOE'S

Field Prep:

09/01/22 Not Specified

Sample Depth:

Matrix:

Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Ma	nsfield Lab										
Aluminum, Total	0.256		mg/l	0.0100	-	1	09/02/22 23:5	5 09/22/22 15:45	EPA 3005A	1,6020B	SV
Antimony, Total	0.00423		mg/l	0.00400	-	1	09/02/22 23:5	5 09/22/22 15:45	EPA 3005A	1,6020B	SV
Arsenic, Total	0.00662		mg/l	0.00050		1	09/02/22 23:5	5 09/22/22 15:45	EPA 3005A	1,6020B	SV
Barium, Total	0.06366		mg/l	0.00050	_	1	09/02/22 23:5	5 09/22/22 15:45	EPA 3005A	1,6020B	SV
Beryllium, Total	ND		mg/l	0.00050	-	1	09/02/22 23:5	5 09/22/22 15:45	EPA 3005A	1,6020B	SV
Cadmium, Total	0.00029		mg/l	0.00020	-	1	09/02/22 23:5	5 09/22/22 15:45	EPA 3005A	1,6020B	sv
Chromium, Total	ND		mg/l	0.00100	-	1	09/02/22 23:5	5 09/22/22 15:45	EPA 3005A	1,6020B	sv
Cobalt, Total	ND		mg/l	0.00050	-	1	09/02/22 23:5	5 09/22/22 15:45	EPA 3005A	1,6020B	sv
Lead, Total	0.00699		mg/l	0.00100	_	1	09/02/22 23:5	5 09/22/22 15:45	EPA 3005A	1,6020B	sv
Mercury, Total	ND		mg/l	0.00020		1	09/03/22 04:1	0 09/11/22 15:28	EPA 7470A	1,7470A	AW
Nickel, Total	0.01465		mg/l	0.00200		1	09/02/22 23:5	5 09/22/22 15:45	EPA 3005A	1,6020B	sv
Selenium, Total	ND		mg/l	0.00500		1	09/02/22 23:5	5 09/22/22 15:45	EPA 3005A	1,6020B	sv
Silver, Total	ND		mg/l	0.00040	-	1	09/02/22 23:5	5 09/22/22 15:45	EPA 3005A	1,6020B	sv
Thallium, Total	ND		mg/l	0.00100	-	1	09/02/22 23:5	5 09/22/22 15:45	EPA 3005A	1,6020B	sv
Vanadium, Total	ND		mg/l	0.00500		1	09/02/22 23:5	5 09/22/22 15:45	EPA 3005A	1,6020B	sv
Zinc, Total	0.1014		mg/l	0.01000	_	1	09/02/22 23:5	5 09/22/22 15:45	EPA 3005A	1,6020B	sv



**Project Name:** CITY OF LORAIN

**Project Number:** 15011 Lab Number:

L2247388

**Report Date:** 

11/02/22

## **Method Blank Analysis Batch Quality Control**

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	l Analyst
Total Metals - Mans	sfield Lab for sample(s):	15-18	Batch: Wo	G16827	57-1				
Aluminum, Total	ND	mg/l	0.0100	_	1	09/02/22 23:55	09/22/22 14:02	1,6020B	sv
Antimony, Total	ND	mg/l	0.00400	_	1	09/02/22 23:55	09/22/22 14:02	1,6020B	SV
Arsenic, Total	ND	mg/l	0.00050	-	1	09/02/22 23:55	09/22/22 14:02	1,6020B	sv
Barium, Total	ND	mg/l	0.00050	_	1	09/02/22 23:55	09/22/22 14:02	1,6020B	sv
Beryllium, Total	ND	mg/l	0.00050	-	1	09/02/22 23:55	09/22/22 14:02	1,6020B	sv
Cadmium, Total	ND	mg/l	0.00020	-	1	09/02/22 23:55	09/22/22 14:02	1,6020B	SV
Chromium, Total	ND	mg/l	0.00100	-	1	09/02/22 23:55	09/22/22 14:02	1,6020B	sv
Cobalt, Total	ND	mg/l	0.00050	-	1	09/02/22 23:55	09/22/22 14:02	1,6020B	sv
Lead, Total	ND	mg/l	0.00100	_	1	09/02/22 23:55	09/22/22 14:02	1,6020B	sv
Nickel, Total	ND	mg/l	0.00200	<u>-</u>	1	09/02/22 23:55	09/22/22 14:02	1,6020B	sv
Selenium, Total	ND	mg/l	0.00500	_	1	09/02/22 23:55	09/22/22 14:02	1,6020B	sv
Silver, Total	ND	mg/l	0.00040	_	1	09/02/22 23:55	09/22/22 14:02	1,6020B	sv
Thallium, Total	ND	mg/l	0.00100		1	09/02/22 23:55	09/22/22 14:02	1,6020B	SV
Vanadium, Total	ND	mg/l	0.00500	-	1	09/02/22 23:55	09/22/22 14:02	1,6020B	sv
Zinc, Total	ND	mg/l	0.01000	-	1	09/02/22 23:55	09/22/22 14:02	1,6020B	sv

**Prep Information** 

**Digestion Method: EPA 3005A** 

> **Dilution Date Date** Analytical Method Analyst MDL **Factor** Prepared **Analyzed**

> > 09/03/22 04:10 09/11/22 14:30

Total Metals - Mansfield Lab for sample(s): 15-18 Batch: WG1682758-1

**Result Qualifier** 

Mercury, Total ND

Units

0.00020 mg/l

RL

**Prep Information** 

Digestion Method:

**EPA 7470A** 

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	
Total Metals - Mansfie	ld Lab for sample(s):	01-14 E	Batch: W	G16831	87-1				
Arsenic, Total	ND	mg/kg	0.400	_	1	09/03/22 12:25	09/24/22 00:38	3 1,6010D	МС



1,7470A

AW

**Parameter** 

Project Name: CITY OF LORAIN

Project Number: 15011

Lab Number:

L2247388

Report Date:

11/02/22

## Method Blank Analysis Batch Quality Control

Barium, Total	ND	mg/kg	0.400	_	1	09/03/22 12:25	09/24/22 00:38	1,6010D	мс
Cadmium, Total	ND	mg/kg	0.400	-	1	09/03/22 12:25	09/24/22 00:38	1,6010D	мс
Chromium, Total	ND	mg/kg	0.400	-	1	09/03/22 12:25	09/24/22 00:38	1,6010D	мс
Lead, Total	ND	mg/kg	2.00	-	1	09/03/22 12:25	09/24/22 00:38	1,6010D	мс
Selenium, Total	ND	mg/kg	0.800	+	1	09/03/22 12:25	09/24/22 00:38	1,6010D	мс
Silver, Total	ND	mg/kg	0.400		1	09/03/22 12:25	09/24/22 00:38	1,6010D	мс

#### **Prep Information**

Digestion Method: EPA 3050B

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	
Total Metals - Mans	sfield Lab for sample(s):	01-09,12	Batch:	WG168	33188-1				
Mercury, Total	ND	mg/kg	0.083		1	09/05/22 07:00	09/12/22 08:08	1,7471B	DMB

#### **Prep Information**

Digestion Method: EPA 7471B

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
TCLP Metals by EPA	1311 - Mansfield Lab	for sample	e(s): 01-1	4 Bat	ch: WG16	83954-1			
Arsenic, TCLP	ND	mg/l	1.00	-	1	09/07/22 00:23	09/27/22 23:44	1,6010D	BV
Barium, TCLP	ND	mg/l	0.500	-	1	09/07/22 00:23	09/27/22 23:44	1,6010D	BV
Cadmium, TCLP	ND	mg/l	0.100	-	1	09/07/22 00:23	09/27/22 23:44	1,6010D	BV
Chromium, TCLP	ND	mg/l	0.200	-	1	09/07/22 00:23	09/27/22 23:44	1,6010D	BV
Lead, TCLP	ND	mg/l	0.500	-	1	09/07/22 00:23	09/27/22 23:44	1,6010D	BV
Selenium, TCLP	ND	mg/l	0.500	-	1	09/07/22 00:23	09/27/22 23:44	1,6010D	BV
Silver, TCLP	0.254	mg/l	0.100		1	09/07/22 00:23	09/27/22 23:44	1,6010D	BV

**Prep Information** 

Digestion Method: EPA 3015

TCLP/SPLP Extraction Date: 09/03/22 06:39



**Project Name:** CITY OF LORAIN

Project Number: 15011

Lab Number:

L2247388

**Report Date:** 

11/02/22

## **Method Blank Analysis Batch Quality Control**

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	
TCLP Metals by EPA	A 1311 - Mansfield Lab	for sample	e(s): 01-	09,12	Batch: WG	1683960-1			
Mercury, TCLP	ND	mg/l	0.0010	-	1	09/07/22 02:50	09/09/22 16:11	1,7470A	DMB

**Prep Information** 

Digestion Method:

**EPA 7470A** 

TCLP/SPLP Extraction Date: 09/03/22 06:39



## Lab Control Sample Analysis Batch Quality Control

**Project Name:** CITY OF LORAIN

**Project Number:** 15011

Lab Number:

L2247388

Report Date:

arameter	LCS %Recovery	LCSD Qual %Recovery	%Recovery Qual Limits	RPD	Qual	RPD Limits
otal Metals - Mansfield Lab Associate	ed sample(s): 15-18 Batc	h: WG1682757-2				
Aluminum, Total	98	-	80-120	4		
Antimony, Total	85		80-120	3-5		
Arsenic, Total	103	The second second	80-120			
Barium, Total	92	-	80-120	÷		
Beryllium, Total	120		80-120	\ <del>-</del> }		
Cadmium, Total	98		80-120	/ <del>-</del> 2/		
Chromium, Total	91	1,-/	80-120	-		
Cobalt, Total	91		80-120	( ) ( ) ( ) ( )		
Lead, Total	107	÷	80-120	-		
Nickel, Total	93		80-120			
Selenium, Total	108	•	80-120	-		
Silver, Total	101		80-120			
Thallium, Total	111		80-120	1.41		
Vanadium, Total	94	-	80-120	-		
Zinc, Total	93		80-120	-		



## Lab Control Sample Analysis Batch Quality Control

Project Name: CITY OF LORAIN

Project Number: 15011

Lab Number: L2247388

**Report Date:** 11/02/22

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits	
Total Metals - Mansfield Lab Ass	ociated sample(s): 01-14 Batch:	WG1683187-2 SRM Lot Nu	mber: D113-540			
Arsenic, Total	89		70-130	÷		
Barium, Total	82	•	75-125	-		
Cadmium, Total	82		75-125	-		
Chromium, Total	85		70-130	-		
Lead, Total	82		72-128	-		
Selenium, Total	88		66-134	- (-)		
Silver, Total	85		70-131	-		
otal Metals - Mansfield Lab Ass	ociated sample(s): 01-09,12 Bato	h: WG1683188-2 SRM Lot	Number: D113-540			
Mercury, Total	100	-	60-140	- 0-		
CLP Metals by EPA 1311 - Man	sfield Lab Associated sample(s): 0	1-14 Batch: WG1683954-2				
Arsenic, TCLP	103		75-125		20	
Barium, TCLP	108	•	75-125	0 y-10	20	
Cadmium, TCLP	105	-	75-125		20	
			75.405	2	-22	
Chromium, TCLP	108	-	75-125		20	
Chromium, TCLP Lead, TCLP	108		75-125 75-125	- P	20	
				-		



