



# LIMITED PHASE II ENVIRONMENTAL SITE ASSESSMENT

ANN ARBOR AFFORDABLE HOUSING CORP.

2050 S INDUSTRIAL HWY, ANN ARBOR, WASHTENAW COUNTY, MI

Atlas Report No. 188EM22001.01

## PREPARED FOR:

Jennifer Hall  
Ann Arbor Affordable Housing Corp.  
2000 S Industrial Highway  
Ann Arbor, Michigan 48104

## PREPARED BY:

Atlas Technical Consultants LLC  
46555 Humboldt Drive, Suite 100  
Novi, Michigan 48377

June 7, 2022



June 6, 2022

Ms. Jennifer Hall  
**ANN ARBOR AFFORDABLE HOUSING CORP.**  
2000 S Industrial Highway  
Ann Arbor, Michigan 48104

**Subject: Limited Phase II Environmental Site Assessment  
Ann Arbor Affordable Housing Corp.  
2050 S Industrial Hwy., Ann Arbor, Washtenaw County, MI  
Atlas Report No. 188EM22001.01**

Dear Ms. Hall:

Atlas has completed a Limited Phase II Environmental Site Assessment (ESA) for the referenced Site (Subject Property). The attached report documents the results of Atlas's investigation with respect to the potential for the presence of environmental concerns at the Subject Property. The findings and conclusions of this report are subject to the specified limitations outlined therein.

Atlas is pleased to be of service to you. As a partner in business, we recognize the importance of working closely with our clients to provide effective solutions. If you should have any questions or require additional services, feel free to contact us as (989) 745-6595.

Sincerely,

**Atlas Technical Consultants LLC**

A handwritten signature in blue ink, appearing to read "Gerard DeBusschere". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Gerard DeBusschere, CPG  
Senior Project Manager

A handwritten signature in blue ink, appearing to read "Ann O'Brien". The signature is cursive and somewhat stylized, with a long horizontal stroke extending to the right.

Ann O'Brien  
Due Diligence Manager

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## EXECUTIVE SUMMARY

Atlas Technical Consultants (Atlas) has been retained by Ann Arbor Affordable Housing Corporation (AAAHC) to perform a Limited Phase II Environmental Site Assessment (ESA) at the 2050 S Industrial building (Subject Property), part of a larger parcel identified as 2000 S Industrial Highway, Ann Arbor, Washtenaw County, Michigan.

Atlas prepared a Phase I ESA for the Subject Property in March 2022 (Atlas Report No. 188DD22012, March 10, 2022). As a result of that assessment, Atlas identified *Recognized Environmental Conditions (RECs)* and potential environmental concerns that could present an adverse environmental impact to the Subject Property. Specifically, Atlas identified the following *RECs and/or Historical Recognized Environmental Conditions (HRECs)* with respect to the Subject Property:

### Summary of Findings

The following provides a summary of the findings from this Limited Phase II ESA:

- A geophysical survey was performed on the Subject Property in the area of the proposed soil borings, (work area) by Facility Management Consultants International (FMCI) to clear soil-boring locations and to locate potential buried structures and/or buried utilities utilizing ground-penetrating radar (GPR) and electromagnetic (EM) methods.
- Atlas advanced six (6) soil borings to varying depths to evaluate the RECs identified above. Soil samples were collected continuously for soil characterization and field screening for VOCs utilizing a PID device. One soil sample was collected from each soil boring and submitted for laboratory analysis.
- Atlas noted that the odor on the north side of the 2050 building seemed to originate from the storm-water catch basin located in that area, therefore, one sediment sample was collected from the catch basin.
- Groundwater was encountered at an average depth of 5-feet below grade. One water sample was collected from the catch basin, and from five of the six soil borings (water was not encountered in soil boring HA-1). The water samples were submitted for laboratory analysis.
- Atlas installed six (6) soil-gas sampling points, and collected six (6) soil gas samples for laboratory analysis.
- Laboratory analyses consisted of the following:
  - Volatile organic Compounds (VOCs, soil/water)) by USEPA analytical method 8260,
  - Soil-gas VOCs by USEPA analytical method TO-15
  - Semi-volatile organic compounds (SVOCs) by USEPA 8270,
  - EGLE list of ten hazardous metals (MI-10) by USEPA 7010/7470, and
  - Total Petroleum hydrocarbons:
    - Gasoline Range Organics (GRO) by USEPA 8015/8260,



- Diesel Range Organics (DRO) by USEPA 8015/8270, and
- Oil Range Organics (ORO) by USEPA 8015/8270
- Soil and groundwater laboratory results were compared to Part 201 Generic Residential Clean-up Criteria (GRCC).
- Soil-gas laboratory results were compared to the non-residential, site specific, volatilization to indoor air criteria (SSVIAC<sub>NR</sub>) previously prepared by EGLE for the site and/or the generic media specific (volatilization to indoor air) screening levels (MSSLs)
- The soil analytical results indicated that, with the exception of soil samples GP/TMW-3 and GP/TMW-4, VOCs and SVOCs were not detected in the soil above laboratory detection limits.
  - VOCs benzene, n-butylbenzene, sec-butylbenzene, ethylbenzene, isopropyl benzene, 2-methylnaphthalene, naphthalene and/or n-propylbenzene and SVOCs benzo(k)fluoranthene, fluoranthene, 2-methylnaphthalene, naphthalene, phenanthrene and pyrene were detected in the GP/TMW-3 and GP/TMW-4 samples, however, only the underlined were found to exceed either the Part 201 GRCC, or SSVIAC<sub>NR</sub>/MSSL
  - The MI-10 metals arsenic, barium, chromium, copper, lead and zinc were detected at various concentrations in the samples analyzed. It is Atlas' opinion that all are most likely "naturally occurring" at the Site.
- The groundwater analytical results indicate that, with the exception of water samples GP/TMW-1, GP/TMW-3 and GP/TMW-4, VOCs and SVOCs were not detected in groundwater above laboratory detection limits.
  - VOCs benzene, n-butylbenzene, sec-butylbenzene, ethylbenzene, isopropyl benzene, 2-methylnaphthalene, naphthalene, n-propylbenzene, toluene and/or 1,2,4-trimethylbenzene (TMB) and SVOCs 2-methylnaphthalene and naphthalene were detected in the GP/TMW1, GP/TMW-3 and/or GP/TMW-4 samples, however, only the underlined were found to exceed either the Part 201 GRCC, or SSVIAC<sub>NR</sub>/MSSL
- The soil-gas analytical results indicated that VOCs were detected in the soil-gas samples; however, none was found to exceed regulatory limits.

Based on the findings of this subsurface investigation, the Subject Property meets the definition of a "facility" as that term is defined by Part 201 of the Natural Resources and Environmental Protection Act (NREPA), PA 451 of 1994, as amended (Part 201). Accordingly, Atlas recommends that when the AAAHC decides to move forward with acquisition of the property, a Baseline Environmental Assessment (BEA) be performed in accordance with Part 201. The BEA will need to be completed within 45 days (before or after) the purchase, occupancy, or foreclosure by the new entity and submitted to the EGLE within six months of the purchase, occupancy, or foreclosure date. Atlas notes that the owner or operator of a "facility" will also assume due care obligations in accordance with Part 201. Accordingly, a due care plan is recommended.

Atlas notes that this executive summary is not intended to be a stand-alone document and it is strongly recommended that the Limited Phase II ESA report be read in its entirety.



## 1. INTRODUCTION

Atlas was retained by Ann Arbor Affordable Housing Corp. (AAAHC) to conduct a Limited Phase II ESA on the 2050 S Industrial Hwy building (Subject Property), part of a larger parcel located at 2000 S Industrial Highway, Ann Arbor, Washtenaw County, Michigan. The field investigation was conducted under the supervision of Ms. Ryann Scott and Ms. Madelyn Haas, and this report was prepared by Mr. Gerard DeBusschere, CPG and reviewed by Ms. Ann O'Brien, all of Atlas. Their credentials are provided in **Appendix A**.

### 1.1 Background

Based on information obtained from a Phase I Environmental Site Assessment (ESA) performed at the Subject Property in March 2022 by Atlas, the following *RECs* and *HRECs* were identified:

#### Recognized Environmental Conditions

1. A petroleum odor was noted within the exterior northern entrance area of the building addressed as 2050 South Industrial Highway. No apparent visual indications of the presence of areas of significantly stained soil or pavement were observed in this area, however, based on the historical presence of underground storage tanks (USTs), orphan UST, and lack of pertinent supporting UST documentation associated with the on-site USTs, the potential exists for this area to contain an abandoned UST and is considered to be a REC.
2. The former use of the 2050 S Industrial (2050 building) and the shed attached to the 2000 S. Industrial Highway building as garage/repair shop facilities from 1957 to 2010 is considered to be a REC. This is based on typical use of petroleum products and generation of waste along with the use of sub-surface features identified within the building. Features of specific concern include two below-grade hydraulic hoists (which appear to have been removed); spray paint booth and multiple trench and/or round floor drains throughout the buildings.
3. The Subject Property has been historically occupied by a recycling center, which accepted hazardous materials such as oil and batteries. An oil and battery containment structure is associated with 2050 S. Industrial within the Subject Property and is considered to be a REC based on unknown housekeeping activities and likely spills/releases.
4. Based on the Closure Report for the City of Ann Arbor Fuel Farm (Atlas, October 25, 2021), the site lithology generally consists of fill material consisting of sand, gravel, clay, concrete, and brick debris from depths varying from 5 to 13 feet bsg with native materials consisting of sand, silty-sand, and clay to the maximum depth investigated of 25 feet. In addition, the County Drain Commission and Water Department utilize the Subject Property. Soil stockpiles with debris (i.e., concrete and asphalt) were observed within the southern portion of the Subject Property. The presence of a significant amount of fill material from an unknown origin is considered to be a REC.

5. Historical railroad tracks/spurs were located within the northwestern portion of the Subject Property. Railroad tracks are typically constructed of unknown fill that presents a potential for introducing contaminated material to the vicinity. In addition, railroad ties are often treated with creosote and/or oils, and herbicides and/or oils are used to control encroaching vegetation. Therefore, the presence of the historic railroad track/spur has the potential to adversely impact the natural resources of the Subject Property is considered to be a REC.
6. Previous subsurface investigations conducted in 2021 at the Subject Property has documented soil contamination on the Subject Property. The contamination is generally at the southeastern portion of the main building 2000 S. Industrial. This contamination is associated with a former heating oil underground storage tank UST and is considered to be a REC.
7. Building records indicate three 20,000-gallon fuel oil USTs were installed in 1955 are considered to be a REC because no removal information or closure sampling data was available.
8. One 1,000-gallon diesel UST, one 2,000-gallon diesel UST, and one 2,000-gallon gasoline UST with unknown installation dates removed in 1992 are associated with the Subject Property. In addition, Fire Department records indicate two 1,500-gallon gasoline and one 1,500-gallon diesel tanks were associated with the Subject Property in 1958. These USTs/tanks are considered to be a REC because no closure information or sampling data was available.
9. The Subject Property is developed with a 4.2 million gallon reservoir constructed in 1967. Based on the age of the reservoir the potential exists for lead-based paint to have been utilized on the structure. The structure was reportedly sandblasted and repainted in 1994. The potential exists for elevated levels of lead to be present in the soils at the base of the reservoir and is considered to be a REC.
10. The western adjoining properties located at 2115 and 2141 South State Street have been occupied by automotive repair shops/gas stations/fuel oil dealers from 1971 until 2014 which are considered to be a *recognized environmental condition*. Specific environmental concerns include automotive service/repair, collision shop and auto washing operations along with storage of significant quantities of chemicals/petroleum products and wastes, open and closed LUST incidents, with documented contamination in soil and/or groundwater present. The potential for releases and lack of data regarding potential adverse impacts offsite to the Subject Property is considered to represent a vapor encroachment condition (VEC) and a REC.

### Historical Recognized Environmental Conditions

1. A Corrective Action Notice to Register of Deeds, Michigan Department of Environmental Quality (MDEQ) – Underground Storage Tank Division, of 2000 South Industrial Highway, dated June 4, 1997 indicating the land use corrective action at the site is as follows;



Commercial III restrictions utilization of the groundwater resources and underground utility/construction activities in localized area of impacted soils.

2. One 12,000-gallon gasoline UST installed 1979 and one 12,000-gallon gasoline UST installed 1980 removed in 1992 are associated with the Subject Property. Two confirmed “closed” LUST incidents dated September 14 and 15, 1992 are associated with these USTs. Regulatory database documentation indicated that closure of the site was completed to regulatory criteria as of June 16, 1997. As such, the 1992 UST releases are considered to be a *historical recognized environmental condition* HREC.
3. The Subject Property is identified on the ERNS database. Incident #337490 was from a 1,000-gallon a fuel oil spill from an open valve on an aboveground storage tank on construction site dated April 21, 1994. Approximately 750-gallons of diesel fuel was released, impacting a storm drain, the Huron River, and basin located a mile away. Regulatory documentation indicated that BTEX and PNA contamination from the diesel spill has been remediated via excavation and proper disposal and the incident is considered closed at the site. As such, the 1994 AST release is considered to be an HREC.
4. A Closure Report for the City of Ann Arbor Fuel Farm for the Subject Property, dated October 21, 2021 indicated a suspected release associated with the removal of the UST system (one 15,000-gallon gasoline, one 15,000-diesel, and dispenser island) was reported June 29, 2020. The primary source of the release was suspected to be from the dispenser locations due to soil impact observed at shallow sample locations collected 3 feet bsg underneath the former dispenser area. The area where the dispensers were located were subsequently excavated to 4 feet bsg removing the impacted soil and disposed of at Woodland Meadows Landfill. In summary, the impacted areas were excavated and removed from the site and the area resampled indicating soil samples were below Part 213 Risk Based Screening Levels (RBSLs) and groundwater sampling indicated no impact in any monitoring wells. Furthermore, the Department of Environment, Great Lakes, and Energy issued a Notice of Closure Report Considered Approved, dated February 18, 2022, for the confirmed release. Based on the above, historical site uses represent a (HREC) for the Subject Property.

### Report Limitations

This Limited Phase II ESA was performed to assess current Subject Property conditions and to determine if the Subject Property meets the definition of a “facility” as that term is defined in accordance with Part 201 of the Natural Resources and Environmental Protection Act (NREPA), PA 451 of 1994, as amended (Part 201). As such, this report is subject to the following limitations:

1. At the present time, the AAAHC’s primary concern is with the odor related to the 2050 building, and Atlas focused the scope of this investigation in that area, specifically:
  - REC #1 – Petroleum odor near north manway, 2050 building.
  - REC #2 – Use of 2050 building as an automotive garage/repair shop



- REC #3 – Oil and battery containment structure - 2050 building.
  - REC #7 & #8 – Building and Fire Department records indicate the presence of USTs with no record of removal.
2. REC #6 above is currently being investigated, and was not addressed as part of this investigation.
3. AAAHC indicated that its plans to acquire the property are 2-3 years into the future, and it will address the following RECs at that time:
- REC #2 – Use of shed attached to 2000 building as an automotive garage/repair shop,
  - REC #4 – The presence of a significant amount of fill material from an unknown origin in areas not related to the 2050 building,
  - REC #5 – The former presence of a railroad spur on the property,
  - REC #9 – Lead based paint issues related to the water storage reservoir, and
  - REC #10 – The potential for contamination originating on west adjacent properties to have impacted the Subject Property.

## 1.2 Purpose

The objective of this Limited Phase II ESA was to evaluate the subset of RECs identified by the Phase I ESA and outlined in §1.1 above. The scope of work for the Limited Phase II ESA was designed to evaluate the Subject Property for the presence of environmental impacts, and if present, determine if contaminant concentrations exceed Part 201 criteria. Based on intended future developments and current commercial use of the surrounding properties Residential Part 201 Generic Cleanup Criteria and Screening Levels/Part 213 Risk-Based Screening Levels (December 30, 2013, GSI Protection Criteria Updated June 25, 2018; updated December 21, 2020) were used.

This report was performed to satisfy one of the requirements to qualify for the innocent landowner defense under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and under Part 201. This report satisfies the “all appropriate inquiry” element as defined in 42 U.S.C.A. §9601(35)(B), where a previous assessment satisfying that element identified RECs.

## 1.3 Special Terms and Conditions

This Limited Phase II ESA was conducted under the terms and conditions outlined in Atlas Proposal Number 22-03738 dated March 24, 2022.

## 1.4 Limitations and Exceptions of the Assessment

Atlas notes the following limitations or exceptions in completing this Limited Phase II ESA:



- As noted above, the purpose of Atlas's Limited Phase II ESA was to identify specific conditions based on the subset of *RECs* identified during the March 2022 Phase I ESA and outlined in §1.1 above. The scope was not intended to delineate the extent of contamination at the Subject Property.
- The purpose of Atlas's Limited Phase II ESA was not intended to evaluate the Subject Property for compliance with due care obligations.
- Nothing in this report constitutes a legal opinion or legal advice. For information regarding individual or organizational liability, Atlas recommends consultation with independent legal counsel.

No environmental site assessment or investigation can wholly eliminate uncertainty regarding the potential for environmental concerns in connection with the Subject Property. The findings of this report must not be considered as scientific certainties, but rather as Atlas's professional opinion concerning the significance of the limited data gathered during the course of this and the previous assessments, investigations, and remediation activities. Maps used in this report are included to aid the visual understanding of the reader, and should not be considered legal surveys or engineering studies.

Any sample, either surface or subsurface, taken for laboratory analysis may or may not be representative of a larger population. Professional judgment and interpretation are inherent in the process and uncertainty is inevitable. No other warranty, expressed or implied, is made. The scope of work completed by Atlas in this ESA was based solely on the information obtained from the current and previous assessments.

In preparing this report, Atlas has made no attempt to independently verify the quality assurance and quality control (QA/QC) procedures of the laboratory beyond the QA/QC procedures indicated in Sections 4.6 and 6.3. However, Atlas did not detect any inconsistency or omission of a nature that might call into question the validity of any of the information contained in this report.

## **1.5 Limiting Conditions and Methodology Used**

There were no limiting conditions encountered during the completion of this Limited Phase II ESA beyond those described in §1.1 through §1.4 above. The following methodologies were utilized during completion of the Limited Phase II ESA:



Activity	Method or Guidance
Geoprobe <sup>®</sup> Drilling	ASTM D-6282-98
Soil Classification	ASTM D-2488
Soil Sampling	SW846 Method 5035
Groundwater Sampling	ASTM D-6771-21
Soil-Gas Sampling	ASTM D-7663-18-E1
Sample Collection, Handling and Transportation	Atlas Standard Operating Procedures

### 1.6 Report Reliance

This report has been prepared for the exclusive use of Ann Arbor Affordable Housing Corporation who may use and rely upon this report. Atlas represents that within the limitations of the agreed upon scope of work, this work has been undertaken and performed in a professional manner, in accordance with generally accepted practices, using the degree of skill and care ordinarily exercised by reputable environmental consultants under similar circumstances. This Limited Phase II ESA may not be relied upon by other parties without the express written consent of Atlas.



## 2. SITE DESCRIPTION

The Subject Property is identified as follows:

Address:	2000 S Industrial Hwy., Ann Arbor, MI 48104
Parcel No.:	09-12-04-200-013
Total Land Area	7,700-SF pole building (2050 Building) and a 4.2-Mgal water reservoir.
Latitude/Longitude:	42.25525 N, -83.73657 W
Current Owner:	Ann Arbor Water Treatment
Current Use:	City utilities maintenance facility

### 2.1 Subject Property and Vicinity Characteristics

The Subject Property is located in Section 4, Township 3 South, Range 6 East, in City of Ann Arbor (Pittsfield Township), Washtenaw County, Michigan, on the west side of South Industrial Highway, between Astor Avenue and Rosewood Street. A Site Location Map is attached as Figures 1.

The Subject Property is located in an area generally characterized by commercial, industrial, and residential properties and roadways. The surface topography across the Subject Property is relatively flat, and the surrounding area is gently sloping from the west to east.

The Subject Property consists of approximately 1-acre adjacent to the 2050 building, a portion of the 4.09 acres of land developed with a 9,100-square foot commercial office/warehouse building and a 7,700-square foot pole building. The remainder of the Subject Property consists of a water treatment tank, two aboveground storage tanks with dispensers, and parking lots.

In addition to the AAAHC, the Subject Property is currently occupied by Ann Arbor Water Treatment Plant, the Ann Arbor Fire Department, the Washtenaw Drain Commission, CTN TV, the Ann Arbor Police Department, Ann Arbor Fleet Services, and Ann Arbor furniture.

### 2.2 Summary of Historical Uses

Review of the Atlas Phase I ESA indicates that the property consisted of vacant undeveloped land from at least 1906 until the 1930's when the Subject Property was improved with farmstead/nursery structures on the northwestern and southern portions of the property. The nursery structures were demolished and the property was improved with commercial structures in the early 1950s.

The subject property has been occupied by City of Ann Arbor entities (i.e., water department, AAAHC, police and fire department, etc.) since 1964 with garage and repair shops and the use remained as such through circa 2010. Ecology Center recycling has also occupied the Subject



Property from the 1980s through 1997 with Re-Use/Recycling in Ann Arbor accepting recycling in 2021.

### 2.3 Hydrogeological Setting

Atlas reviewed available resources to determine the hydrogeological setting of the site. Reference sources include *Quaternary Geology of Southern Michigan* (Farrand, W.R. and Bell, D.L., 1982), *Bedrock Geology of Michigan* (Segal, T.E., Wilson, S.E. and Milstein, R.L., 1987), *Stratigraphic Cross-Sections of the Michigan Basin* (Lilienthal, R.T., 1978), Drift Thickness Map (Akers, J, 1938), United States Department of Agriculture (USDA) Web Soil Survey, United States Geological Service (USGS) “Ann Arbor East, Michigan” Topographic Map (1983), and previous environmental assessments for the Subject Property.

Review of the “Ann Arbor East, Michigan” topographic map (1983) indicates that the Subject Property is located at an elevation of approximately 833-feet to 1,050 feet above mean sea level. The site and surrounding area consists of generally flat to low sloping land. Generally, the topography of the Subject Property flat to low slope to the east.

According to the Michigan Geological Survey Division’s publication, *Quaternary Geology of Southern Michigan*, soils in the area consist of glacial outwash sand and glacial and post glacial alluvium. These soils are pale brown to pale reddish brown, with fine to coarse sand alternating with layers of small gravel to heavy cobbles, with a mixed lithology of sedimentary, igneous, and metamorphic rocks. The soils are well to poorly sorted, well stratified, and, in places, cross-bedded, generally occurring as fans, as sheets of flanking end moraines and/or as deltas along glacial lake margins and in fluvial terraces along present and abandoned drainage ways. This matrix includes narrow belts of Holocene alluvium inset below outwash terraces alongside present streams.

The site geology was observed as part of the 2021 Closure Report (Atlas Report No. 188EM20011.03, October 25, 2021) and Soil and Groundwater Investigation Report (Atlas Report No. 188EM21004.01, January 7, 2022). In general, brown sandy clay was encountered from surface to a depth of 5-6 feet below grade (bg). Brown, fine to medium grained sand was encountered underlying the sandy clay to a depth of 10-15 feet bg. Hard brown clay was then encountered to the maximum depth of investigation at 20 feet bg. Saturated conditions were encountered at an average depth of 4-feet bg.

According to the USDA Web Soil Survey, two soil types are present across the Subject Property, Matherton sandy loam, 0 to 4 percent slopes makes up the majority of the Subject Property and Sebewaing loam, disintegration moraine, 0 to 2 percents slopes occupies the northwest and southwest portions of the Subject Property.

Bedrock underlying the Subject Property consists of the Coldwater Shale Unit in the Kinderhookian Series of the Mississippian System and Paleozoic Era. The maximum thickness of Coldwater Shale



is generally 305 meters. In the eastern half of the basin, beds of silty and sandy shale, siltstone and fine-grained sandstone are common, and increase in abundance and coarseness to the west and upper section. The depth to bedrock in the vicinity of the Subject Property is estimated to be approximately 200 feet below grade.