## Lab Control Sample Analysis Batch Quality Control

**Project Name:** CITY OF LORAIN

Lab Number:

L2247388

**Project Number:** 15011

Report Date:

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab	Associated sample(s): 01-09,12	Batch: WG1683960-2			
Mercury, TCLP	101	- 1 <del>-</del> 1	80-120	<u>.</u>	



### Matrix Spike Analysis Batch Quality Control

**Project Name:** 

CITY OF LORAIN

Project Number: 15011

Lab Number:

L2247388

Report Date:

arameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	RPD Qual Limits
otal Metals - Mansfield	Lab Associated sar	nple(s): 15-18	QC Ba	tch ID: WG1682	2757-3	WG168275	7-4 QC Sam	ple: L2	2247014-12	Client	t ID: MS Sample
Aluminum, Total	ND	2	1.90	95		1.97	98		75-125	4	20
Antimony, Total	ND	0.5	0.4892	98		0.4777	96		75-125	2	20
Arsenic, Total	ND	0.12	0.1238	103		0.1233	103		75-125	0	20
Barium, Total	0.0551	2	1.851	90		1.902	92		75-125	3	20
Beryllium, Total	ND	0.05	0.05861	117		0.06236	125		75-125	6	20
Cadmium, Total	ND	0.053	0.05326	100		0.05181	98		75-125	3	20
Chromium, Total	ND	0.2	0.1786	89		0.1824	91		75-125	2	20
Cobalt, Total	0.0053	0.5	0.4475	88		0.4614	91		75-125	3	20
Lead, Total	ND	0.53	0.5346	101		0.5469	103		75-125	2	20
Nickel, Total	0.0062	0.5	0.4530	89		0.4634	91		75-125	2	20
Selenium, Total	ND	0.12	0.131	109		0.125	104		75-125	5	20
Silver, Total	ND	0.05	0.04864	97		0.04857	97		75-125	0	20
Thallium, Total	ND	0.12	0.1308	109		0.1331	111		75-125	2	20
Vanadium, Total	ND	0.5	0.4644	93		0.4656	93		75-125	0	20
Zinc, Total	ND	0.5	0.4531	91		0.4593	92		75-125	1	20
otal Metals - Mansfield	Lab Associated sar	nple(s): 15-18	QC Ba	tch ID: WG1682	2758-3	QC Samp	ole: L2247388	-15 C	Client ID: LR	N005:V	N-1:W082922
Mercury, Total	ND	0.005	0.00551	110					75-125	-	20



### Matrix Spike Analysis Batch Quality Control

**Project Name:** 

CITY OF LORAIN

**Project Number:** 

15011

Lab Number:

L2247388

Report Date:

arameter	Native Sample	MS Added	MS Found	MS %Recovery		MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield	Lab Associated sar	nple(s): 01-14	QC Ba	tch ID: WG1683	187-3	QC Samp	ole: L2247388-01	Client ID: LR	N005:TP-1	4:D082922
Arsenic, Total	7.99	12.4	19.2	91		-	-	75-125		20
Barium, Total	80.2	206	210	63	Q		-	75-125	-	20
Cadmium, Total	ND	5.46	3.91	72	Q	•	-	75-125	-	20
Chromium, Total	10.1	20.6	26.1	78			-	75-125		20
Lead, Total	20.3	54.6	49.5	54	Q	•	-	75-125	-	20
Selenium, Total	ND	12.4	9.32	75		-	-	75-125	-	20
Silver, Total	ND	30.9	23.6	76		•		75-125	-	20
Mercury, Total	0.092	1.7	1.74	97				80-120	-	20
	11 - Mansfield Lab	Associated sa	mple(s): (	01-14 QC Bate	ch ID: V	VG1683954	-3 QC Sample:	L2247388-01	Client ID:	LRN005:TP-
	11 - Mansfield Lab	Associated sa	mple(s): (	01-14 QC Bato	ch ID: V	VG1683954 -	-3 QC Sample:	L2247388-01 75-125	Client ID:	LRN005:TP-
4:D082922					ch ID: V		-3 QC Sample: - -		Client ID:	
4:D082922 Arsenic, TCLP	ND	1.2	1.29	108	ch ID: V		-3 QC Sample: - - -	75-125	Client ID:	20
4:D082922 Arsenic, TCLP Barium, TCLP	ND ND	1.2 20	1.29	108 113	ch ID: V		-3 QC Sample: - - -	75-125 75-125	Client ID:	20 20
4:D082922 Arsenic, TCLP Barium, TCLP Cadmium, TCLP	ND ND ND	1.2 20 0.53	1.29 22.6 0.568	108 113 107	ch ID: V		-3 QC Sample: - - - -	75-125 75-125 75-125	Client ID:	20 20 20
4:D082922 Arsenic, TCLP Barium, TCLP Cadmium, TCLP Chromium, TCLP	ND ND ND	1.2 20 0.53 2	1.29 22.6 0.568 2.19	108 113 107 110	ch ID: V	- - -	-3 QC Sample: - - - - -	75-125 75-125 75-125 75-125	Client ID:	20 20 20 20
4:D082922 Arsenic, TCLP Barium, TCLP Cadmium, TCLP Chromium, TCLP Lead, TCLP	ND ND ND ND	1.2 20 0.53 2 5.3	1.29 22.6 0.568 2.19 5.65	108 113 107 110 107	ch ID: V			75-125 75-125 75-125 75-125 75-125	-	20 20 20 20
4:D082922 Arsenic, TCLP Barium, TCLP Cadmium, TCLP Chromium, TCLP Lead, TCLP Selenium, TCLP	ND ND ND ND ND ND ND ND ND	1.2 20 0.53 2 5.3 1.2	1.29 22.6 0.568 2.19 5.65 1.29 0.596	108 113 107 110 107 108 119			- - - - -	75-125 75-125 75-125 75-125 75-125 75-125		20 20 20 20 20 20 20

#### **Lab Duplicate Analysis Batch Quality Control**

**Project Name:** 

CITY OF LORAIN

**Project Number:** 15011 Lab Number: 11/02/22 Report Date:

L2247388

**Native Sample Duplicate Sample RPD RPD Limits Parameter** Units Qual QC Batch ID: WG1682758-4 QC Sample: L2247388-15 Client ID: LRN005:W-1:W082922 Total Metals - Mansfield Lab Associated sample(s): 15-18 Mercury, Total ND ND mg/l NC 20 Total Metals - Mansfield Lab Associated sample(s): 01-14 QC Batch ID: WG1683187-4 QC Sample: L2247388-01 Client ID: LRN005:TP-14:D082922 Arsenic, Total 7.99 0 20 8.03 mg/kg 80.2 54.8 Q 20 Barium, Total 38 mg/kg Cadmium, Total ND ND NC 20 mg/kg Chromium, Total 10.1 10.2 20 1 mg/kg Q 20 Lead, Total 20.3 12.6 47 mg/kg NC 20 Selenium, Total ND ND mg/kg ND ND NC 20 Silver, Total mg/kg Total Metals - Mansfield Lab Associated sample(s): 01-09,12 QC Batch ID: WG1683188-4 QC Sample: L2247388-01 Client ID: LRN005:TP-14:D082922 0.092 ND NC 20 Mercury, Total mg/kg TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01-14 QC Batch ID: WG1683954-4 QC Sample: L2247388-01 Client ID: LRN005:TP-14:D082922 Arsenic, TCLP ND ND NC 20 mg/l Barium, TCLP ND NC 20 ND mg/l Cadmium, TCLP ND ND NC 20 mg/l Chromium, TCLP ND ND NC 20 mg/l Lead, TCLP NC 20 ND ND mg/l Silver, TCLP ND ND NC 20 mg/l



## Lab Duplicate Analysis Batch Quality Control

Project Name: CITY OF LORAIN

Project Number: 15011

Lab Number:

L2247388

Report Date:

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits	
TCLP Metals by EPA 1311 - Mansfield Lab 14:D082922	Associated sample(s): 01-14	QC Batch ID: WG1683954-4	QC Sample:	L2247388-01	Client ID: LRN005:TP-	
Selenium, TCLP	ND	ND	mg/l	NC	20	
TCLP Metals by EPA 1311 - Mansfield Lab LRN005:TP-14:D082922	Associated sample(s): 01-09,12	2 QC Batch ID: WG1683960-	4 QC Samp	ole: L2247388	-01 Client ID:	
Mercury, TCLP	ND	ND	mg/l	NC	20	



# INORGANICS & MISCELLANEOUS



Project Name: CITY OF LORAIN

Project Number: 15011

Lab Number:

L2247388

**Report Date:** 11/02/22

**SAMPLE RESULTS** 

Lab ID: Client ID: L2247388-01

LRN005:TP-14:D082922

Sample Location: FORMER ST. JOE'S

Date Collected:

08/29/22 11:30

Date Received:

09/01/22

Field Prep:

Not Specified

Sample Depth:

Matrix:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lat	)								
Solids, Total	74.6		%	0.100	NA	1	-	09/07/22 12:01	121,2540G	RI



Project Name: CITY OF LORAIN

Project Number: 15011

Lab Number:

L2247388

Report Date:

11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-02

Client ID: LRN005:TP-13:D082922 Sample Location: FORMER ST. JOE'S Date Collected:

08/29/22 10:30

Date Received: Field Prep: 09/01/22 Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lat	)								
Solids, Total	59.6		%	0.100	NA	1	- 4	09/07/22 12:01	121,2540G	RI



Project Name: CITY OF LORAIN

Project Number: 15011

Lab Number:

L2247388

**Report Date:** 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-03

Client ID: LRN005:TP-12-3:D082922 Sample Location: FORMER ST. JOE'S Date Collected:

08/29/22 12:30

Date Received:

09/01/22

Field Prep:

**Not Specified** 

Sample Depth:

Matrix:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab									
Solids, Total	64.1		%	0.100	NA	1	-	09/07/22 12:01	121,2540G	RI



**Project Name:** CITY OF LORAIN

Project Number: 15011

Lab Number:

L2247388

**Report Date:** 

11/02/22

**SAMPLE RESULTS** 

Lab ID:

L2247388-04

Date Collected:

08/29/22 13:30

Client ID:

LRN005:TP-12-2:D082922

Date Received:

09/01/22

Sample Location: FORMER ST. JOE'S

Field Prep:

Not Specified

Sample Depth:

Matrix:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab									
Solids, Total	67.4		%	0.100	NA	1		09/07/22 12:01	121,2540G	RI



**Project Name:** CITY OF LORAIN

**Project Number:** 15011 Lab Number:

L2247388

**Report Date:** 11/02/22

**SAMPLE RESULTS** 

Lab ID:

L2247388-05

LRN005:TP-12-1:D082922

Sample Location: FORMER ST. JOE'S

Date Collected:

08/29/22 14:30

Date Received:

09/01/22

Field Prep:

Not Specified

Sample Depth:

Matrix:

Client ID:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab	)								
Solids, Total	63.5		%	0.100	NA	1	3	09/07/22 12:01	121,2540G	RI



**Project Name:** CITY OF LORAIN

Project Number: 15011

Lab Number:

L2247388

**Report Date:** 

11/02/22

**SAMPLE RESULTS** 

Lab ID:

L2247388-06

Client ID:

LRN005:CTP-3:D083022

Sample Location: FORMER ST. JOE'S

Date Collected: Date Received: 08/30/22 09:30

09/01/22

Field Prep:

**Not Specified** 

Sample Depth:

Matrix:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab									
Solids, Total	72.4		%	0.100	NA	1	-	09/07/22 12:01	121,2540G	RI



Project Name: CITY OF LORAIN

Project Number: 15011

Lab Number:

L2247388

**Report Date:** 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-07

Client ID: LRN005:CTP-2:D083022 Sample Location: FORMER ST. JOE'S Date Collected:

08/30/22 11:00

Date Received:

09/01/22

Sample Depth:

Matrix: Soil

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab									
Solids, Total	52.4		%	0.100	NA	1		09/07/22 12:01	121,2540G	RI
				+00000000000000000000000000000000000000						



**Project Name:** CITY OF LORAIN

Lab Number:

L2247388

Project Number: 15011

**Report Date:** 

11/02/22

**SAMPLE RESULTS** 

Lab ID:

L2247388-08

Date Collected:

08/30/22 13:00

Client ID:

LRN005:CTP-1:D083022

Date Received:

09/01/22

Sample Location: FORMER ST. JOE'S

Field Prep:

Not Specified

Sample Depth:

Matrix:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab	)								
Solids, Total	85.5		%	0.100	NA	1	-	09/07/22 12:01	121,2540G	RI



**Project Name:** CITY OF LORAIN

Lab Number:

L2247388

**Project Number:** 

15011

**Report Date:** 

11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-09

LRN005:CTP-5:D083022

Date Collected:

08/30/22 08:00

Date Received:

09/01/22

Sample Location: FORMER ST. JOE'S

Field Prep:

Not Specified

Sample Depth:

Matrix:

Client ID:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab									
Solids, Total	68.9		%	0.100	NA	1	-	09/07/22 12:01	121,2540G	RI



Project Name: CITY OF LORAIN

Project Number: 15011

Lab Number:

L2247388

Report Date:

11/02/22

**SAMPLE RESULTS** 

Lab ID:

L2247388-10

Client ID:

LRN005:VL-2:D083022

Sample Location: FORMER ST. JOE'S

Date Collected:

08/30/22 12:00

Date Received:

09/01/22

Field Prep:

Not Specified

Sample Depth:

Matrix:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab	)								
Solids, Total	92.0		%	0.100	NA	1	-	09/07/22 12:01	121,2540G	RI



**Project Name:** CITY OF LORAIN

Project Number: 15011

Lab Number:

L2247388

**Report Date:** 11/02/22

**SAMPLE RESULTS** 

Lab ID:

L2247388-11

LRN005:VL-1:D083022

Date Collected:

08/30/22 10:00

Sample Location: FORMER ST. JOE'S

Date Received: Field Prep:

09/01/22 **Not Specified** 

Sample Depth:

Matrix:

Client ID:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab	)								
Solids, Total	74.9		%	0.100	NA	1	-	09/07/22 12:01	121,2540G	RI



Project Name: CITY OF LORAIN

Project Number: 15011

Lab Number:

L2247388

Report Date:

11/02/22

**SAMPLE RESULTS** 

Lab ID:

L2247388-12

Client ID:

LRN005:CTP-4:D083122

Sample Location: FORMER ST. JOE'S

Date Collected:

08/31/22 10:00

Date Received:

09/01/22

Field Prep:

Not Specified

Sample Depth:

Matrix:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab									
Solids, Total	71.2		%	0.100	NA	1	-	09/07/22 12:01	121,2540G	RI



**Project Name:** CITY OF LORAIN

Lab Number:

L2247388

**Project Number:** 15011 **Report Date:** 

11/02/22

**SAMPLE RESULTS** 

Lab ID:

L2247388-13

Client ID:

LRN005:VL-3:D083122

Date Collected: Date Received: 08/31/22 10:00

Sample Location: FORMER ST. JOE'S

Field Prep:

09/01/22 Not Specified

Sample Depth:

Matrix:

Tribata isti										
Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lat	)								
Solids, Total	81.5		%	0.100	NA	1		09/07/22 12:01	121,2540G	RI



**Project Name:** CITY OF LORAIN

Project Number: 15011

Lab Number:

L2247388

**Report Date:** 

11/02/22

**SAMPLE RESULTS** 

Lab ID:

L2247388-14

Client ID:

LRN005:VL-4:D083122

Field Prep:

08/31/22 12:00

Sample Location: FORMER ST. JOE'S

Date Collected: Date Received:

09/01/22 Not Specified

Sample Depth:

Matrix:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry	- Westborough Lab	)								
Solids, Total	77.1		%	0.100	NA	1	- 3	09/07/22 12:01	121,2540G	RI



Project Name: CITY OF LORAIN

Project Number: 15011

Lab Number:

L2247388

**Report Date:** 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-15

Client ID: LRN005:W-1:W082922 Sample Location: FORMER ST. JOE'S Date Collected:

08/29/22 10:30

Date Received: Field Prep: 09/01/22 Not Specified

Sample Depth:

Matrix:

Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - We	stborough Lat	)								
Oil & Grease, Hem-Grav	ND		mg/l	4.0	-	1	09/14/22 19:00	09/14/22 21:30	140,1664B	TL



Project Name: CITY OF LORAIN

Project Number: 15011

Lab Number:

L2247388

**Report Date:** 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-16

Client ID: LRN005:W-2:W083022 Sample Location: FORMER ST. JOE'S Date Collected:

08/30/22 08:00

Date Received:

09/01/22

Field Prep:

Not Specified

Sample Depth:

Matrix:

Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - We	stborough Lat	)								
Oil & Grease, Hem-Grav	ND		mg/l	4.4	_	1.1	09/14/22 19:00	09/14/22 21:30	140,1664B	TL



Project Name: CITY OF LORAIN

Project Number: 15011

Lab Number:

L2247388

**Report Date:** 11/02/22

**SAMPLE RESULTS** 

Lab ID: L2247388-17

Client ID: LRN005:W-3:W083022 Sample Location: FORMER ST. JOE'S Date Collected:

08/30/22 13:30

Date Received:

09/01/22

Field Prep:

Not Specified

Sample Depth:

Matrix:

Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Wes	stborough Lat	)								
Oil & Grease, Hem-Grav	7.8		mg/l	4.0	_	1	09/14/22 19:00	09/14/22 21:30	140,1664B	TL



**Project Name:** CITY OF LORAIN

Lab Number:

L2247388

**Project Number:** 15011 **Report Date:** 

11/02/22

**SAMPLE RESULTS** 

Lab ID:

L2247388-18

Client ID:

LRN005:W-4:W083122

Date Collected: Date Received: 08/31/22 12:45

Sample Location:

FORMER ST. JOE'S

09/01/22

Sample Depth:

Matrix:

Water

Not Specified Field Prep:

Dilution **Date** Date Analytical **Factor** Prepared Result Qualifier Units Analyzed Method **Parameter** RL MDL **Analyst** General Chemistry - Westborough Lab Oil & Grease, Hem-Grav mg/l 4.0 1 09/14/22 19:00 09/14/22 21:30 140,1664B TL



L2247388

**Project Name:** CITY OF LORAIN

**Report Date:** Project Number: 15011

11/02/22

Lab Number:

Method Blank Analysis Batch Quality Control

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - We	estborough Lab for sam	ple(s): 15	5-18 Ba	tch: W	G1687508-	1			
Oil & Grease, Hem-Grav	ND	mg/l	4.0		1	09/14/22 19:00	09/14/22 21:30	140,1664B	TL



## Lab Control Sample Analysis Batch Quality Control

Project Name: CITY OF LORAIN

Lab Number:

L2247388

Project Number: 15011

Action to the

Report Date:

11/02/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab	Associated sample(s	): 15-18	Batch: WG1687	508-2				
Oil & Grease, Hem-Grav	90		-		78-114	-		18



## Matrix Spike Analysis Batch Quality Control

**Project Name:** 

CITY OF LORAIN

Project Number: 15011

Lab Number:

L2247388

**Report Date:** 

11/02/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery		Recove Limits	•	Qual	RPD Limits
General Chemistry - Westbo	orough Lab Asso	ociated sam	ple(s): 15-18	QC Batch II	D: WG16	87508-4	QC Sample:	L22439	86-86	Client ID:	MS Sa	mple
Oil & Grease, Hem-Grav	ND	40	36	90		2.	·		78-114	-		18



# Lab Duplicate Analysis Batch Quality Control

Project Name: CITY OF LORAIN

Project Number: 15011

Lab Number:

L2247388

Report Date:

11/02/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sam 14:D082922	ple(s): 01-14 Q0	C Batch ID: WG1684410-1	QC Sample:	L2247388-01	Client ID:	LRN005:TP-
Solids, Total	74.6	75.6	%	1		20
General Chemistry - Westborough Lab Associated sam	ple(s): 15-18 Q0	C Batch ID: WG1687508-3	QC Sample:	L2243986-85	Client ID:	DUP Sample
Oil & Grease, Hem-Grav	ND	ND	mg/l	NC		18



Lab Number: L2247388

Report Date: 11/02/22

## Sample Receipt and Container Information

Were project specific reporting limits specified?

**CITY OF LORAIN** 

YES

### **Cooler Information**

Project Number: 15011

Project Name:

Cooler	Custody Seal
Α	Absent
В	Absent
С	Absent
D	Absent

Container Info		Initial	Final	Temp			Frozen					
Container ID	Container Type	Cooler	рН	рН	deg C	Pres	Seal	Date/Time	Analysis(*)			
L2247388-01A	Vial Large Septa unpreserved (4oz)	С	NA		4.2	Y	Absent		BA-TI(180),AS-TI(180),AG-TI(180),CR- TI(180),SE-TI(180),PB-TI(180),HG-T(28),CD- TI(180)			
L2247388-01B	Vial Large Septa unpreserved (4oz)	С	NA		4.2	Υ	Absent		OH-GRO(14),OH-8260(14)			
L2247388-01C	Glass 500ml/16oz unpreserved	С	NA		4.2	Y	Absent		OH-8270(14),TS(7),OH-DRO/ORO(14),OH- 8082-3540C(365)			
L2247388-01D	Glass 500ml/16oz unpreserved	С	NA		4.2	Y	Absent		OH-8270(14),TS(7),OH-DRO/ORO(14),OH- 8082-3540C(365)			
L2247388-01W	Plastic 120ml HNO3 preserved Extracts	С	NA		4.2	Υ	Absent		CD-CI(180),AS-CI(180),BA-CI(180),HG- C(28),PB-CI(180),SE-CI(180),CR-CI(180),AG- CI(180)			
L2247388-01W9	Tumble Vessel	С	NA		4.2	Υ	Absent		1-7			
L2247388-01X	Vial MeOH preserved split	С	NA		4.2	Y	Absent		OH-GRO(14),OH-8260(14)			
L2247388-01Y	Vial Water preserved split	С	NA		4.2	Y	Absent	09-SEP-22 09:57	OH-8260(14)			
L2247388-01Z	Vial Water preserved split	С	NA		4.2	Υ	Absent	09-SEP-22 09:57	OH-8260(14)			
L2247388-02A	Vial Large Septa unpreserved (4oz)	С	NA		4.2	Y	Absent		AS-TI(180),BA-TI(180),AG-TI(180),CR- TI(180),SE-TI(180),PB-TI(180),HG-T(28),CD- TI(180)			
L2247388-02B	Vial Large Septa unpreserved (4oz)	С	NA		4.2	Y	Absent		OH-GRO(14),OH-8260(14)			
L2247388-02C	Glass 500ml/16oz unpreserved	С	NA		4.2	Υ	Absent		OH-8270(14),TS(7),OH-8082-3540C(365),OH- DRO/ORO(14)			
L2247388-02D	Glass 500ml/16oz unpreserved	С	NA		4.2	Υ	Absent		OH-8270(14),TS(7),OH-8082-3540C(365),OH- DRO/ORO(14)			
L2247388-02W	Plastic 120ml HNO3 preserved Extracts	С	NA		4.2	Υ	Absent		CD-CI(180),BA-CI(180),AS-CI(180),HG- C(28),PB-CI(180),CR-CI(180),SE-CI(180),AG- CI(180)			
L2247388-02W9	Tumble Vessel	С	NA		4.2	Y	Absent		6 <del>-</del>			