Based on the two site-specific reports cited above, groundwater has been encountered at a depth of approximately 4-feet bg, with an observed groundwater flow in a northeasterly direction. However, localized flow direction may vary as a result of rainfall, development, geologic characteristics, nearby surface water bodies, underground utilities such as storm drains, septic systems and sewers, or other influences such as the presence of high-volume wells.

## **2.4 Groundwater Use**

Municipal drinking water is provided to the Subject Property by the City of Ann Arbor.



### 3. SUBSURFACE INVESTIGATION

The following sections present the procedures followed in conducting the subsurface investigation of the Subject Property. A site plan with sample locations is provided as **Figure 2**.

#### 3.1 Miss Dig

Atlas notified MISS DIG, Michigan's one-stop underground utility clearance network of the pending subsurface investigation and was provided with a confirmation number (Ticket Number 2022040502942).

#### 3.2 Scope of Assessment

The scope of work for the subsurface soil and groundwater investigation was designed to assess existing subsurface conditions on the Subject Property and to evaluate the soil and groundwater (if encountered) for potential impact associated with the *RECs* described in §1.1 through §1.4 above, and if found to be present, determine if contaminant concentrations exceed applicable Part 201 criteria. The following provides further detail with respect to the overall investigation and sampling strategies.

##### 3.2.1 Supplemental Record Review

A supplemental record review was not conducted as part of Atlas' scope of assessment.

##### 3.2.2 Areas of Concern

Atlas developed a scope of work designed to evaluate and/or identify the areas of concern (AOCs) where contamination was most likely to be present. The subsurface investigation addressed the following AOCs:

- Soil boring, GP/TMW-1 was advanced adjacent to the west side of the 2050 building to evaluate the former oil and battery storage (REC-3).
- Soil borings GP/TMW-2 and GP/TMW3 were advanced on the north side of the 2050 building to evaluate the petroleum odor (REC-1) noted in this area. Atlas also collected a sediment and water sample from the storm water catch basin in this area.
- Soil borings GP/TMW-4 and GP/TMW5 were advanced within the 2050 building to evaluate the former in-ground hoists (REC-2).
- Soil boring HA-1 was advanced within the 2050 building to evaluate the former paint booth area (REC-2).
- Sub-slab soil-gas sample points (vaporpins®) SG-1, SG-2, SG-3, SG-4 and soil-gas implants SG-5 and SG-6<sup>1</sup> were installed and samples collected to evaluate both REC-1 and REC-2.

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<sup>1</sup> SG-5 was installed in GP/TMW-2, and SG-6 in GP/TMW-3



### 3.2.3 Deviations from the Work Plan

This Phase II ESA did not deviate from the proposed work plan outlined in Atlas proposal 22-03738 except for the following:

- Atlas collected an additional sediment and water sample from the storm water catch basin in the area where the “odor” has been noted on the north side of the 2050 building.
- Atlas added laboratory analysis for the EGLE list of ten (10) hazardous metals (MI-10 Metals) to the soil and groundwater samples at the GP/TMW-1 and Storm Sewer samples.
- Atlas added laboratory analysis for hexavalent chromium to the sediment sample from the Storm Sewer sample.

Given the available information developed as part of the subsurface investigation, these deviations from the proposed work plan are not expected to have a substantial impact on the findings or conclusions of this report.

### 3.3 Geophysical Survey

Atlas retained the services of Facility Management Consultants International (FMCI) to perform a geophysical survey to evaluate the Subject Property for buried structures and/or buried utilities. Traditional electromagnetic equipment and Ground Penetrating Radar (GPR) technology were used during the survey. Electromagnetic equipment was the primary tool used to determine the location of all conductive subsurface structures, as well as any utilities that have locating wires (i.e. gas lines) buried with the non-conductive utility to facilitate location.

The geophysical survey was performed on April 12, 2022, prior to any/all invasive methods (ie. soil borings). The work area was scanned using a modified grid pattern to facilitate data collection, processing, and mapping of any identified anomalies. FMCI located subsurface structures, including storm and sanitary structures and buried electrical lines. However, the survey did not detect any UST type anomalies. A copy of the FMCI geophysical survey report may be found in **Appendix B**.

### 3.4 Soil Borings

Atlas and its drilling contractor Fibertec Environmental Services (Fibertec) mobilized to the Subject Property on April 19-20, 2022. Using direct push technology (Geoprobe®), and/or hand auger, Atlas supervised the advancement of six (6) soil borings (GP/TMW-1, GP/TMW-2, GP/TMW-3, GP/TMW-4, GP/TMW-5 and HA-1) to a maximum depth of investigation at 20 feet below grade (bg).

The soil borings were strategically positioned so that the analytical results from the samples collected at each boring location could be used to address potential impacts to the Subject Property. Soil boring logs may be found attached as **Appendix C**.

### 3.5 Sampling Protocol

This investigation was designed to sample the areas of highest potential contamination. Therefore, the sample or samples from each boring most likely to yield the highest contamination based on the referenced criteria were selected for laboratory analysis. The selection criteria was based on Subject Property knowledge, visual staining, olfactory evidence (odor), and field screening data that included the soil sample that exhibited the highest PID response. If no PID response was identified, a soil sample was selected from the zone that most likely corresponds to the REC being investigated.

#### 3.5.1 Soils

Soil samples were collected continuously for soil characterization and field screening for total photo-ionizable volatile organic compounds (TVOCs) utilizing a photo-ionization detection (PID) device.

Soil samples were selected from each boring for laboratory chemical analysis based on the sampling rationale described in §3.2.2 above. Strict decontamination procedures were followed during the investigation to reduce the potential for cross-contamination. All down-hole sampling equipment was decontaminated prior to first use on-site, and thereafter between uses, using a vigorous wash in an Alconox solution, followed by a tap water rinse and air drying. Sample containers were inspected for cracks, chips, cleanliness, and the threads wiped clean before being sealed. The containers were labeled with the appropriate sample location, date, time, project number, and sampler's name. Samples were placed on "wet" ice and maintained at a temperature of approximately 4° Celsius prior to analysis. All soil samples collected for chemical analysis were submitted under chain-of-custody to Quantum Laboratories (Quantum) in Wixom, Michigan. Samples submitted for analysis of VOCs were field preserved using methanol in accordance with USEPA Method 5035.

#### 3.5.2 Groundwater

Groundwater was encountered at the Subject Property at a depth of 5 feet bg at all but the HA-1 locations, and temporary wells with screens set at the 3'-8' bg depth interval were installed to enable the collection of groundwater samples. The samples were placed on "wet" ice and maintained at a temperature of approximately 4° Celsius prior to analysis. All water samples collected for VOCs were field preserved in 40-ml VOAs using hydrochloric acid (HCl). The water samples were submitted under chain-of-custody to Quantum for analysis.

#### 3.5.3 Soil-Gas

Soil-gas monitoring points were installed to allow for the collection of soil-gas samples for laboratory analyses.



Four (4) sub-slab VaporPin® soil-gas monitoring points were installed within the 2050 building, and Soil borings GP/TMW-X and GP/TMW-Y were plugged back with hydrated bentonite to a depth of 4-feet below grade, and each was then completed with a soil gas implant at a depth 3.5 feet below grade. A 6-inch bed of coarse filter sand was placed above and below the implant, with hydrated bentonite to surface.

Atlas collected soil gas samples from the six (6) soil gas sample points on April 26, 2022. The samples were collected using a laboratory supplied, 1-liter Summa Canister™ for each sample. The soil gas sample points and sample train were checked for leaks using a helium chamber and vacuum shut-in tests, respectively. The internal volume of the soil gas sample points sample train was purged of approximately three (3) volumes of air at a rate of less than 200 milliliters per minute prior to collecting the samples. Each soil gas point was field screened for total volatile organic compounds (TVOCs) using a PID; and for methane; oxygen and carbon dioxide using a GEM 3-gas meter.

The soil-gas samples were submitted under chain-of-custody to Pace for analysis.

### **3.6 Quality Assurance/Quality Control**

To ensure the accuracy of data collected during on site activities, Atlas implemented QA/QC measures. The QA/QC procedures included, but were not limited to decontamination of sampling equipment before and between sampling events; standing downwind of sample apparatus during PFAS sampling and following all EGLE PFAS sampling guidance; calibration of field equipment; documentation of field activities; and appropriate sample preservation techniques. Atlas performed a qualitative evaluation of all samples collected during drilling, and a quantitative analysis of discrete samples using approved laboratory analytical methods.

#### **3.6.1 Decontamination of Equipment**

During sample collection, Atlas adhered to proper decontamination procedures. Sampling equipment was decontaminated using the following methods to minimize potential cross-contamination of soil samples: Steam cleaning or washing and scrubbing the equipment with non-phosphate detergent; rinsing the equipment with tap water; and air-drying the equipment.

#### **3.6.2 Calibration of Field Equipment**

During Atlas's Limited Phase II ESA, a PID was used to screen all soil samples. The PID was maintained in a calibrated condition using 100-ppm isobutylene gas prior to conducting the Limited Phase II ESA.

#### **3.6.3 Documentation of Activities**

During Atlas's Limited Phase II ESA activities, Subject Property conditions (i.e. soil boring locations, weather conditions) were documented. Atlas visually inspected the soil samples and

prepared a geologic log for each soil boring. The logs included soil characteristics such as color, composition (e.g., sand, clay, or gravel), soil moisture, water table depth, and signs of possible contamination. All soil samples were delivered to the laboratory under chain-of-custody documentation.

### **3.6.4 Sample Preservation Techniques**

Atlas collected soil and groundwater samples in accordance with United States Environmental Protection Agency's (USEPA) Publication SW-846, "Testing Methods for Evaluating Solid Waste". Soil samples were collected in laboratory-supplied containers, stored on wet ice, and submitted under chain-of-custody documentation to the laboratory. Samples submitted for analysis of VOCs were field preserved using methanol in accordance with USEPA Method 5035.

### **3.6.5 QA/QC Sampling**

During Atlas's Limited Phase II ESA trip blank and duplicate samples were collected and included with the samples submitted to the laboratory. Atlas collected duplicate soil and groundwater samples during the investigation and the laboratory provided the trip blanks. The duplicate samples were submitted for same analyses as the originals, and the trip blank was submitted for the analysis of VOCs only.

## **3.7 Laboratory Analyses and Methods**

The soil and groundwater samples collected from the Subject Property were analyzed for one or more of the following:

- Volatile Organic Compounds (VOCs)
  - Soil/Groundwater: by USEPA analytical method 8260,
  - Soil Gas: by USEPA analytical method TO-15,
- Semi-Volatile Organic Compounds (SVOCs) by USEPA analytical method 8270,
- Gasoline Range Organics (GRO) by USEPA 8015/8260 (mod),
- Diesel Range and Oil Range Organics (DRO/ORO) by USEPA 8015/8270 (mod),
- Michigan "10" Metals (MI-10) by USEPA analytical method 7010/7470 series,
- Hexavalent chromium by USEPA analytical method 7196/3060

The following table provides a breakdown of the sampling media and laboratory analysis performed at each soil boring location:



Sample ID	Sample Depth	Sample Media	PID Result	Lab	VOCs	SVOCs	MI-10	Hex Cr	GRO	DRO
GP/TMW-1	3'-4'	Soil		Quantum <sup>1</sup>	✓	✓	✓		✓	✓
GP/TMW-1	3'-8'	Water	NA	Quantum	✓	✓	✓		✓	✓
GP/TMW-2	3.5'-4.5'	Soil		Quantum	✓	✓			✓	✓
GP/TMW-2	3'-8'	Water	NA	Quantum	✓	✓			✓	✓
GP/TMW-3	4'-5'	Soil		Quantum	✓	✓			✓	✓
GP/TMW-3	3'-8'	Water	NA	Quantum	✓	✓			✓	✓
GP/TMW-4	3'-4'	Soil		Quantum	✓	✓			✓	✓
GP/TMW-4	3'-8'	Water	NA	Quantum	✓	✓			✓	✓
GP/TMW-5	4'-5'	Soil		Quantum	✓	✓			✓	✓
GP/TMW-5	3'-8'	Water	NA	Quantum	✓	✓			✓	✓
HA-1	2'-3'	Soil		Quantum	✓	✓			✓	✓
St Sewer		Sediment	NA	Quantum	✓	✓	✓	✓	✓	✓
St Sewer		Water	NA	Quantum	✓	✓	✓		✓	✓
VP-1	1'	Soil Gas		Pace <sup>2</sup>	✓					
VP-2	1'	Soil Gas		Pace	✓					
VP-3	1'	Soil Gas		Pace	✓					
VP-4	1'	Soil Gas		Pace	✓					
GP/TMW-X	3.5'	Soil Gas		Pace	✓					
GP/TMW=Y	3.5'	Soil Gas		Pace	✓					

<sup>1</sup> - Quantum Laboratories, Wixom, MI

<sup>2</sup> - Pace Analytical, Minneapolis, MN

## 4. RESULTS OF SUBSURFACE INVESTIGATION

Based on the intended future developments and current commercial use of the surrounding properties, the Residential Part 201 Generic Cleanup Criteria and Screening Levels/Part 213 Risk-Based Screening Levels (December 30, 2013, GSI Protection Criteria Updated June 25, 2018; updated December 21, 2020) were used. The following provides a summary of the analytical results

### 4.1 Site Hydrogeology

The site geology was observed as part of the subsurface investigation. A mixed lithology varying from fine to medium grained and coarse sand to sandy clay was encountered in all soil borings from surface to a depth of 9-10 feet below grade. Dense, gray/brown silty clay was encountered underlying the surface lithology to the maximum depth of investigation at 20-feet below grade. Saturated conditions were encountered at a depth of 5-6 feet bg during the course of Atlas' subsurface investigation. Soil boring logs may be found in **Appendix C**.

## 4.2 Analytical Results

Atlas collected a total of seven (7) soil/sediment samples, six (6) storm/groundwater samples and six (6) soil gas samples as part of the subsurface investigation. The soil and groundwater samples were submitted under chain of custody to Quantum Laboratories (Quantum) on April 21, 2022 to be analyzed for parameters appropriate to the RECs being investigated (see §3.6 above). The soil-gas samples were submitted to Pace Analytical (Pace) under chain of custody on April 29, 2022.

The laboratories reported the results back to Atlas as follows:

- Quantum Report No. 12245 on May 2, 2022; and
- Pace Report No, 10606801 on May 27, 2022.

The analytical data has been tabulated as Table 1 – Analytical Results Summary: Soil, as Table 2 – Analytical Results Summary: Groundwater, and as Table 3 – Analytical Results Summary: Soil-Gas. The analytical reports may be found attached as **Appendix D**.

### 4.2.1 Soil Analytical Results

Atlas submitted seven (7) soil samples to be analyzed for VOCs , SVOCs, DRO and ORO; five (5) to be analyzed for GRO, and two (2) to be analyzed for MI-10 Metals.

- **VOCs:** With the exception of soil samples GP/TMW-3 and GP/TMW-4, the laboratory analyses resulted in “Non-Detect<sup>2</sup>” for all of the five remaining soil samples submitted for VOCs analysis. Benzene, n-butylbenzene, sec-butylbenzene, ethylbenzene, isopropyl benzene, 2-methylnaphthalene, naphthalene and/or n-propylbenzene were detected in one or both of the samples. The underlined analytes were found to exceed either the Part 201 Generic Residential Clean-up Criteria (GRCC), or the Non-residential Volatilization to indoor Air pathway criteria (VIAP<sub>NR</sub>)
- **SVOCs:** With the exception of soil samples GP/TMW-3, GP/TMW-4 and the catch basin sediment sample, the laboratory analyses resulted in “Non-Detect” for all of the four remaining soil samples submitted for SVOCs analysis. Benzo(k)fluoranthene, fluoranthene, 2-methylnaphthalene, naphthalene, phenanthrene and pyrene were detected in one or all of the samples. However, only naphthalene was detected in excess of the Part 201 GRCC.
- **GRO:** GRO was detected in the GP/TMW-2 and GP/TMW-3 samples at concentrations greater than 350 mg/kg but less than 900 mg/kg, which, according to the EGLE Guidance document “Non-aqueous Phase Liquid (NAPL) Characterization, Remediation, and Management for Petroleum Release”, dated June 2014, indicates that the VIAP<sub>NR</sub> is applicable at the Site.

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<sup>2</sup> “Non-Detect” indicates that the analyte was not detectable at concentrations exceeding laboratory method detection limits (MDLs).

- **DRO/ORO:** DRO/ORO were also detected in the GP/TMW-2 and GP/TMW-3 samples at concentrations greater than 20 mg/kg but less than 500 mg/kg, which, according to the EGLE Guidance document also indicates that the VIAP<sub>NR</sub> is applicable at the Site.
- **MI-10:** Arsenic, barium, chromium, copper, lead and zinc were detected at various concentrations in the samples analyzed:
  - **Arsenic, copper and lead** were detected in both samples at concentrations below the Statewide Default Background criteria (SDBC), and may be considered to be “naturally occurring” at the Site.
  - **Barium and zinc** were detected in both samples, below the SDBC in the GP/TMW-1 sample, and above the SDBC, but below the GRCC in the catch basin sediment sample. The presence of barium and zinc at the Site is most likely “naturally occurring” also.
  - **Chromium:** The laboratory analyses resulted in chromium concentrations greater than the Part 201 GRCC for the sediment sample (the GP/TMW-1 sample resulted in “Non-Detect” for chromium). Chromium exists in two forms or “species”; and EGLE regulations stipulate that, when the chromium species is unknown, the analytical results must be compared to the more restrictive clean-up criteria for hexavalent chromium. Based on this requirement, Atlas requested that the laboratory also analyze the catch basin sediment sample for Cr<sub>VI</sub>. The laboratory analysis for hexavalent chromium resulted in “Non Detect” for the sediment sample, and the presence of chromium at the Site may be considered to be “naturally occurring”.

The following table presents the maximum detected soil contaminant results, and provides a comparison the Part 201 Generic Residential Clean-up Criteria (GRCC):

	Analyte	CAS No.	MDC	Sample Location	Part 201 GRCC	SSVIAC <sub>NR</sub>
VOCs	Benzene	71-43-2	100	GP/TMW-3	100	47
	n-Butylbenzene	104-51-8	2,240	GP/TMW-3	1,600	9,800
	s-Butylbenzene	135-98-8	1,570	GP/TMW-4	1,600	66,000
	Ethylbenzene	100-41-4	246	GP/TMW-3	360	340
	Isopropyl Benzene	98-82-8	862	GP/TMW-3	3,200	110
	2-Methylnaphthalene	91-57-6	5,190	GP/TMW-3	4,200	30,000
	Naphthalene	91-20-3	3,930	GP/TMW-3	730	1,900
	n-Propylbenzene	103-65-1	3,980	GP/TMW-3	1,600	21,000
SVOCs	Benzo(k)fluoranthene	207-08-9	346	Catch Basin	200,000	NA
	Fluoranthene	206-44-0	349	Catch Basin	5,500	NA
	2-Methylnaphthalene	91-57-6	3,530	GP/TMW-3	4,200	30,000
	Naphthalene	91-20-3	2,880	GP/TMW-3	730	1,900
	Phenanthrene	85-01-8	779	GP/TMW-4	2,100	29,000
	Pyrene	129-00-0	378	Catch Basin	480,000	4.40E+08
MI-10 Metals	Arsenic	7440-38-2	1,750	Catch Basin	4,600	NA
	Barium	7440-39-3	149,000	Catch Basin	1,300,000	NA
	Chromium <sub>III</sub>	7440-39-3	5,700	Catch Basin	30,000	NA
	Chromium <sub>VI</sub>	7440-39-3	<2000	Catch Basin	3,300	NA
	Copper	7440-50-8	8,240	Catch Basin	5,800,000	NA
	Lead	7439-92-1	2,990	Catch Basin	400,000	NA
	Zinc	7440-66-6	64,000	Catch Basin	2,400,000	NA

5190	Red shading indicates analyte exceeds Part 201 GRCC
3930	Yellow shading w/ red outline indicates analyte exceeds both Part 201 GRCC and SSVIAC <sub>NR</sub>
2670	Yellow shading indicates analyte exceeds SSVIAC <sub>NR</sub>
1335	Clear shading indicates analyte meets all criteriae
<1000	Green shading indicates analyte "Not Detected" at concentrations exceeding laboratory me levels (MDLs)

## 4.2.2 Groundwater Analytical Results

Atlas submitted six (6) water samples to be analyzed for VOCs, SVOCs, DRO and ORO; five (5) to be analyzed for GRO, and two (2) to be analyzed for MI-10 Metals.

- VOCs:** With the exception of water samples GP/TMW-1, GP/TMW-3 and GP/TMW-4, the laboratory analyses resulted in “Non-Detect” for all of the four remaining water samples submitted for VOCs analysis. Benzene, n-butylbenzene, sec-butylbenzene, ethylbenzene, isopropyl benzene, 2-methylnaphthalene, naphthalene, n-propylbenzene, toluene and/or 1,2,4-trimethylbenzene (TMB) were detected in one or all of the samples. The underlined analytes were found to exceed either the Part 201 GRCC or the VIAP<sub>NR</sub>.
- SVOCs:** With the exception of water sample GP/TMW-3, the laboratory analyses resulted in “Non-Detect” for all of the five remaining water samples submitted for SVOCs analysis. 2-

Methylnaphthalene and naphthalene were detected in the GP/TMW-3 sample. However, neither was detected in excess of the Part 201 GRCC.

- **MI-10:** barium, was detected at varying concentrations in the two samples analyzed, however, neither was found to exceed the Part 201 GRCC.
- **GRO/ DRO/ORO** were detected at various low concentrations in all but the GP/TMW-4 sample.

The following table presents the maximum detected groundwater contaminant results, and provides a comparison the Part 201 Generic Residential Clean-up Criteria (GRCC):

	Analyte	CAS No.	MDC ug/L	Sample Location	Part 201 GRCC	SSVIAC <sub>NR</sub>
VOCs	Benzene	71-43-2	6.0	GP/TMW-1	5.0	8.4
	n-Butylbenzene	104-51-8	14	GP/TMW-3	80	360
	s-Butylbenzene	135-98-8	7.0	GP/TMW-3	80	400
	Ethylbenzene	100-41-4	6.0	GP/TMW-3	18	28
	Isopropyl Benzene	98-82-8	19	GP/TMW-3	28	6.7
	2-Methylnaphthalene	91-57-6	21	GP/TMW-3	19	110
	Naphthalene	91-20-3	32	GP/TMW-3	11	12
	n-Propylbenzene	103-65-1	52	GP/TMW-3	80	970
	Toluene	108-88-3	1.0	GP/TMW-3	270	6,600
	1,2,4-TMB	95-63-6	2.0	GP/TMW-3	17	120
SVOCs	2-Methylnaphthalene	91-57-6	9.0	GP/TMW-3	19	110
	Naphthalene	91-20-3	9.0	GP/TMW-3	11	12
	Barium	7440-39-3	452	Catch Basin	2,000	NA

5190	Red shading indicates analyte exceeds Part 201 GRCC
3930	Yellow shading w/ red outline indicates analyte exceeds both Part 201 GRCC and SSVIAC <sub>NR</sub>
2670	Yellow shading indicates analyte exceeds SSVIAC <sub>NR</sub>
1335	Clear shading indicates analyte meets all criteriae

### 4.2.3 Soil-Gas Analytical Results

Atlas submitted six (6) soil-gas samples to be analyzed for VOCs. The laboratory analyses identified some or all of the following analytes in all soil-gas samples: acetone, benzene, 2-butanone, carbon disulfide, chloroform, cyclohexane, dichlorofluoromethane, ethanol, ethylbenzene, 4-ethyltoluene, heptane, hexane, isopropanol, propylene, styrene, tetrachloroethene, toluene, 1,2,3-, 1,2,4- and 1.3.5-trimethylbenzene (TMBs) and xylenes.

Atlas compared the analytes identified in the soil-gas samples to the following volatilization to indoor air criteria:

- Non-Residential, Site Specific, volatilization to indoor air criteria (SSVIAC<sub>NR</sub>) developed by EGLE specifically for use at the Subject Property;

- Non-Residential, Media specific, volatilization to indoor air screening levels (MSSL<sub>NR</sub>) developed by EGLE for interim response actions; and
- Non-Residential, Volatilization to indoor air pathway criteria (VIAP<sub>NR</sub>)

It should be noted that while the individual criteria in each of the listed criteria sets may vary, for this site, they did not. The VIAP<sub>NR</sub> was used, as it was the most complete. None of the detected analytes were found to exceed the VIAP<sub>NR</sub>.