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Container Information			Initial		Temp			Frozen	
Container ID	Container Type	Cooler	pН	рН	deg C	Pres	Seal	Date/Time	Analysis(*)
L2247388-02X	Vial MeOH preserved split	С	NA		4.2	Y	Absent		OH-GRO(14),OH-8260(14)
L2247388-02Y	Vial Water preserved split	С	NA		4.2	Y	Absent	09-SEP-22 09:57	OH-8260(14)
L2247388-02Z	Vial Water preserved split	С	NA		4.2	Y	Absent	09-SEP-22 09:57	OH-8260(14)
L2247388-03A	Vial Large Septa unpreserved (4oz)	Α	NA		2.2	Υ	Absent		BA-TI(180),AS-TI(180),AG-TI(180),CR- TI(180),SE-TI(180),PB-TI(180),HG-T(28),CD- TI(180)
L2247388-03B	Vial Large Septa unpreserved (4oz)	Α	NA		2.2	Y	Absent		OH-GRO(14),OH-8260(14)
L2247388-03C	Glass 500ml/16oz unpreserved	Α	NA		2.2	Y	Absent		OH-8270(14),TS(7),OH-8082-3540C(365),OH- DRO/ORO(14)
L2247388-03D	Glass 500ml/16oz unpreserved	Α	NA		2.2	Y	Absent		OH-8270(14),TS(7),OH-8082-3540C(365),OH- DRO/ORO(14)
L2247388-03W	Plastic 120ml HNO3 preserved Extracts	Α	NA		2.2	Υ	Absent		CD-CI(180),BA-CI(180),AS-CI(180),HG- C(28),PB-CI(180),SE-CI(180),CR-CI(180),AG- CI(180)
L2247388-03W9	Tumble Vessel	Α	NA		2.2	Υ	Absent		
L2247388-03X	Vial MeOH preserved split	Α	NA		2.2	Υ	Absent		OH-GRO(14),OH-8260(14)
L2247388-03Y	Vial Water preserved split	Α	NA		2.2	Y	Absent	09-SEP-22 09:57	OH-8260(14)
L2247388-03Z	Vial Water preserved split	Α	NA		2.2	Υ	Absent	09-SEP-22 09:57	OH-8260(14)
L2247388-04A	Vial Large Septa unpreserved (4oz)	Α	NA		2.2	Y	Absent		AS-TI(180),BA-TI(180),AG-TI(180),CR- TI(180),SE-TI(180),PB-TI(180),HG-T(28),CD- TI(180)
L2247388-04B	Vial Large Septa unpreserved (4oz)	Α	NA		2.2	Y	Absent		OH-GRO(14),OH-8260(14)
L2247388-04C	Glass 500ml/16oz unpreserved	Α	NA		2.2	Υ	Absent		OH-8270(14),TS(7),OH-8082-3540C(365),OH- DRO/ORO(14)
L2247388-04D	Glass 500ml/16oz unpreserved	Α	NA		2.2	Υ	Absent		OH-8270(14),TS(7),OH-8082-3540C(365),OH- DRO/ORO(14)
L2247388-04W	Plastic 120ml HNO3 preserved Extracts	Α	NA		2.2	Y	Absent		CD-CI(180),BA-CI(180),AS-CI(180),HG- C(28),PB-CI(180),SE-CI(180),CR-CI(180),AG- CI(180)
L2247388-04W9	Tumble Vessel	A	NA		2.2	Y	Absent		
L2247388-04X	Vial MeOH preserved split	Α	NA		2.2	Y	Absent		OH-GRO(14),OH-8260(14)
L2247388-04Y	Vial Water preserved split	Α	NA		2.2	Υ	Absent	09-SEP-22 09:57	OH-8260(14)
L2247388-04Z	Vial Water preserved split	Α	NA		2.2	Υ	Absent	09-SEP-22 09:57	OH-8260(14)
L2247388-05A	Vial Large Septa unpreserved (4oz)	Α	NA		2.2	Υ	Absent		BA-TI(180),AS-TI(180),AG-TI(180),CR- TI(180),PB-TI(180),SE-TI(180),HG-T(28),CD- TI(180)
L2247388-05B	Vial Large Septa unpreserved (4oz)	Α	NA		2.2	Y	Absent		OH-GRO(14),OH-8260(14)



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Container Info		Initial	Final	Temp			Frozen		
Container ID	Container Type	Cooler	рН	рН	deg C	Pres	Seal	Date/Time	Analysis(*)
L2247388-05C	Glass 500ml/16oz unpreserved	Α	NA		2.2	Y	Absent		OH-8270(14),TS(7),OH-8082-3540C(365),OH- DRO/ORO(14)
L2247388-05D	Glass 500ml/16oz unpreserved	Α	NA		2.2	Υ	Absent		OH-8270(14),TS(7),OH-8082-3540C(365),OH- DRO/ORO(14)
L2247388-05W	Plastic 120ml HNO3 preserved Extracts	Α	NA		2.2	Υ	Absent		CD-Cl(180),BA-Cl(180),AS-Cl(180),HG- C(28),PB-Cl(180),SE-Cl(180),CR-Cl(180),AG- Cl(180)
L2247388-05W9	Tumble Vessel	Α	NA		2.2	Y	Absent		-
L2247388-05X	Vial MeOH preserved split	Α	NA		2.2	Y	Absent		OH-GRO(14),OH-8260(14)
L2247388-05Y	Vial Water preserved split	Α	NA		2.2	Y	Absent	09-SEP-22 09:57	OH-8260(14)
L2247388-05Z	Vial Water preserved split	Α	NA		2.2	Y	Absent	09-SEP-22 09:57	OH-8260(14)
L2247388-06A	Vial Large Septa unpreserved (4oz)	Α	NA		2.2	Y	Absent		AS-TI(180),BA-TI(180),AG-TI(180),CR- TI(180),PB-TI(180),SE-TI(180),HG-T(28),CD- TI(180)
L2247388-06B	Vial Large Septa unpreserved (4oz)	Α	NA		2.2	Y	Absent		OH-GRO(14),OH-8260(14)
L2247388-06C	Glass 500ml/16oz unpreserved	Α	NA		2.2	Y	Absent		OH-8270(14),TS(7),OH-8082-3540C(365),OH- DRO/ORO(14)
L2247388-06D	Glass 500ml/16oz unpreserved	Α	NA		2.2	Υ	Absent		OH-8270(14),TS(7),OH-8082-3540C(365),OH- DRO/ORO(14)
L2247388-06W	Plastic 120ml HNO3 preserved Extracts	Α	NA		2.2	Y	Absent		CD-Cl(180),AS-Cl(180),BA-Cl(180),HG- C(28),PB-Cl(180),SE-Cl(180),CR-Cl(180),AG- Cl(180)
L2247388-06W9	Tumble Vessel	Α	NA		2.2	Υ	Absent		3 <del>-</del>
L2247388-06X	Vial MeOH preserved split	Α	NA		2.2	Y	Absent		OH-GRO(14),OH-8260(14)
L2247388-06Y	Vial Water preserved split	Α	NA		2.2	Y	Absent	09-SEP-22 09:57	OH-8260(14)
L2247388-06Z	Vial Water preserved split	Α	NA		2.2	Y	Absent	09-SEP-22 09:57	OH-8260(14)
L2247388-07A	Vial Large Septa unpreserved (4oz)	Α	NA		2.2	Υ	Absent		BA-TI(180),AS-TI(180),AG-TI(180),CR- TI(180),PB-TI(180),SE-TI(180),HG-T(28),CD- TI(180)
L2247388-07B	Vial Large Septa unpreserved (4oz)	Α	NA		2.2	Υ	Absent		OH-GRO(14),OH-8260(14)
L2247388-07C	Glass 500ml/16oz unpreserved	С	NA		4.2	Y	Absent		OH-8270(14),TS(7),OH-DRO/ORO(14),OH-8082-3540C(365)
L2247388-07D	Glass 500ml/16oz unpreserved	С	NA		4.2	Υ	Absent		OH-8270(14),TS(7),OH-DRO/ORO(14),OH-8082-3540C(365)
L2247388-07W	Plastic 120ml HNO3 preserved Extracts	С	NA		4.2	Y	Absent		CD-CI(180),AS-CI(180),BA-CI(180),HG- C(28),PB-CI(180),CR-CI(180),SE-CI(180),AG- CI(180)
L2247388-07W9	Tumble Vessel	С	NA		4.2	Υ	Absent		-



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Container Information			Initial	Final	Temp			Frozen	
Container ID	Container Type	Cooler	рН	pН	deg C	Pres	Seal	Date/Time	Analysis(*)
L2247388-07X	Vial MeOH preserved split	Α	NA		2.2	Y	Absent		OH-GRO(14),OH-8260(14)
L2247388-07Y	Vial Water preserved split	Α	NA		2.2	Y	Absent	09-SEP-22 09:57	OH-8260(14)
L2247388-07Z	Vial Water preserved split	Α	NA		2.2	Υ	Absent	09-SEP-22 09:57	OH-8260(14)
L2247388-08A	Vial Large Septa unpreserved (4oz)	Α	NA		2.2	Y	Absent		AS-TI(180),BA-TI(180),AG-TI(180),CR- TI(180),SE-TI(180),PB-TI(180),HG-T(28),CD- TI(180)
L2247388-08B	Vial Large Septa unpreserved (4oz)	Α	NA		2.2	Y	Absent		OH-GRO(14),OH-8260(14)
L2247388-08C	Glass 500ml/16oz unpreserved	С	NA		4.2	Y	Absent		OH-8270(14),TS(7),OH-DRO/ORO(14),OH- 8082-3540C(365)
L2247388-08D	Glass 500ml/16oz unpreserved	С	NA		4.2	Y	Absent		OH-8270(14),TS(7),OH-DRO/ORO(14),OH- 8082-3540C(365)
L2247388-08W	Plastic 120ml HNO3 preserved Extracts	С	NA		4.2	Υ	Absent		CD-CI(180),AS-CI(180),BA-CI(180),HG- C(28),PB-CI(180),SE-CI(180),CR-CI(180),AG- CI(180)
L2247388-08W9	Tumble Vessel	С	NA		4.2	Υ	Absent		·
L2247388-08X	Vial MeOH preserved split	Α	NA		2.2	Υ	Absent		OH-GRO(14),OH-8260(14)
L2247388-08Y	Vial Water preserved split	Α	NA		2.2	Υ	Absent	09-SEP-22 09:57	OH-8260(14)
L2247388-08Z	Vial Water preserved split	Α	NA		2.2	Υ	Absent	09-SEP-22 09:57	OH-8260(14)
L2247388-09A	Vial Large Septa unpreserved (4oz)	Α	NA		2.2	Y	Absent		AS-TI(180),BA-TI(180),AG-TI(180),CR- TI(180),PB-TI(180),SE-TI(180),HG-T(28),CD- TI(180)
L2247388-09B	Vial Large Septa unpreserved (4oz)	Α	NA		2.2	Y	Absent		OH-GRO(14),OH-8260(14)
L2247388-09C	Glass 500ml/16oz unpreserved	С	NA		4.2	Y	Absent		OH-8270(14),TS(7),OH-DRO/ORO(14),OH- 8082-3540C(365)
L2247388-09D	Glass 500ml/16oz unpreserved	С	NA		4.2	Υ	Absent		OH-8270(14),TS(7),OH-DRO/ORO(14),OH-8082-3540C(365)
L2247388-09W	Plastic 120ml HNO3 preserved Extracts	С	NA		4.2	Υ	Absent		CD-CI(180),AS-CI(180),BA-CI(180),HG- C(28),PB-CI(180),CR-CI(180),SE-CI(180),AG- CI(180)
L2247388-09W9	Tumble Vessel	С	NA		4.2	Y	Absent		7 <del>-</del>
L2247388-09X	Vial MeOH preserved split	Α	NA		2.2	Υ	Absent		OH-GRO(14),OH-8260(14)
L2247388-09Y	Vial Water preserved split	Α	NA		2.2	Y	Absent	09-SEP-22 09:57	OH-8260(14)
L2247388-09Z	Vial Water preserved split	Α	NA		2.2	Υ	Absent	09-SEP-22 09:57	OH-8260(14)
L2247388-10A	Vial Large Septa unpreserved (4oz)	A	NA		2.2	Υ	Absent		PB-TI(180)
L2247388-10B	Vial Large Septa unpreserved (4oz)	Α	NA		2.2	Y	Absent		ARCHIVE()
L2247388-10C	Glass 500ml/16oz unpreserved	С	NA		4.2	Y	Absent		TS(7),ARCHIVE()



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Container Information			Initial	Final	Temp			Frozen	
Container ID	Container Type	Cooler	рН	рН	deg C	Pres	Seal	Date/Time	Analysis(*)
L2247388-10D	Glass 500ml/16oz unpreserved	С	NA		4.2	Y	Absent		TS(7),ARCHIVE()
L2247388-10W	Plastic 120ml HNO3 preserved Extracts	С	NA		4.2	Υ	Absent		PB-CI(180)
L2247388-10W9	Tumble Vessel	С	NA		4.2	Y	Absent		
L2247388-10X	Vial MeOH preserved split	Α	NA		2.2	Υ	Absent		ARCHIVE()
L2247388-10Y	Vial Water preserved split	Α	NA		2.2	Y	Absent	09-SEP-22 09:57	ARCHIVE()
L2247388-10Z	Vial Water preserved split	Α	NA		2.2	Υ	Absent	09-SEP-22 09:57	ARCHIVE()
L2247388-11A	Vial Large Septa unpreserved (4oz)	Α	NA		2.2	Υ	Absent		PB-TI(180)
L2247388-11B	Vial Large Septa unpreserved (4oz)	Α	NA		2.2	Y	Absent		ARCHIVE()
L2247388-11C	Glass 500ml/16oz unpreserved	С	NA		4.2	Y	Absent		TS(7),ARCHIVE()
L2247388-11D	Glass 500ml/16oz unpreserved	С	NA		4.2	Y	Absent		TS(7),ARCHIVE()
L2247388-11W	Plastic 120ml HNO3 preserved Extracts	С	NA		4.2	Y	Absent		PB-CI(180)
L2247388-11W9	Tumble Vessel	С	NA		4.2	Y	Absent		-
L2247388-11X	Vial MeOH preserved split	Α	NA		2.2	Y	Absent		ARCHIVE()
L2247388-11Y	Vial Water preserved split	Α	NA		2.2	Y	Absent	09-SEP-22 09:57	ARCHIVE()
L2247388-11Z	Vial Water preserved split	Α	NA		2.2	Y	Absent	09-SEP-22 09:57	ARCHIVE()
L2247388-12A	Vial Large Septa unpreserved (4oz)	Α	NA		2.2	Y	Absent		AS-TI(180),BA-TI(180),AG-TI(180),CR- TI(180),PB-TI(180),SE-TI(180),HG-T(28),CD- TI(180)
L2247388-12B	Vial Large Septa unpreserved (4oz)	Α	NA		2.2	Y	Absent		OH-GRO(14),OH-8260(14)
L2247388-12C	Glass 500ml/16oz unpreserved	С	NA		4.2	Y	Absent		OH-8270(14),TS(7),OH-8082-3540C(365),OH- DRO/ORO(14)
L2247388-12D	Glass 500ml/16oz unpreserved	С	NA		4.2	Y	Absent		OH-8270(14),TS(7),OH-8082-3540C(365),OH- DRO/ORO(14)
L2247388-12W	Plastic 120ml HNO3 preserved Extracts	С	NA		4.2	Y	Absent		CD-CI(180),AS-CI(180),BA-CI(180),HG- C(28),PB-CI(180),CR-CI(180),SE-CI(180),AG- CI(180)
L2247388-12W9	Tumble Vessel	С	NA		4.2	Y	Absent		) <del>-</del>
L2247388-12X	Vial MeOH preserved split	Α	NA		2.2	Υ	Absent		OH-GRO(14),OH-8260(14)
L2247388-12Y	Vial Water preserved split	Α	NA		2.2	Υ	Absent	09-SEP-22 09:57	OH-8260(14)
L2247388-12Z	Vial Water preserved split	Α	NA		2.2	Υ	Absent	09-SEP-22 09:57	OH-8260(14)
L2247388-13A	Vial Large Septa unpreserved (4oz)	Α	NA		2.2	Y	Absent		PB-TI(180)
L2247388-13B	Vial Large Septa unpreserved (4oz)	Α	NA		2.2	Υ	Absent		ARCHIVE()



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Container Information			Initial	Final	Temp			Frozen		
	Container ID	Container Type	Cooler	рН	pН	deg C	Pres	Seal	Date/Time	Analysis(*)
	L2247388-13C	Glass 500ml/16oz unpreserved	Α	NA		2.2	Υ	Absent		TS(7),ARCHIVE()
	L2247388-13D	Glass 500ml/16oz unpreserved	Α	NA		2.2	Υ	Absent		TS(7),ARCHIVE()
	L2247388-13W	Plastic 120ml HNO3 preserved Extracts	Α	NA		2.2	Υ	Absent		PB-CI(180)
	L2247388-13W9	Tumble Vessel	Α	NA		2.2	Υ	Absent		· · · · · · · · · · · · · · · · · · ·
	L2247388-13X	Vial MeOH preserved split	Α	NA		2.2	Υ	Absent		ARCHIVE()
	L2247388-13Y	Vial Water preserved split	Α	NA		2.2	Y	Absent	09-SEP-22 09:57	ARCHIVE()
	L2247388-13Z	Vial Water preserved split	Α	NA		2.2	Y	Absent	09-SEP-22 09:57	ARCHIVE()
	L2247388-14A	Vial Large Septa unpreserved (4oz)	Α	NA		2.2	Y	Absent		PB-TI(180)
	L2247388-14B	Vial Large Septa unpreserved (4oz)	Α	NA		2.2	Υ	Absent		ARCHIVE()
	L2247388-14C	Glass 500ml/16oz unpreserved	Α	NA		2.2	Y	Absent		TS(7),ARCHIVE()
	L2247388-14D	Glass 500ml/16oz unpreserved	Α	NA		2.2	Y	Absent		TS(7),ARCHIVE()
	L2247388-14W	Plastic 120ml HNO3 preserved Extracts	Α	NA		2.2	Y	Absent		PB-CI(180)
	L2247388-14W9	Tumble Vessel	Α	NA		2.2	Y	Absent		4
	L2247388-14X	Vial MeOH preserved split	Α	NA		2.2	Y	Absent		ARCHIVE()
	L2247388-14Y	Vial Water preserved split	Α	NA		2.2	Υ	Absent	09-SEP-22 09:57	ARCHIVE()
	L2247388-14Z	Vial Water preserved split	Α	NA		2.2	Υ	Absent	09-SEP-22 09:57	ARCHIVE()
	L2247388-15A	Vial HCl preserved	D	NA		3.5	Y	Absent		OH-8260-SIM(14),OH-8260(14)
	L2247388-15B	Vial HCl preserved	D	NA		3.5	Y	Absent		OH-8260-SIM(14),OH-8260(14)
	L2247388-15C	Vial HCl preserved	D	NA		3.5	Υ	Absent		OH-8260-SIM(14),OH-8260(14)
	L2247388-15D	Plastic 250ml HNO3 preserved	D	<2	<2	3.5	Y	Absent		BA-6020T(180),SE-6020T(180),TL- 6020T(180),CR-6020T(180),NI-6020T(180),ZN- 6020T(180),PB-6020T(180),BE-6020T(180),V- 6020T(180),SB-6020T(180),AS- 6020T(180),HG-T(28),AL-6020T(180),AG- 6020T(180),CD-6020T(180),CO-6020T(180)
	L2247388-15E	Amber 250ml unpreserved	D	7	7	3.5	Y	Absent		OH-8082-LVI(365)
	L2247388-15F	Amber 250ml unpreserved	D	7	7	3.5	Y	Absent		OH-8082-LVI(365)
	L2247388-15G	Amber 250ml unpreserved	D	7	7	3.5	Y	Absent		OH-8270-LVI(7),OH-8270SIM-LVI(7)
	L2247388-15H	Amber 250ml unpreserved	D	7	7	3.5	Y	Absent		OH-8270-LVI(7),OH-8270SIM-LVI(7)
	L2247388-15I	Amber 1000ml HCl preserved	D	NA		3.5	Υ	Absent		OG-1664(28)
	L2247388-15J	Amber 1000ml HCl preserved	D	NA		3.5	Υ	Absent		OG-1664(28)