The following table presents the maximum detected soil-gas contaminant results, and provides a comparison to the VIAP<sub>NR</sub>:

	Analyte	CAS No.	MDC ug/m <sup>3</sup>	Sample Location	VIAP <sub>NR</sub>
VOCs	Acetone	67-64-1	361	SG-4	1,000,000
	Benzene	71-43-2	1.9	SG-4	260
	2-Butanone (MEK)	78-93-3	60	SG-4	170,000
	Carbon Disulfide	75-15-0	2.2	SG-2	36,000
	Chloroform	67-66-3	7.6	SG-1	87
	Cyclohexane	110-82-7	7,520	SG-6	310,000
	Dichlorodifluoromethan	75-71-8	5,400	SG-2	17,000
	Ethanol	64-17-5	301	SG-1	630,000
	Ethylbenzene	100-41-4	7.7	SG-1	800
	4-Ethyltoluene	622-96-8	8.0	SG-1	NA
	n-Heptane	142-82-5	1,690	SG-6	180,000
	n-Hexane	110-54-3	3,250	SG-6	36,000
	2-Propanol	67-63-0	8.4	SG-3	10,000
	Propylene	115-07-1	6.9	SG-4	NA
	Styrene	100-42-5	2.3	SG-1	3,500
	Tetrachloroehylene	127-18-4	138.0	SG-6	1,400
	Toluene	108-88-3	42.4	SG-4	250,000
	1,2,3-TMB	526-73-8	7.9	SG-1	3,100
	1,2,4-TMB	95-63-6	23.2	SG-1	3,100
	1,3,5-TMB	108-67-8	10.2	SG-1	3,100
Xylenes	1330-20-7	41.4	SG-1	11,000	

5190	Red shading indicates analyte exceeds VIAP <sub>NR</sub>
1335	Clear shading indicates analyte meets all criteriae



## 5. CONCLUSIONS AND RECOMMENDATIONS

This Limited Phase II ESA was conducted to evaluate a subset of the *RECs* identified during the March 2022 Phase I ESA. The following provides a summary of our conclusions and recommendations:

- Atlas advanced six (6) soil borings to collect soil and groundwater samples, and installed six (6) soil gas implants to collect soil-gas samples at the Site.
- The six soil borings were advanced to depths varying between 5-feet below grade, to a maximum depth of investigation at 15 feet below grade. Soil samples were collected continuously for soil characterization and field screened TVOCs utilizing a PID device. One soil sample was collected from each soil boring for laboratory analysis.
- Groundwater was encountered at an average depth of 5-feet below grade. Groundwater samples were collected from each soil boring for laboratory analysis. (a water sample was not collected from the HA-1 boring.
- Soil-gas samples were collected from the six soil-gas sampling points for laboratory analysis.
- One sediment and one water sample were collected from the storm-water catch basin located on the north side of the building.
- The analytical results indicated that VOCs, SVOCs and MI-10 Metals were detected in soil and/or groundwater samples as follows:
  - GP/TMW-1:
    - Soil: VOCs/SVOCs were not detected above laboratory method detection limits (MDLs). Arsenic, barium, copper, lead and zinc present at naturally occurring levels.
    - GW: VOCs do not exceed Part 201 GRCC; SVOCs not detected above MDLs; barium does not exceed GRCC
  - GP/TMW-3:
    - Soil: Benzene, n-butylbenzene, isopropylbenzene, 2-methylnaphthalene, naphthalene and n-propylbenzene exceed Part 201 GRCC and/or SSVIAC<sub>NR</sub>
    - GW: Benzene, isopropylbenzene and naphthalene exceed Part 201 GRCC and/or SSVIAC<sub>NR</sub>
  - GP/TMW-4:
    - Soil: 2-methylnaphthalene exceeds Part 201 GRCC and/or SSVIAC<sub>NR</sub>
    - GW: VOCs/SVOCs were not detected above laboratory detection limits.



- Catch Basin:
  - Soil: VOCs were not detected above laboratory detection limits. SVOCs do not exceed Part 201 GRCC. Arsenic, chromium, copper and lead present at naturally occurring levels. Barium & zinc do not exceed Part 201 GRCC (probably naturally occurring).
  - GW: VOCs/SVOCs were not detected above laboratory detection limits; Barium detected below GRCC.
- GP/TMW-2, GP/TMW5 & HA-1:
  - Soil: VOCs/SVOCs were not detected above laboratory detection limits.
  - GW: VOCs/SVOCs were not detected above laboratory detection limits.
- The analytical results also indicated that VOCs were detected in soil-gas samples, however, none was found to exceed criteria.

Based on the findings of this subsurface investigation, the Subject Property meets the definition of a “facility” as that term is defined by Part 201 of the Natural Resources and Environmental Protection Act (NREPA), PA 451 of 1994, as amended (Part 201). Accordingly, Atlas recommends that when the AAAHC decides to move forward with acquisition of the property, a Baseline Environmental Assessment (BEA) be performed in accordance with Part 201. The BEA will need to be completed within 45 days (before or after) the purchase, occupancy, or foreclosure by the new entity and submitted to the EGLE within six months of the purchase, occupancy, or foreclosure date. Atlas notes that the owner or operator of a “facility” will also assume due care obligations in accordance with Part 201. Accordingly, a due care plan is recommended.



## 6. REFERENCES

Listed below are documents utilized to aid in the completion of this Limited Phase II ESA.

- “*Environmental Remediation*,” Part 201 of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended
- “*Standard Practice for Environmental Site Assessments: Limited Phase II Environmental Site Assessment Process*,” ASTM Designation: E 1903-11
- “*Standard Guide for Direct Push Soil Sampling for Environmental Site Characterizations*,” ASTM Designation D 6282-98
- “*Standard Practice for Description and Identification of Soils (Visual/Manual Procedures)*,” ASTM Designation: D 2488-17-E1
- “*Standard Practice for Low-Flow Purging and Sampling Used for Groundwater Monitoring*,” ASTM Designation: D 6771-21
- “*Standard Practice for Active Soil Gas Sampling in the Vadose Zone for Vapor Intrusion Evaluations*,” ASTM Designation: D 7663-12R18E1
- “*Testing Methods for Evaluating Solid Waste*,” USEPA Publication SW-846,
- “*Quaternary Geology of Southern Michigan*”, (Farrand, W.R. and Bell, D.L., 1982),
- “*Bedrock Geology of Michigan*”, (Segal, T.E., Wilson, S.E. and Milstein, R.L., 1987),
- “*Stratigraphic Cross-Sections of the Michigan Basin*”, (Lilienthal, R.T., 1978),
- “*Drift Thickness Map*”, (Akers, J, 1938),
- “United States Department of Agriculture (USDA) Web Soil Survey,
- “*Ann Arbor East, Michigan*” Topographic Map; USGS, 1983),
- “*Phase I Environmental Site Assessment Report, Industrial Property, 2000 South Industrial Highway, Ann Arbor, Michigan 48104*”, Atlas Report No. 188DD22012; Atlas Technical Consultants LLC, March 10, 2022.
- “*Soil and Groundwater Investigation Report; City of Ann Arbor – Utilities Dept./Field Services; Orphan Heating Oil UST*”, Atlas Report No. 188EM21004.01; Atlas Technical Consultants LLC, January 7, 2022.
- “*Closure Report; City of Ann Arbor Fuel Farm; 2000 S Industrial Highway, Ann Arbor, Washtenaw County, Michigan*”, Atlas Report No. 188EM20011.03; Atlas Technical Consultants LLC, October 25, 2021.



## 7. SIGNATURES OF ENVIRONMENTAL PROFESSIONALS

We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in §312.10 of 40 CFR 312 and we have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the Subject Property. We have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

A handwritten signature in blue ink, appearing to read "Gerard DeBusschere". The signature is fluid and cursive, with a long, sweeping tail that extends to the right.

Gerard DeBusschere, CPG  
Senior Project Manager

A handwritten signature in black ink, appearing to read "Ann O'Brien". The signature is more compact and less cursive than the one to its left, with a shorter tail.

Ann O'Brien  
Due Diligence Manager



## TABLES

**TABLE 1 - ANALYTICAL RESULTS SUMMARY: Soil**  
**AAAHC - 2050 S Industrial Hwy., Ann Arbor, Washtenaw County, MI**

Lab ID:	Statewide Default Background Levels	Part 201 Generic Residential Clean-up Criteria	Non-Res Site Specific Volatilization to Indoor Air Criteria	12245-8	12245-9	12245-10	12245-11	12245-12	12245-13	12245-14	12245-15	
Sample ID:				GP/TMW-1	GP/TMW-2	GP/TMW-3	GP/TMW-4	GP/TMW-5	HA-1	Dup	ST Sewer	
Sample Depth:				3'-4'	3.5'-4.5'	4'-5'	3'-4'	4'-5'	2'-3'		Sediment	
Collection Date:				4/19/22	4/19/22	4/19/22	4/19/22	4/19/22	4/19/22	4/19/22	4/19/22	
Notes:												
<b>Volatiles, VOCs, ug/Kg</b>	<b>CAS No.</b>											
Benzene (l)	71-43-2	NA	100	47M	< 50	< 50	100	< 50	< 50	< 50	< 50	
n-Butylbenzene	104-51-8	NA	1,600	9,800	< 50	< 50	2,240	901	< 50	< 50	393	
sec-Butylbenzene	135-98-8	NA	1,600	66,000	< 50	< 50	667	1,570	< 50	< 50	737	
Ethylbenzene (l)	100-41-4	NA	360	340	< 50	< 50	246	< 50	< 50	< 50	< 50	
Isopropyl benzene	98-82-8	NA	3,200	110M	< 250	< 250	862	< 250	< 250	< 250	< 250	
2-Methylnaphthalene	91-57-6	NA	4,200	30,000	< 250	< 250	5,190	4,230	< 250	< 250	4,580	
Naphthalene	91-20-3	NA	730	1,900	< 250	< 250	3,930	493	< 250	< 250	< 250	
n-Propylbenzene (l)	103-65-1	NA	1,600	21,000	< 100	< 100	3,980	403	< 100	< 100	178	
<b>TPH, ug/Kg</b>												
TPH-GRO					< 10000	624,000	765,000	< 10000		634,000	< 10000	
<b>Metals, ug/Kg</b>												
Arsenic (B)	7440-38-2	5,800	4,600	NA	614						1,750	
Barium (B)	7440-39-3	75,000	1,300,000	NA	41,600						149,000	
Chromium, Total	7440-47-3	18,000	30,000	NA	< 2000						5,700	
Chromium <sub>VI</sub>	18540-29-9	NA	3,300	NA							<2000	
Copper (B)	7440-50-8	32,000	5,800,000	NA	3,060						8,240	
Lead (B)	7439-92-1	21,000	400,000	NA	2,050						2,990	
Zinc (B)	7440-66-6	47,000	2,400,000	NA	10,600						64,000	
<b>Semivolatiles, ug/Kg</b>												
Benzo(k)fluoranthene (Q)	207-08-9	NA	200,000	NA	< 330	< 330	< 330	< 330	< 330	< 330	< 330	346
Fluoranthene	206-44-0	NA	5,500	NA	< 330	< 330	< 330	< 330	< 330	< 330	< 330	349
2-Methylnaphthalene	91-57-6	NA	4,200	30,000	< 330	< 330	3,530	2,070	< 330	< 330	793	< 330
Naphthalene	91-20-3	NA	730	1,900	< 330	< 330	2,880	< 330	< 330	< 330	< 330	< 330
Phenanthrene	85-01-8	NA	2,100	29,000	< 330	< 330	< 330	779	< 330	< 330	< 330	< 330
Pyrene	129-00-0	NA	480,000	4.40E+08	< 330	< 330	< 330	< 330	< 330	< 330	< 330	378
<b>TPH, ug/Kg</b>												
TPH-DRO					< 20000	< 20000	196,000	431,000	< 20000		1,410,000	36,500
TPH-ORO					< 20000	< 20000	111,000	427,000	< 20000		1,110,000	236,000