Project Number: 15011

Serial\_No:11022210:54 *Lab Number:* L2247388 *Report Date:* 11/02/22

Container Information Final Initial Temp Frozen pН Date/Time deg C Pres Container ID Container Type Cooler рΗ Seal Analysis(\*) L2247388-16A Vial HCl preserved В NA 4.2 Y Absent OH-8260-SIM(14),OH-8260(14) В L2247388-16B Vial HCl preserved NA 4.2 Y Absent OH-8260-SIM(14), OH-8260(14) L2247388-16C Vial HCl preserved В NA 4.2 Y OH-8260-SIM(14), OH-8260(14) Absent <2 L2247388-16D Plastic 250ml HNO3 preserved В <2 4.2 Υ SE-6020T(180),BA-6020T(180),TL-Absent 6020T(180),CR-6020T(180),NI-6020T(180),ZN-6020T(180),PB-6020T(180),BE-6020T(180),AS-6020T(180), V-6020T(180), SB-6020T(180), CD-6020T(180),AL-6020T(180),AG-6020T(180),HG-T(28),CO-6020T(180) L2247388-16E Amber 250ml unpreserved В 7 7 4.2 Y Absent OH-8082-LVI(365) В 7 L2247388-16F Amber 250ml unpreserved 7 4.2 Y Absent OH-8082-LVI(365) L2247388-16G Amber 250ml unpreserved В 7 7 4.2 Y OH-8270-LVI(7), OH-8270SIM-LVI(7) Absent L2247388-16H Amber 250ml unpreserved В 7 7 4.2 Y OH-8270-LVI(7), OH-8270SIM-LVI(7) Absent В 4.2 Y L2247388-16I Amber 1000ml HCl preserved NA OG-1664(28) Absent Amber 1000ml HCl preserved В 4.2 Y L2247388-16J NA OG-1664(28) Absent Vial HCl preserved В 4.2 Y L2247388-17A NA Absent OH-8260-SIM(14), OH-8260(14) L2247388-17B Vial HCl preserved В NA 4.2 Y Absent OH-8260-SIM(14), OH-8260(14) В Y L2247388-17C Vial HCl preserved NA 4.2 OH-8260-SIM(14), OH-8260(14) Absent В L2247388-17D Plastic 250ml HNO3 preserved <2 <2 4.2 Y Absent TL-6020T(180),BA-6020T(180),SE-6020T(180),CR-6020T(180),NI-6020T(180),ZN-6020T(180),PB-6020T(180),BE-6020T(180),SB-6020T(180),AS-6020T(180),V-6020T(180),CD-6020T(180), HG-T(28), AG-6020T(180), AL-6020T(180),CO-6020T(180) L2247388-17E Amber 250ml unpreserved В 10 10 4.2 Y Absent OH-8082-LVI(365) L2247388-17F Amber 250ml unpreserved В 10 10 4.2 Y Absent OH-8082-LVI(365) В L2247388-17G Amber 250ml unpreserved 10 10 4.2 Y OH-8270-LVI(7), OH-8270SIM-LVI(7) Absent L2247388-17H Amber 250ml unpreserved В 10 4.2 Y OH-8270-LVI(7), OH-8270SIM-LVI(7) 10 Absent В L2247388-17I Amber 1000ml HCl preserved NA 4.2 OG-1664(28) Absent L2247388-17J Amber 1000ml HCl preserved В NA 4.2 Y Absent OG-1664(28) L2247388-18A Vial HCl preserved D NA 3.5 Y OH-8260-SIM(14), OH-8260(14) Absent L2247388-18B Vial HCl preserved D NA 3.5 Y Absent OH-8260-SIM(14), OH-8260(14) D L2247388-18C Vial HCl preserved NA 3.5 Y OH-8260-SIM(14), OH-8260(14) Absent



Lab Number: L2247388

Report Date: 11/02/22

Project Name: CITY OF LORAIN

Project Number: 15011

Container Info		Initial	Final	Temp			Frozen		
Container ID	Container Type	Cooler	pН	рН	deg C	Pres	Seal	Date/Time	Analysis(*)
L2247388-18D	Plastic 250ml HNO3 preserved	D	<2	<2	3.5	Y	Absent		TL-6020T(180),BA-6020T(180),SE-6020T(180),CR-6020T(180),NI-6020T(180),ZN-6020T(180),PB-6020T(180),BE-6020T(180),V-6020T(180),SB-6020T(180),AS-6020T(180),HG-T(28),CD-6020T(180),AG-6020T(180),AL-6020T(180),CO-6020T(180)
L2247388-18E	Amber 250ml unpreserved	D	11	11	3.5	Y	Absent		OH-8082-LVI(365)
L2247388-18F	Amber 250ml unpreserved	D	11	11	3.5	Υ	Absent		OH-8082-LVI(365)
L2247388-18G	Amber 250ml unpreserved	D	11	11	3.5	Υ	Absent		OH-8270-LVI(7),OH-8270SIM-LVI(7)
L2247388-18H	Amber 250ml unpreserved	D	11	11	3.5	Υ	Absent		OH-8270-LVI(7),OH-8270SIM-LVI(7)
L2247388-18I	Amber 1000ml HCl preserved	D	NA		3.5	Y	Absent		OG-1664(28)
L2247388-18J	Amber 1000ml HCl preserved	D	NA		3.5	Y	Absent		OG-1664(28)
L2247388-19A	Vial HCl preserved	В	NA		4.2	Y	Absent		OH-8260-SIM(14),OH-8260(14)
L2247388-19B Vial HCl preserved			NA		4.2	Y	Absent		OH-8260-SIM(14),OH-8260(14)

**Project Name:** Lab Number: CITY OF LORAIN L2247388

Report Date: **Project Number:** 15011 11/02/22

#### **GLOSSARY**

Acronyms

DL

LOD

MS

- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments

from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDI. - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis

of PAHs using Solid-Phase Microextraction (SPME).

**EMPC** - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

**EPA** Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content,

where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats

> Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

- Not Ignitable. NI

NP Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile NR Organic TIC only requests.

- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL

RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

#### **Footnotes**

 The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

#### Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'. Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benza(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

#### **Data Qualifiers**

- A Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentrations of the analyte at less than ten times (10x) the concentrations of the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
- H The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I The lower value for the two columns has been reported due to obvious interference.
- Istimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

#### **Data Qualifiers**

- ND Not detected at the reporting limit (RL) for the sample.
- NJ Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P The RPD between the results for the two columns exceeds the method-specified criteria.
- Q The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- Analytical results are from sample re-analysis.
- RE Analytical results are from sample re-extraction.
- S Analytical results are from modified screening analysis.
- The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report



Project Name: CITY OF LORAIN Lab Number: L2247388

Project Number: 15011 Report Date: 11/02/22

#### REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

- 121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.
- Method 1664,Revision B: N-Hexane Extractable Material (HEM; Oil & Grease) and Silica Gel Treated N-Hexane Extractable Material (SGT-HEM; Non-polar Material) by Extraction and Gravimetry, EPA-821-R-10-001, February 2010.

#### **LIMITATION OF LIABILITIES**

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Alpha Analytical, Inc. Facility: Company-wide

Department: Quality Assurance

Title: Certificate/Approval Program Summary

Serial\_No:11022210:54

ID No.:17873 Revision 19

Published Date: 4/2/2021 1:14:23 PM

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#### Certification Information

#### The following analytes are not included in our Primary NELAP Scope of Accreditation:

#### Westborough Facility

EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene

EPA 625/625.1: alpha-Terpineol

EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: lodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene;

4-Ethyltoluene.

EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

#### **Mansfield Facility**

SM 2540D: TSS

EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

#### The following analytes are included in our Massachusetts DEP Scope of Accreditation

#### Westborough Facility:

#### Drinking Water

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; EPA 353.2: Nitrate-N, Nitrite-N; SM4500NO3-F: Nitrate-N, Nitrite-N; SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

EPA 332: Perchlorate; EPA 524.2: THMs and VOCs; EPA 504.1: EDB, DBCP.

Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D.

#### Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, EPA 351.1, SM4500NO3-F, EPA 353.2: Nitrate-N, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate. EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.

#### **Mansfield Facility:**

#### **Drinking Water**

EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. EPA 200.8: Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. EPA 245.1 Hg. EPA 522, EPA 537.1.

#### Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg.

SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

Pre-Qualtrax Document ID: 08-113 Document Type: Form



#### CHAIN OF CUSTODY RECORD

L2247388

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NO. 2109

Opposite OH         Result OH         Masses DH         Qualitation           6097 Emmat Plany         19 Somit SI         4779 Out a Dr         4 Hamachane Way           5046 2000         Virginia, OH 43085         Sales 207         Bedded, OH 44140           0004a, OH 43016         ₱ 7740 344555         Masses, OH 43040         ₱ 7440 200 3445           (6)14) 793-8477         ₱ 1513) 455-5507	Zosela, disc 209 S. Bro St. Touela, Dri x3604 F. prilly365-3615	Surface States S	300 Marsham Ln. Bulle 1977	PRESE	RVATIVE	REPOR	710	/		nacyse	5	/	11	a h Ewin
She Former St. Joe's  Project 15011 Place  Samples: C. Perau  Purchase Order 15011 00001 0.04	SAMPLE MATINI ALAMINENT AND CARRESTOR DIRECHMENT CO-DOMINING HER NAMEDIATE ANNOUNCY ANNOUNCE	DE COMO CONT. COM TIME E BANKE, PETEZ E BANKE, PETE	MARTINA MARTIN	METALS  N. Nor Reset  P-Stu-Shares with 5  mount	1/'	V /	8260	647 54 827.	To. DRO 8010	PCO CRUSOLO	5 84524/30	200	3	
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1 TP-13 0082922	4	C	08-29-22/10:30		X	7	+	X	X	X	X	X		
TP-12-3:0082922	4	6	08-29-22/12:30	-	X	X	+	X	X	X	X	+		
TP-12-2 D082922	4	(	58-29-22/13:30		7	X	X	X	X	X	X	X		
TP-12-1 : 0082422	4	6	08-24-22/14-30		X	X	×	4	7	X	4	X		
(70.3 0082022	4	C	08-30-22/0:930		V	X	X	X	X	X	X	X		
CTP-2 : 0083022	4	C	08-30-22/11:00		X	X	X	×	X	X	×	X		
: CTP-1 : D083022	4	C	08-30-22/13:00		X	V	X	X	V	X	X	Y		
CTP-5 D083022	4	C	05-30-22/08:00		V	X	X	×	X	X	X	X		
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L-1 0083022	4	-	58-30-22/10-60		X	X	X	×	X	X	×	V		
\$ CTP-4 : DO83122	4	C	08-31-22/10:00		×	×	X	×	X	×	X	×		
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Page 282 of 284	DISTRIBUTION	WHITE YELLOW PINK/2/22 O	LAB LINE (MUST HE RETURNE)	D WITH REPORT	-	NOTES:		TIME			STO			DAYS



#### CHAIN OF CUSTODY RECORD

L2247388

PAGE 2 OF 3

NO. 2110

Cusin, OH	4779.Subs (3) A (1) A (1	DIE ANDRE THANK THE ADSOR	130 Plantine (venue Sulte 3 St. Caronille, CH 430)	200 Members Ln., Suite 207 Dishurgh, PA 18206			REPOR	7 10			INDLYSE		ham	, Sarah Ew
Site: Former  Project 15011  Samplers G. Per  Purchase Order # 15011	f Lorain St. Joe's Passe	BANKE BAYNO  AN AMBERY AR  O AMBRON  O STORM WY  O MODIFICATION  IN AMBORS AR  LISTORYT  PRINCIPLE  SHOW  SHOW CAS  SHOUBLE  WHITE  SHOW  SHOWEFTE	A CHILD TO CHILD  A CHILD PAY  E HOLD PAY  E-HOLD PAY  E-HOLD PAY  E-HOLD PAY  E-HOLD PAY  E-HOLD PAY  E-HOLD PAY  G-HOLD PAY  G-HOLD PAY  G-HOLD PAY	MEDTA 15-11-1-1-1-1 15-11-1-1-1-1 15-11-1-1-1-	METALS ME	/	0457	8260	30 KEH 83	OHT ORO 000	PY CROSON	6 80524/2	CASS CASS CASS CASS CASS CASS CASS CASS	COMMENTS
PROJECT NO : SAMPLE	LOCATION : SAMPLE MATE		SAMPLE TYPE	COLLECTION DATE/TIME	METALS	12	1/2	13	130	10	10	12	100	COMMENTS
LRNOOS: L-	3 00831	22 4	6	08-31-22/10:00		X	X	X	X	X	X	X	X	
LRN005: L-	4 :00831	22 4	6	08-31-22/12:00		×	X	X	X	X	X	X	X	
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L2247388

PAGE 3 OF 3

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Page 284 of 284	11	- 9/2/22 00	-RETAINED BY HULL			SUREN AD	TOUND 1	ME		_	STD		DAYS

## Affidavit of VAP Certified Laboratory (December 2019 Template)

[For VAP certified laboratories to attest to "certified data" under OAC 3745-300-04(A) and 3745-300-13. Note that Ohio EPA is to receive a legible copy of the CL's affidavit. The entity that received the CL's analytical report under affidavit may retain the CL's affidavit original.]