500	Red Shading indicates analyte exceeds Part 201 GRCC
250	Yellow Shading indicates analyte exceeds SSVIAC <sub>NR</sub> only
125	Blue Shading indicates analyte likely to be naturally occurring
65	Clear Shading indicates analyte does not exceed GRCC
<50	Green Shading indicates analyte "Not Detected" at concentrations exceeding laboratory method detection limits (MDLs)

TABLE 2 - ANALYTICAL RESULTS SUMMARY: Groundwater  
 AAAHC - 2050 S Industrial Hwy., Ann Arbor, Washtenaw County, MI

		Non-Res Volatilization to Indoor Air Pathway Shallow GW	Part 201 Generic Clean-up Criteria	12245-1	12245-2	12245-3	12245-7	12245-4	12245-5	12245-6	12245-16
				GP/TMW-1	GP/TMW-2	GP/TMW-3	Dup	GP/TMW-4	GP/TMW-5	ST Sewer	Trip Blank
				4/19/22	4/19/22	4/19/22	4/19/22	4/19/22	4/19/22	4/19/22	4/19/22
							GP/TMW-3				
Volatiles, VOCs, ug/L	CAS No.	VIAP <sub>NR</sub>	GRCC								
Benzene (l)	71-43-2	8.4 ca	5.0	3	< 1	6	< 1	< 1	< 1	< 1	< 1
n-Butylbenzene	104-51-8	360 nc	80	< 1	< 1	13	14	< 1	< 1	< 1	< 1
sec-Butylbenzene	135-98-8	400 nc	80	< 1	< 1	7	6	< 1	< 1	< 1	< 1
Ethylbenzene (l)	100-41-4	28 ca	18	< 1	< 1	6	5	< 1	< 1	< 1	< 1
Isopropyl benzene	98-82-8	6.7 ca	28	< 5	< 5	19	15	< 5	< 5	< 5	< 5
2-Methylnaphthalene	91-57-6	110 nc	19	< 5	< 5	18	21	< 5	< 5	< 5	< 5
Naphthalene	91-20-3	12 ca	11	< 5	< 5	25	32	< 5	< 5	< 5	< 5
n-Propylbenzene (l)	103-65-1	970 (DD) dev	80	< 1	< 1	52	46	< 1	< 1	< 1	< 1
Toluene (l)	108-88-3	6,600 (FF) st	270	1	< 1	1	< 1	< 1	< 1	< 1	< 1
1,2,4-Trimethylbenzene (l)	95-63-6	120 (JT) nc	17	< 1	< 1	2	2	< 1	< 1	< 1	< 1
<b>TPH, ug/L</b>											
TPH-GRO					< 100	2,810	3,050	< 100	< 100	146	
<b>Metals, ug/L</b>											
Barium (B)	7440-39-3	NA	2000	440						452	
<b>Semivolatiles, ug/L</b>											
2-Methylnaphthalene	91-57-6	110 nc	19	< 5	< 5	9	7	< 5	< 5	< 5	
Naphthalene	91-20-3	12 ca	11	< 5	< 5	9	7	< 5	< 5	< 5	
<b>TPH, ug/L</b>											
TPH-DRO				146	157	670	684	< 100	188	132	
TPH-ORO				< 200	< 200	< 200	< 200	< 200	284	< 200	

500	Red Shading indicates analyte exceeds Part 201 GRCC
250	Yellow Shading indicates analyte exceeds VIAP <sub>NR</sub> only
125	Blue Shading indicates analyte likely to be naturally occurring
65	Clear Shading indicates analyte does not exceed GRCC
<50	Green Shading indicates analyte "Not Detected" at concentrations exceeding laboratory method detection limits (MDLs)

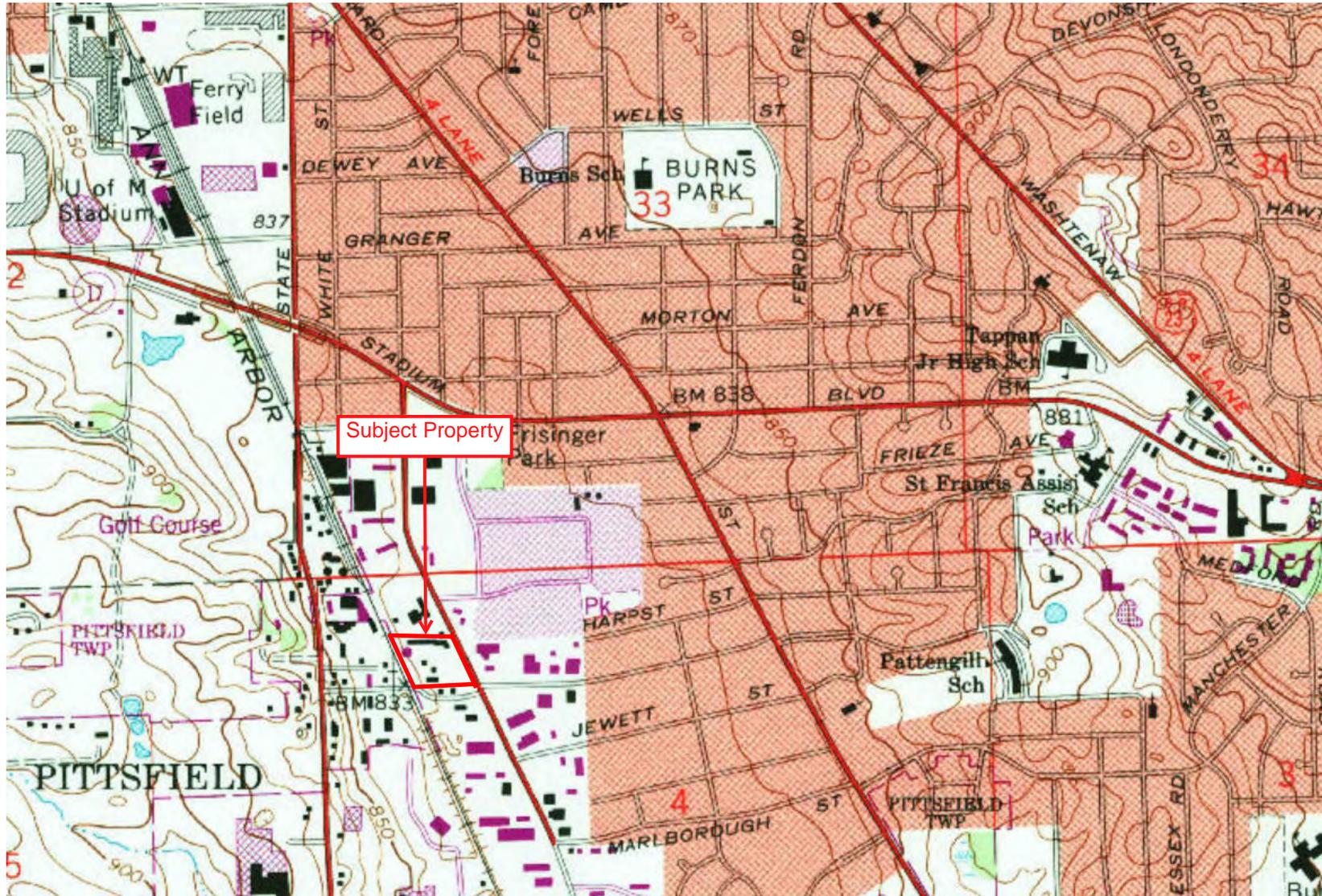
**TABLE 3 - ANALYTICAL RESULTS SUMMARY: Soil Gas**  
**AAAHC - 2050 S Industrial Hwy., Ann Arbor, Washtenaw County, MI**

Parameter	CAS No.	Method	Non-Res Site	Media	Non-Res	10606801-1	10606801-2	10606801-3	10606801-4	10606801-5	10606801-6
			Specific	Specific	Volatilization	SG-1	SG-2	SG-3	SG-4	SG-5	SG-6
			VIAC	VIAC	to Indoor Air	4/29/2022	4/29/2022	4/29/2022	4/29/2022	4/29/2022	4/29/2022
			SSVIAC <sub>NR</sub>	MSSL <sub>NR</sub>	VIAP <sub>NR</sub>	ug/m <sup>3</sup>					
Acetone	67-64-1	TO-15	NA	1,000,000	1,000,000	323	32.2	83.5	361	17.9	<663
Benzene	71-43-2	TO-15	260	260	260	1.8	<0.59	1.4	1.9	0.78	<35.7
2-Butanone (MEK)	78-93-3	TO-15	NA	170,000	170,000	20.3	<5.5	9.5	60	<5.4	<329
Carbon disulfide	75-15-0	TO-15	NA	NA	36000	<1.2	2.2	<1.1	1.8	1.9	<69.5
Chloroform	67-66-3	TO-15	NA	87	87	7.6	<0.91	<0.88	3.7	<0.89	<54.5
Cyclohexane	110-82-7	TO-15	310,000	NA	310,000	4.6	357	<3.1	6.1	<3.2	7520
Dichlorodifluoromethane	75-71-8	TO-15	NA	NA	17000	62	5400	3.1	2.5	2.1	<111
Ethanol	64-17-5	TO-15	630,000	630,000	630,000	301	15.3	150	88.9	3.5	<211
Ethylbenzene	100-41-4	TO-15	800	800	800	7.7	4.3	4.1	4.8	3.8	<97.0
4-Ethyltoluene	622-96-8	TO-15	NA	NA	NA	8	<4.6	<4.4	<4.6	<4.5	<274
n-Heptane	142-82-5	TO-15	180,000	NA	180,000	5.5	67.1	<3.7	5.6	4.4	1690
n-Hexane	110-54-3	TO-15	36,000	36,000	36,000	4.6	131	4.5	5.4	3	3250
2-Propanol	67-63-0	TO-15	10,000	NA	10,000	<4.7	<4.6	8.4	<4.6	<4.5	<274
Propylene	115-07-1	TO-15	NA	NA	NA	<1.6	<1.6	<1.5	6.9	1.6	<96.1
Styrene	100-42-5	TO-15	3,500	NA	3500	2.3	<1.6	<1.5	1.7	<1.6	<95.1
Tetrachloroethene	127-18-4	TO-15	NA	NA	1400	3.8	25	11.1	3.1	9.8	138
Toluene	108-88-3	TO-15	250,000	250,000	250,000	36.1	27.5	30.3	42.4	22	<210
1,2,3-Trimethylbenzene	526-73-8	TO-15	3,100	3,100	3,100	7.9	2.1	2.1	2.2	2	<110
1,2,4-Trimethylbenzene	95-63-6	TO-15	3,100	3,100	3,100	23.2	4.5	5.3	6.2	5	<110
1,3,5-Trimethylbenzene	108-67-8	TO-15	3,100	3,100	3,100	10.2	2.2	1.9	1.9	<1.8	<110
Xylenes, Total	1330-20-7	TO-15	11,000	11,000	11,000	41.4	22.6	23.9	27.8	20.9	<291

7525	Red Shading indicates analyte exceeds SSVIAC <sub>NR</sub> /MSSL <sub>NR</sub> /VIAP <sub>NR</sub>
225	Clear Shading indicates analyte does not exceed SSVIAC <sub>NR</sub> /MSSL <sub>NR</sub> /VIAP <sub>NR</sub>
NA	NA indicates EGLE has not developed SSVIAC <sub>NR</sub> /MSSL <sub>NR</sub> /VIAP <sub>NR</sub>
<1	Green Shading indicates analyte "Not Detected" at concentration exceeding laboratory method detection limits (MDLs)



## FIGURES



Source: USGS Topographic Map 7.5 Minute Ann Arbor East, Michigan Quadrangle dated 1965, photorevised 1983

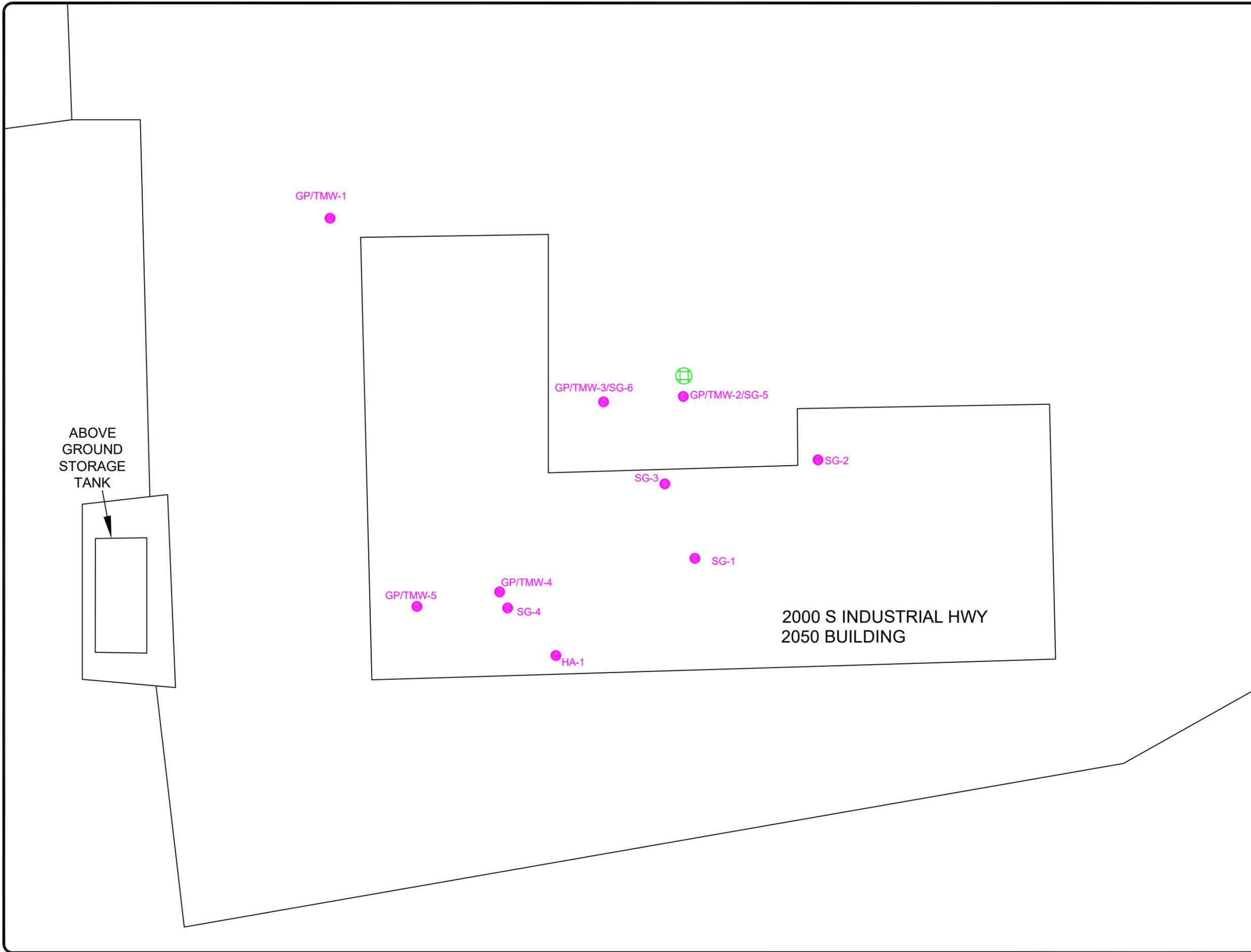


Subject Vicinity Map  
 Ann Arbor Affordable Housing Corp.  
 2000 South Industrial Highway  
 Ann Arbor, Michigan

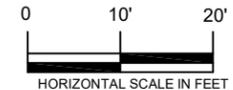
PROJECT NO.: 188EM22001

DRAWN BY: AJT





-  SAMPLE LOCATION
-  STORM CATCH BASIN



2850 HORIZON DRIVE SE, SUITE 110  
 GRAND RAPIDS, MI 49546  
 PH: 616-698-3131  
 FAX: 616-698-1922  
 WEBSITE: WWW.ONEATLAS.COM

DATE: 06/02/2022	PROJECT NO.: 188EM22001
DRAWN BY: DTB	SCALE: AS SHOWN
REVIEWED BY: GDB	<b>FIGURE 2</b>

**SAMPLE LOCATION MAP**

ANN ARBOR AFFORDABLE HOUSING CORP  
 2000 South Industrial Highway  
 Ann Arbor, Michigan

GP/TMW-1	
3'-4'	
04/19/2022	
VOCs	ND
PNAs	ND
Metals	
As	614
Ba	41,600
Cu	3,060
Pb	2,050
Zn	10,600
TPH	ND

GP/TMW-3	
4'-5'	
04/19/2022	
VOCs	
B	100
n-B	2,240
s-B	667
E	246
IPB	862
2Mn	5,190
N	3,930
n-P	3,980
PNAs	
2-Mn	3,530
N	2,880
TPH	
GRO	624,000
DRO	196,000
ORO	111,000

GP/TMW-2	
3.5'-4.5'	
04/19/2022	
VOCs	ND
PNAs	ND
Metals	NA
TPH	ND

ST Sewer	
Sediment	
04/19/2022	
VOCs	ND
PNAs	
B(k)	346
Fl	349
Py	378
Metals	
As	1,750
Ba	149,000
Cr	5,700
Cu	8,240
Pb	2,990
Zn	64,000
TPH	
DRO	36,500
ORO	236,000

GP/TMW-5	
4'-5'	
04/19/2022	
VOCs	ND
PNAs	ND
Metals	NA
TPH	ND

GP/TMW-4	
3'-4'	
04/19/2022	
VOCs	
n-B	901
s-B	1,570
2Mn	4,230
N	493
n-P	403
PNAs	
2-Mn	2,070
Ph	779
TPH	
GRO	765,000
DRO	431,000
ORO	427,000

HA-1	
2'-3'	
04/19/2022	
VOCs	ND
PNAs	ND
Metals	NA
TPH	NA

ABOVE  
GROUND  
STORAGE  
TANK

2000 S INDUSTRIAL HWY  
2050 BUILDING

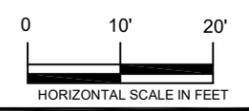
SAMPLE LOCATION  
SAMPLE DEPTH  
SAMPLE DATE

VOCs:  
B - Benzene  
n-B - n-Butylbenzene  
s-B - sec-Butylbenzene  
E - Ethylbenzene  
IPB - Isopropyl benzene  
2Mn - 2-Methylnaphthalene  
N - Naphthalene  
n-P - Propylbenzene  
PNAs:  
B(k) - Benzo(k)fluoranthene  
Fl - Fluoranthene  
2Mn - 2-Methylnaphthalene  
N - Naphthalene  
P - Phenanthrene  
Py - Pyrene  
Metals:  
As - Arsenic  
Ba - Barium  
Cr - Chromium  
Cu - Copper  
Pb - Lead  
Zn - Zinc  
TPH:  
TPH-GRO  
TPH-DRO  
TPH-ORO

ND - Not Detected above laboratory  
detection limits  
NA - Not Analyzed

Only detections presented on this map.

-  SAMPLE LOCATION
-  STORM CATCH BASIN



**ATLAS**

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WEBSITE: WWW.ONEATLAS.COM

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REVIEWED BY: GDB	<b>FIGURE 3</b>

**ANALYTICAL RESULTS MAP:  
SOIL - APRIL 19, 2022**

ANN ARBOR AFFORDABLE HOUSING CORP  
2000 South Industrial Highway  
Ann Arbor, Michigan

GP/TMW-1	
04/19/2022	
VOCs	
B	3
T	1
PNA	ND
Metals	
Ba	440
TPH	
DRO	146

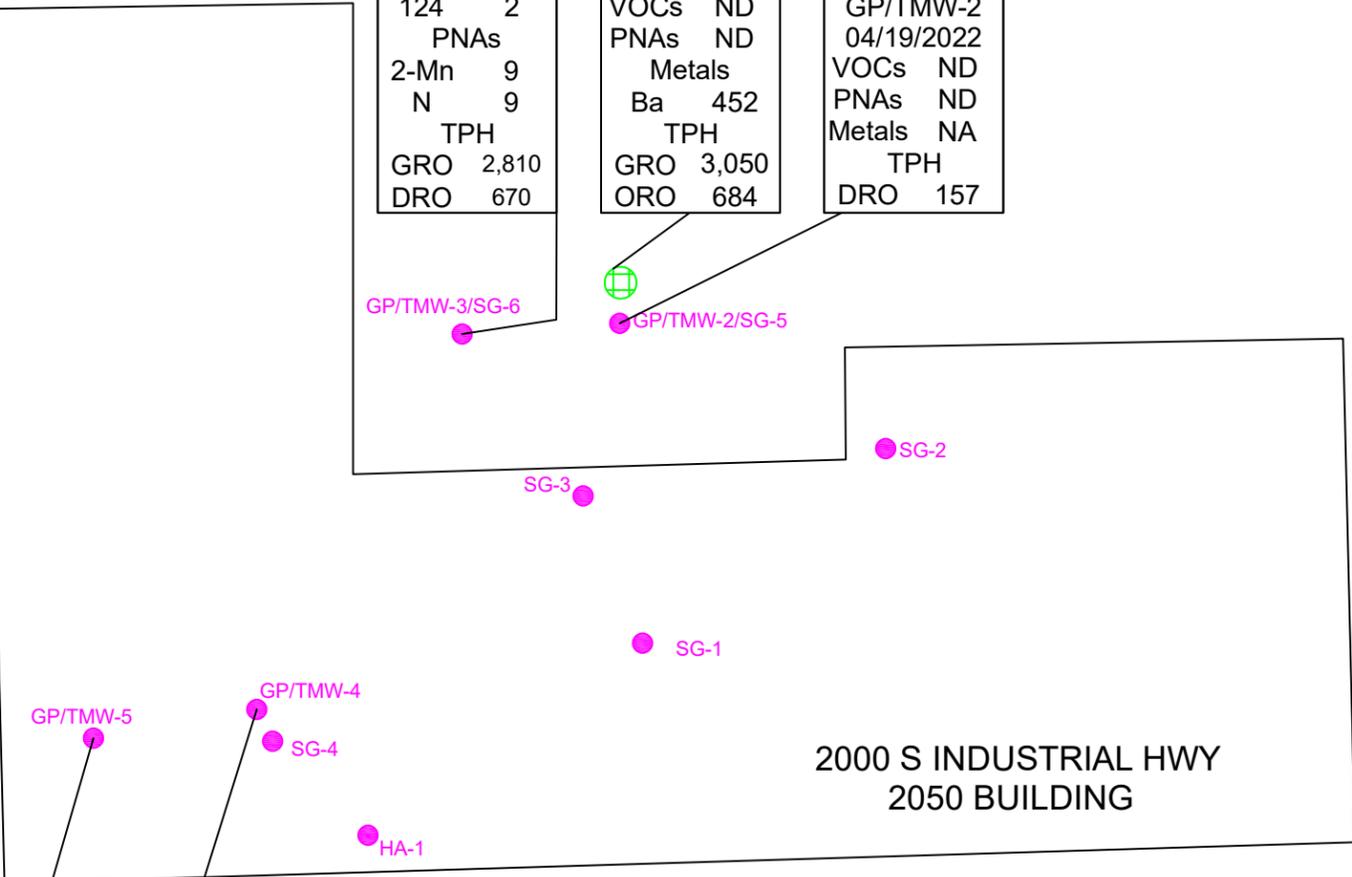
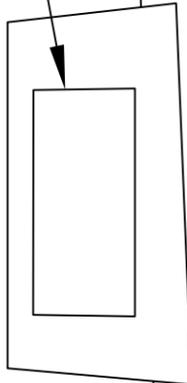
GP/TMW-1

GP/TMW-3	
04/19/2022	
VOCs	
B	6
n-B	13
s-B	7
E	6
IPB	19
2Mn	18
N	25
n-P	52
124	2
PNAs	
2-Mn	9
N	9
TPH	
GRO	2,810
DRO	670

ST Sewer	
04/19/2022	
VOCs	ND
PNA	ND
Metals	
Ba	452
TPH	
GRO	3,050
ORO	684

GP/TMW-2	
04/19/2022	
VOCs	ND
PNA	ND
Metals	
TPH	NA
DRO	157

ABOVE  
GROUND  
STORAGE  
TANK



GP/TMW-5	
04/19/2022	
VOCs	ND
PNA	ND
Metals	
TPH	NA
DRO	188
ORO	284

GP/TMW-4	
04/19/2022	
VOCs	ND
PNA	ND
Metals	
TPH	ND

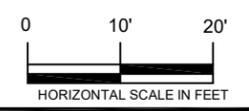
SAMPLE LOCATION  
SAMPLE DATE

- VOCs:  
 B - Benzene  
 n-B - n-Butylbenzene  
 s-B - sec-Butylbenzene  
 E - Ethylbenzene  
 IPB - Isopropyl benzene  
 2Mn - 2-Methylnaphthalene  
 N - Naphthalene  
 n-P - Propylbenzene  
 T - Toluene  
 124 - 1,2,4-Trimethylbenzene  
 PNAs:  
 2Mn - 2-Methylnaphthalene  
 N - Naphthalene  
 Metals:  
 Ba - Barium  
 TPH:  
 TPH-GRO  
 TPH-DRO  
 TPH-ORO

ND - Not Detected above laboratory  
detection limits  
NA - Not Analyzed

Only detections presented on this map.