S	tate of <u>Massachusetts</u> )		
	)	ss:	
C	ounty of Middlesex )		
	Lisa Westerlind ,being first duly swo formation and belief:	orn according to law, state that, to the best of	my knowledge,
1.	I am an adult over the age of eighter	en years old and competent to testify herein.	
2.	I am employed by Alpha Analytical ( authorized to submit this affidavit on	"the laboratory") as Production Manager. behalf of the laboratory.	I am
3.	other aspects of a voluntary action,	to support a request for a no further action under Ohio's Voluntary Action Program (VAF 3746 and Ohio Administratiuve Code (OAC)	P) as set
4.	Alpha Analytical performed analyses	s for Verdantas for a voluntary	
	action at property known as CITY OI	F LORAIN at/in FORMER ST. JOE'S.	
5.	This affidavit applies to and is submi or reports for the property:	itted with the following information, data, docu	ıments
	Document ID	Date of Document	
	L2247388	02 NOV 2022	
3.	Alpha Analytical was a VAP certified performed the analyses referenced h	laboratory pursuant to OAC 3745-300-04 wh	en it

- 7. All analyses under this affidavit consist of VAP "certified data" as described in OAC 3745-300-04(A) - unless paragraph b., below, specifies the exceptions:
  - a. The laboratory performed the analyses within its current VAP certification. The laboratory was certified for each analyte, parameter group and method used at the time that it performed the analyses. The analyses were performed consistent with the laboratory's standard operating procedures and quality assurance program plan as approved under OAC 3745-300-04.
  - b. Exceptions, if any:

Sample Number L2247388-01	Analyte / Parameter Group Solids, Total/Inorganics	Method 2540G
L2247388-01	PCBs, Total/PCB	8082A
L2247388-01	TPH (C10-C20)/PETRO	8015D(M)
L2247388-01	TPH (C20-C34)/PETRO	8015D(M)
L2247388-01	TPH (C6-C12)/PETRO	8015D(M)
L2247388-01	3-Methylphenol/4-Methylphenol/SVOC	8270D
L2247388-01	1,2-Dichloroethene, Total/VOC	8260C
L2247388-01	1,3-Dichloropropene, Total/VOC	8260C
L2247388-01	p/m-Xylene/VOC	8260C
L2247388-02	Solids, Total/Inorganics	2540G
L2247388-02	PCBs, Total/PCB	8082A
L2247388-02	TPH (C10-C20)/PETRO	8015D(M)
L2247388-02	TPH (C20-C34)/PETRO	8015D(M)
L2247388-02	TPH (C6-C12)/PETRO	8015D(M)
L2247388-02	3-Methylphenol/4-Methylphenol/SVOC	8270D
L2247388-02	1,2-Dichloroethene, Total/VOC	8260C
L2247388-02	1,3-Dichloropropene, Total/VOC	8260C
L2247388-02	p/m-Xylene/VOC	8260C
L2247388-03	Solids, Total/Inorganics	2540G
L2247388-03	PCBs, Total/PCB	8082A
L2247388-03	TPH (C10-C20)/PETRO	8015D(M)
L2247388-03	TPH (C20-C34)/PETRO	8015D(M)
L2247388-03	TPH (C6-C12)/PETRO	8015D(M)
L2247388-03	3-Methylphenol/4-Methylphenol/SVOC	8270D
L2247388-03	1,2-Dichloroethene, Total/VOC	8260C
L2247388-03	1,3-Dichloropropene, Total/VOC	8260C
L2247388-03	p/m-Xylene/VOC	8260C
L2247388-04	Solids, Total/Inorganics	2540G
L2247388-04	PCBs, Total/PCB	8082A
L2247388-04	TPH (C10-C20)/PETRO	8015D(M)
L2247388-04	TPH (C20-C34)/PETRO	8015D(M)
L2247388-04	TPH (C6-C12)/PETRO	8015D(M)

L2247388-04	3-Methylphenol/4-Methylphenol/SVOC	8270D
L2247388-04	1,2-Dichloroethene, Total/VOC	8260C
L2247388-04	1,3-Dichloropropene, Total/VOC	8260C
L2247388-04	p/m-Xylene/VOC	8260C
L2247388-05	Solids, Total/Inorganics	2540G
L2247388-05	PCBs, Total/PCB	8082A
L2247388-05	TPH (C10-C20)/PETRO	8015D(M)
L2247388-05	TPH (C20-C34)/PETRO	8015D(M)
L2247388-05	TPH (C6-C12)/PETRO	8015D(M)
L2247388-05	3-Methylphenol/4-Methylphenol/SVOC	8270D
L2247388-05	1,2-Dichloroethene, Total/VOC	8260C
L2247388-05	1,3-Dichloropropene, Total/VOC	8260C
L2247388-05	p/m-Xylene/VOC	8260C
L2247388-06	Solids, Total/Inorganics	2540G
L2247388-06	PCBs, Total/PCB	8082A
L2247388-06	TPH (C10-C20)/PETRO	8015D(M)
L2247388-06	TPH (C20-C34)/PETRO	8015D(M)
L2247388-06	TPH (C6-C12)/PETRO	8015D(M)
L2247388-06	3-Methylphenol/4-Methylphenol/SVOC	8270D
L2247388-06	1,2-Dichloroethene, Total/VOC	8260C
L2247388-06	1,3-Dichloropropene, Total/VOC	8260C
L2247388-06	p/m-Xylene/VOC	8260C
L2247388-07	Solids, Total/Inorganics	2540G
L2247388-07	PCBs, Total/PCB	8082A
L2247388-07	TPH (C10-C20)/PETRO	8015D(M)
L2247388-07	TPH (C20-C34)/PETRO	8015D(M)
L2247388-07	TPH (C6-C12)/PETRO	8015D(M)
L2247388-07	3-Methylphenol/4-Methylphenol/SVOC	8270D
L2247388-07	1,2-Dichloroethene, Total/VOC	8260C
L2247388-07	1,3-Dichloropropene, Total/VOC	8260C
L2247388-07	p/m-Xylene/VOC	8260C
L2247388-08	Solids, Total/Inorganics	2540G

L2247388-08	PCBs, Total/PCB	8082A
L2247388-08	TPH (C10-C20)/PETRO	8015D(M)
L2247388-08	TPH (C20-C34)/PETRO	8015D(M)
L2247388-08	TPH (C6-C12)/PETRO	8015D(M)
L2247388-08	3-Methylphenol/4-Methylphenol/SVOC	8270D
L2247388-08	1,2-Dichloroethene, Total/VOC	8260C
L2247388-08	1,3-Dichloropropene, Total/VOC	8260C
L2247388-08	p/m-Xylene/VOC	8260C
L2247388-09	Solids, Total/Inorganics	2540G
L2247388-09	PCBs, Total/PCB	8082A
L2247388-09	TPH (C10-C20)/PETRO	8015D(M)
L2247388-09	TPH (C20-C34)/PETRO	8015D(M)
L2247388-09	TPH (C6-C12)/PETRO	8015D(M)
L2247388-09	3-Methylphenol/4-Methylphenol/SVOC	8270D
L2247388-09	1,2-Dichloroethene, Total/VOC	8260C
L2247388-09	1,3-Dichloropropene, Total/VOC	8260C
L2247388-09	p/m-Xylene/VOC	8260C
L2247388-10	Solids, Total/Inorganics	2540G
L2247388-11	Solids, Total/Inorganics	2540G
L2247388-12	Solids, Total/Inorganics	2540G
L2247388-12	PCBs, Total/PCB	8082A
L2247388-12	TPH (C10-C20)/PETRO	8015D(M)
L2247388-12	TPH (C20-C34)/PETRO	8015D(M)
L2247388-12	TPH (C6-C12)/PETRO	8015D(M)
L2247388-12	3-Methylphenol/4-Methylphenol/SVOC	8270D
L2247388-12	1,2-Dichloroethene, Total/VOC	8260C
L2247388-12	1,3-Dichloropropene, Total/VOC	8260C
L2247388-12	p/m-Xylene/VOC	8260C
L2247388-13	Solids, Total/Inorganics	2540G
L2247388-14	Solids, Total/Inorganics	2540G
L2247388-15	PCBs, Total/PCB	8082A
L2247388-15	2,4-Dinitrotoluene/SVOC	8270D-SIM

L2247388-15	2,6-Dinitrotoluene/SVOC	8270D-SIM
L2247388-15	3,3'-Dichlorobenzidine/SVOC	8270D-SIM
L2247388-15	3-Methylphenol/4-Methylphenol/SVOC	8270D
L2247388-15	Bis(2-chloroethyl)ether/SVOC	8270D-SIM
L2247388-15	Bis(2-ethylhexyl)phthalate/SVOC	8270D-SIM
L2247388-15	Hexachloroethane/SVOC	8270D-SIM
L2247388-15	n-Nitrosodi-n-propylamine/SVOC	8270D-SIM
L2247388-15	1,1,2,2-Tetrachloroethane/VOC	8260C-SIM(M)
L2247388-15	1,2-Dichloroethene, Total/VOC	8260C
L2247388-15	1,3-Dichloropropene, Total/VOC	8260C
L2247388-15	1,4-Dioxane/VOC	8260C-SIM(M)
L2247388-15	p/m-Xylene/VOC	8260C
L2247388-15	Oil & Grease, Hem-Grav/	1664B
L2247388-16	PCBs, Total/PCB	8082A
L2247388-16	2,4-Dinitrotoluene/SVOC	8270D-SIM
L2247388-16	2,6-Dinitrotoluene/SVOC	8270D-SIM
L2247388-16	3,3'-Dichlorobenzidine/SVOC	8270D-SIM
L2247388-16	3-Methylphenol/4-Methylphenol/SVOC	8270D
L2247388-16	Bis(2-chloroethyl)ether/SVOC	8270D-SIM
L2247388-16	Bis(2-ethylhexyl)phthalate/SVOC	8270D-SIM
L2247388-16	Hexachloroethane/SVOC	8270D-SIM
L2247388-16	n-Nitrosodi-n-propylamine/SVOC	8270D-SIM
L2247388-16	1,1,2,2-Tetrachloroethane/VOC	8260C-SIM(M)
L2247388-16	1,2-Dichloroethene, Total/VOC	8260C
L2247388-16	1,3-Dichloropropene, Total/VOC	8260C
L2247388-16	1,4-Dioxane/VOC	8260C-SIM(M)
L2247388-16	p/m-Xylene/VOC	8260C
L2247388-16	Oil & Grease, Hem-Grav/	1664B
L2247388-17	PCBs, Total/PCB	8082A
L2247388-17	2,4-Dinitrotoluene/SVOC	8270D-SIM
L2247388-17	2,6-Dinitrotoluene/SVOC	8270D-SIM
L2247388-17	3,3'-Dichlorobenzidine/SVOC	8270D-SIM

L2247388-17	3-Methylphenol/4-Methylphenol/SVOC	8270D
L2247388-17	Bis(2-chloroethyl)ether/SVOC	8270D-SIM
L2247388-17	Bis(2-ethylhexyl)phthalate/SVOC	8270D-SIM
L2247388-17	Hexachloroethane/SVOC	8270D-SIM
L2247388-17	n-Nitrosodi-n-propylamine/SVOC	8270D-SIM
L2247388-17	1,1,2,2-Tetrachloroethane/VOC	8260C-SIM(M)
L2247388-17	1,2-Dichloroethene, Total/VOC	8260C
L2247388-17	1,3-Dichloropropene, Total/VOC	8260C
L2247388-17	1,4-Dioxane/VOC	8260C-SIM(M)
L2247388-17	p/m-Xylene/VOC	8260C
L2247388-17	Oil & Grease, Hem-Grav/	1664B
L2247388-18	PCBs, Total/PCB	8082A
L2247388-18	2,4-Dinitrotoluene/SVOC	8270D-SIM
L2247388-18	2,6-Dinitrotoluene/SVOC	8270D-SIM
L2247388-18	3,3'-Dichlorobenzidine/SVOC	8270D-SIM
L2247388-18	3-Methylphenol/4-Methylphenol/SVOC	8270D
L2247388-18	Bis(2-chloroethyl)ether/SVOC	8270D-SIM
L2247388-18	Bis(2-ethylhexyl)phthalate/SVOC	8270D-SIM
L2247388-18	Hexachloroethane/SVOC	8270D-SIM
L2247388-18	n-Nitrosodi-n-propylamine/SVOC	8270D-SIM
L2247388-18	1,1,2,2-Tetrachloroethane/VOC	8260C-SIM(M)
L2247388-18	1,2-Dichloroethene, Total/VOC	8260C
L2247388-18	1,3-Dichloropropene, Total/VOC	8260C
L2247388-18	1,4-Dioxane/VOC	8260C-SIM(M)
L2247388-18	p/m-Xylene/VOC	8260C
L2247388-18	Oil & Grease, Hem-Grav/	1664B
L2247388-19	1,1,2,2-Tetrachloroethane/VOC	8260C-SIM(M)
L2247388-19	1,2-Dichloroethene, Total/VOC	8260C
L2247388-19	1,3-Dichloropropene, Total/VOC	8260C
L2247388-19	1,4-Dioxane/VOC	8260C-SIM(M)
L2247388-19	p/m-Xylene/VOC	8260C

8. The information, data, documents and reports identified under this affidavit are true, accurate and complete.

Further affiant sayeth naught.

Signature of Affiant

Sworn to before me and subscribed in my presence this <u>18</u> day of <u>November</u>, 2022.

Notary Public

Revised 5/09, 8/09, 4/11,4/17,12/19; consistent with OAC 3745-300-04 (10/17/2019 and prior versions)

AMY L. RICE
Notary Public
Commonwealth of Massachusetts
My Commission Expires
July 8, 2027

## Affidavit of VAP Certified Laboratory (December 2019 Template)

[For VAP certified laboratories to attest to "certified data" under OAC 3745-300-04(A) and 3745-300-13. Note that Ohio EPA is to receive a legible copy of the CL's affidavit. The entity that received the CL's analytical report under affidavit may retain the CL's affidavit original.]

St	ate of Massachusetts )	
Co	ounty of Bristol ) ss:	
I, I inf	Peter Henriksen , being first duly sworn according to law, state that, to the best of my knowledge, formation and belief:	
1.	I am an adult over the age of eighteen years old and competent to testify herein.	
2.	I am employed by Alpha Analytical ("the laboratory") as General Manager.  I am authorized to submit this affidavit on behalf of the laboratory.	
3.	The purpose of this submission is to support a request for a no further action letter or other aspects of a voluntary action, under Ohio's Voluntary Action Program (VAP) as set forth in Ohio Revised Code Chapter 3746 and Ohio Administratiuve Code (OAC) Chapter 3745-300.	
4.	Alpha Analytical performed analyses for Verdantas for a voluntary action at property known as CITY OF LORAIN at/in FORMER ST. JOE'S.	
5. This affidavit applies to and is submitted with the following information, data, documents or reports for the property:		
	Document ID Date of Document	
	L2247388 02 NOV 2022	
6.	Alpha Analytical was a VAP certified laboratory pursuant to OAC 3745-300-04 when it performed the analyses referenced herein	

- 7. All analyses under this affidavit consist of VAP "certified data" as described in OAC 3745-300-04(A) - - unless paragraph b., below, specifies the exceptions:
  - The laboratory performed the analyses within its current VAP certification. The a. laboratory was certified for each analyte, parameter group and method used at the time that it performed the analyses. The analyses were performed consistent with the laboratory's standard operating procedures and quality assurance program plan as approved under OAC 3745-300-04.
  - b. Exceptions, if any:

Sample Number L2247388-01	Analyte / Parameter Group Arsenic, TCLP/Metals	Method 6010D
L2247388-01	Barium, TCLP/Metals	6010D
L2247388-01	Cadmium, TCLP/Metals	6010D
L2247388-01	Chromium, TCLP/Metals	6010D
L2247388-01	Lead, TCLP/Metals	6010D
L2247388-01	Selenium, TCLP/Metals	6010D
L2247388-01	Silver, TCLP/Metals	6010D
L2247388-01	Mercury, TCLP/	7470A
L2247388-02	Arsenic, TCLP/Metals	6010D
L2247388-02	Barium, TCLP/Metals	6010D
L2247388-02	Cadmium, TCLP/Metals	6010D
L2247388-02	Chromium, TCLP/Metals	6010D
L2247388-02	Lead, TCLP/Metals	6010D
L2247388-02	Selenium, TCLP/Metals	6010D
L2247388-02	Silver, TCLP/Metals	6010D
L2247388-02	Mercury, TCLP/	7470A
L2247388-03	Arsenic, TCLP/Metals	6010D
L2247388-03	Barium, TCLP/Metals	6010D
L2247388-03	Cadmium, TCLP/Metals	6010D
L2247388-03	Chromium, TCLP/Metals	6010D
L2247388-03	Lead, TCLP/Metals	6010D
L2247388-03	Selenium, TCLP/Metals	6010D
L2247388-03	Silver, TCLP/Metals	6010D
L2247388-03	Mercury, TCLP/	7470A
L2247388-04	Arsenic, TCLP/Metals	6010D
L2247388-04	Barium, TCLP/Metals	6010D
L2247388-04	Cadmium, TCLP/Metals	6010D
L2247388-04	Chromium, TCLP/Metals	6010D
L2247388-04	Lead, TCLP/Metals	6010D
L2247388-04	Selenium, TCLP/Metals	6010D
L2247388-04	Silver, TCLP/Metals	6010D
L2247388-04	Mercury, TCLP/	7470A

L2247388-05	Arsenic, TCLP/Metals	6010D
L2247388-05	Barium, TCLP/Metals	6010D
L2247388-05	Cadmium, TCLP/Metals	6010D
L2247388-05	Chromium, TCLP/Metals	6010D
L2247388-05	Lead, TCLP/Metals	6010D
L2247388-05	Selenium, TCLP/Metals	6010D
L2247388-05	Silver, TCLP/Metals	6010D
L2247388-05	Mercury, TCLP/	7470A
L2247388-06	Arsenic, TCLP/Metals	6010D
L2247388-06	Barium, TCLP/Metals	6010D
L2247388-06	Cadmium, TCLP/Metals	6010D
L2247388-06	Chromium, TCLP/Metals	6010D
L2247388-06	Lead, TCLP/Metals	6010D
L2247388-06	Selenium, TCLP/Metals	6010D
L2247388-06	Silver, TCLP/Metals	6010D
L2247388-06	Mercury, TCLP/	7470A
L2247388-07	Arsenic, TCLP/Metals	6010D
L2247388-07	Barium, TCLP/Metals	6010D
L2247388-07	Cadmium, TCLP/Metals	6010D
L2247388-07	Chromium, TCLP/Metals	6010D
L2247388-07	Lead, TCLP/Metals	6010D
L2247388-07	Selenium, TCLP/Metals	6010D
L2247388-07	Silver, TCLP/Metals	6010D
L2247388-07	Mercury, TCLP/	7470A
L2247388-08	Arsenic, TCLP/Metals	6010D
L2247388-08	Barium, TCLP/Metals	6010D
L2247388-08	Cadmium, TCLP/Metals	6010D
L2247388-08	Chromium, TCLP/Metals	6010D
L2247388-08	Lead, TCLP/Metals	6010D
L2247388-08	Selenium, TCLP/Metals	6010D
L2247388-08	Silver, TCLP/Metals	6010D
L2247388-08	Mercury, TCLP/	7470A

L2247388-09	Arsenic, TCLP/Metals	6010D
L2247388-09	Barium, TCLP/Metals	6010D
L2247388-09	Cadmium, TCLP/Metals	6010D
L2247388-09	Chromium, TCLP/Metals	6010D
L2247388-09	Lead, TCLP/Metals	6010D
L2247388-09	Selenium, TCLP/Metals	6010D
L2247388-09	Silver, TCLP/Metals	6010D
L2247388-09	Mercury, TCLP/	7470A
L2247388-10	Lead, TCLP/Metals	6010D
L2247388-11	Lead, TCLP/Metals	6010D
L2247388-12	Arsenic, TCLP/Metals	6010D
L2247388-12	Barium, TCLP/Metals	6010D
L2247388-12	Cadmium, TCLP/Metals	6010D
L2247388-12	Chromium, TCLP/Metals	6010D
L2247388-12	Lead, TCLP/Metals	6010D
L2247388-12	Selenium, TCLP/Metals	6010D
L2247388-12	Silver, TCLP/Metals	6010D
L2247388-12	Mercury, TCLP/	7470A
L2247388-13	Lead, TCLP/Metals	6010D
L2247388-14	Lead, TCLP/Metals	6010D

8. The information, data, documents and reports identified under this affidavit are true, accurate and complete.

Further affiant sayeth naught.

Signature of Affiant

Sworn to before me and subscribed in my presence this Hard day of Movemb

20<u>2ेद्र</u>.

MICHAEL A SELLING Notary Public COMMONWEALTH OF MASSACHUSETTS My Commission Expires On July 22, 2027

Notary Public

Revised 5/09, 8/09, 4/11,4/17,12/19; consistent with OAC 3745-300-04 (10/17/2019 and prior versions)