- SAMPLE LOCATION
- STORM CATCH BASIN



**ATLAS**

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DATE: 06/02/2022	PROJECT NO.: 188EM22001
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REVIEWED BY: GDB	<b>FIGURE 4</b>

**ANALYTICAL RESULTS MAP:  
GROUNDWATER - APRIL 19, 2022**

ANN ARBOR AFFORDABLE HOUSING CORP  
 2000 South Industrial Highway  
 Ann Arbor, Michigan

ABOVE  
GROUND  
STORAGE  
TANK

GP/TMW-1

SG-3	
04/29/2022	
TO-15	
Ace	83.5
B	1.4
MEK	9.5
DCI	3.1
Eth	150
E	4.1
nHx	4.5
2P	8.4
PERC	11.1
T	30.3
123	2.1
124	5.3
135	1.9
X	23.9

SG-6	
04/29/2022	
TO-15	
Cyc	7,520
nH	1,690
nHx	3,250
PERC	138

GP/TMW-3/SG-6



GP/TMW-2/SG-5

SG-5	
04/29/2022	
TO-15	
Ace	17.9
B	0.78
CDS	1.9
DCI	2.1
Eth	3.5
E	3.8
nH	4.4
nHx	3
Prop	1.6
PERC	9.8
T	22
123	2
124	5
X	20.9

SG-2	
04/29/2022	
TO-15	
Ace	32.2
CDS	2.2
Cyc	357
DCI	5,400
Eth	15.3
E	4.3
nH	67.1
nHx	131
PERC	25
T	27.5
123	2.1
124	4.5
135	2.2
X	22.6

SG-2

SG-1	
04/29/2022	
TO-15	
Ace	323
B	1.8
MEK	20.3
Chf	7.6
Cyc	4.6
DCI	62
Eth	301
E	7.7
4Eth	8
nH	5.5
nHx	4.6
Sty	2.3
PERC	3.8
T	36.1
123	7.9
124	23.2
135	10.2
X	41.4

SG-4	
04/29/2022	
TO-15	
Ace	361
B	1.9
MEK	60
CDS	1.8
Chf	3.7
Cyc	6.1
DCI	2.5
Eth	88.9
E	4.8
nH	5.6
nHx	5.4
Prop	6.9
Sty	1.7
PERC	3.1
T	42.4
123	2.2
124	6.2
135	1.9
X	27.8

GP/TMW-5

GP/TMW-4

SG-4

HA-1

SG-1

2000 S INDUSTRIAL HWY  
2050 BUILDING

LOCATION  
SAMPLE DATE  
ANALYTICAL METHOD

- Ace - Acetone
- B - Benzene
- MEK - 2-Butanone (MEK)
- CDS - Carbon disulfide
- Chl - Chloroform
- Cyc - Cyclohexane
- DCI - Dichlorodifluoromethane
- Eth - Ethanol
- E - Ethylbenzene
- 4Eth - 4-Ethyltoluene
- nH - n-Heptane
- nHx - n-Hexane
- 2P - 2-Propanol
- Prop - Propylene
- Sty - Styrene
- PERC - Tetrachloroethene
- T - Toluene
- 123 - 1,2,3-Trimethylbenzene
- 124 - 1,2,4-Trimethylbenzene
- 135 - 1,3,5-Trimethylbenzene
- X - Xylenes, Total

Only detections are presented on this map.

- SAMPLE LOCATION
- STORM CATCH BASIN



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DATE: 06/02/2022	PROJECT NO.: 188EM22001
DRAWN BY: DTB	SCALE: AS SHOWN
REVIEWED BY: GDB	<b>FIGURE 5</b>

**ANALYTICAL RESULTS MAP:  
SOIL GAS - APRIL 29, 2022**

ANN ARBOR AFFORDABLE HOUSING CORP  
2000 South Industrial Highway  
Ann Arbor, Michigan



**APPENDIX A**  
*Atlas Credentials*



# Gerard DeBusschere, CPG

Sr. Project Manager – Novi, Michigan

## OFFICE LOCATION

Novi, Michigan

## EDUCATION

BS. Geology, Wayne State University, 1973

Additional related seminars and classes (1992 – 2005)

## CERTIFICATIONS

American Association of Petroleum Geologists (AAPG)

Certified Professional Geologist, AAPG#5369

Licensed Professional Geologist, State of Tennessee #2440

Certified Underground Storage Tank Professional State of Michigan #697

Certified DEQ Waterworks System Operator, Classification D-5, S-5 #16145

OSHA 29 CFR 1910.120 40-Hour / OSHA Annual 8-Hour Refresher

DOT 49 CFR 172.704 Hazardous Material Transport

Certified Adult CPR and First Aid

Behavioral Based Safety Training

Smith System® Driver Improvement Course

## HIRE DATE

03/2017

## EXPERIENCE PRIOR TO JOINING ATLAS

39

## EXPERIENCE & RESPONSIBILITIES

Gerard serves as Senior Project Manager in ATC's Novi, Michigan office. He has diverse experience in the environmental and petroleum industries. As Senior Project Manager, Gerard is responsible for client interfacing, compliance review, regulatory reports, and work plans. As a professional geologist, he demonstrates a balanced scientific approach in conducting site investigations by integrating geology, geophysics, and environmental science.

During Gerard's years of experience in the environmental field, he has conducted Phase I and Phase II Environmental Site Assessments (ESAs), Baseline Environmental Assessments (BEAs), and Due Care Plans, as well as provided oversight for leaking underground storage tank (LUST) site assessments and closures.

## PROJECT EXPERIENCE

### **Confidential Client, SW Michigan**

The pipeline spill originated from a break in a 33" buried pipeline that transports crude oil from the Chicago area northeast through Michigan into Sarnia Ontario. The release originated in a wetland area and flowed overland until it reached a creek where it then flowed to the confluence of the creek and a major southwest Michigan river. Wrote, or co-wrote the following plans and/or operating procedures that guided the response activities and which were incorporated into larger plans that were submitted to the United States Environmental Protection Agency (USEPA), Region V on-scene coordinator and other regulatory and non-regulatory agencies: Health and Safety Plan, Sampling and Analysis Plan, Oil Capture, Containment and Recovery Plan, Decontamination of Personnel and Equipment Plan and decontamination tracking forms, Backfill Plan and a variety of standard operating procedures to be used for the implementation of the various plans. Provided coordination and oversight of a citizen/landowner interface team, to provide for rapid response inspection and sample collection services for residential or commercial properties that were affected by, or suspected of being affected by the spill.

### **2015 Environmental Services ISID, SE Michigan District, former Oakland Appliance**

The scope of services was to provide professional design services for the investigation/installation of a vapor intrusion (VI) mitigation system. ATC designed and installed a VI mitigation system design to provide a long term solution to address elevated VOC (TCE) concentrations in soil gas. Based on ATC's evaluation of the data, a cost

effective, two part design solution was developed, with a passive VI mitigation system in the eastern 2/3 of the site building, and an active system consisting of three suction points and a sized extraction fan to create negative sub-slab pressures in the western portion of the building. A

### **2017 Tank and Soil Removal ISID**

Managed thirteen (13) Tank and Soil removal projects on behalf of EGLE/RRD between October 2017 and January 2021. Sites were identified by EGLE/RRD, and ATLAS acted as the primary contractor overseeing the excavation, transport and disposal of the orphan tanks and any associated impacted soils. Soil verification samples were collected from each excavation and project summary report was prepared for each.

### **Brownfield Redevelopment Project, Taylor, Michigan**

Conducted Phase I and II ESAs at a former auto parts manufacturing facility and, based on the results of the Phase II ESA, determined that the site qualified as a facility. Prepared a Category N BEA and applied for Brownfield funding for the site. The BEA was subsequently affirmed, and grant monies awarded, which provided for the demolition of the former manufacturing facility and cleanup of the site. Provided environmental oversight during demolition of abandoned manufacturing facility. Prepared Remedial Action Plan (RAP) to obtain site closure for client.

### **Industrial Facility, Phase I and II ESAs, Due Care Plan, Hexavalent Chromium Assessment, South Haven, Michigan**

Performed Phase I and II ESAs and, based on the results of the Phase II ESA, determined that the site qualified as a facility. Although client



did not qualify for BEA protection, prepared a Section 7a Due Care Plan for the site.

**Brine Release Investigation, Tuscola County, Michigan**

Provided oversight and management for the delineation of a brine plume using non-intrusive, geophysical methods. Confirmed the plume outline by installing groundwater monitoring wells; initiated the annual groundwater monitoring program. Prepared and submitted annual reports to the MDEQ, Office of Oil, and Gas & Minerals. Designed and submitted the brine recovery remediation system to client.

**Confidential Client, Annual Water Quality Testing and Reporting, Various Sites, Michigan**

Provide oversight and management for confidential client of annual water quality testing and reporting for seven Type II non-transient public water systems.

**Confidential Client, Semi-Annual Discharge Sampling and Reporting, Detroit, Michigan**

Assist confidential client comply with requirements for discharge to the Detroit Water and Sewerage Department (DWSD) combined system. Requirements include semi-annual sampling, the compiling of discharge data, and the submission of a Six-Month Report to the DWSD.

**Confidential Client, Underground Utility Vault Cleanouts, Detroit, Michigan**

Assist confidential client with scheduled and/or emergency responses to requests for vault cleanout to provide a clean and healthy work environment for client personnel. Vault cleanout requires confined space entry.

**Various Clients, LUST Sites, Michigan**

Provided consulting services for confidential insurance company who's trucking company client had overfilled an UST system, creating a release. Planned and provided oversight for the removal of three USTs, the excavation and disposal of a total of 3,380-tons of contaminated soil, the installation of a 3-compartment, fiberglass storage tank to replace the original system, and the restoration to the site to its original contours. Prepared a closure report which resulted in the successful closure of the release.

**Petroleum Spill, Chesterfield Township, Michigan**

Provided consulting services for confidential insurance company whose trucking company client had overturned a tank truck on I-94 in Chesterfield Township, spilling 4,000-gallons

of gasoline. Planned and provided oversight for the excavation and disposal of a total of 2,543-tons of contaminated soil; planned and conducted a subsurface investigation to verify that all impacted soil and groundwater had been successfully removed; prepared a closure report which resulted in the successful closure of the release.

**Phase I ESA, Former MC (PC) ROW, Saline, Michigan**

Performed site reconnaissance, historical research, and report preparation for former Michigan Central (Penn Central) right-of-way through the Village of Saline, Michigan. Recommended Phase II ESA based on adjoining property usage.

**Oryx Energy/Sun E&P Company, Gulf of Mexico and Michigan**

Responsible for subsurface geological characterization (site assessment) integrating geological and geophysical data. Conducted feasibility and risk assessment to determine degree of corporate participation. Coordinated and provided oversight for well construction, including lithology descriptions, porosity determinations, and water table elevations for proper screen placement. Prepared project summary reports documenting findings for client and Michigan Department of Natural Resources (MDNR).

**ANR Storage Company, Michigan, Kansas, Texas**

Responsible for subsurface geological characterization (site assessment) integrating geological and geophysical data. Designed and coordinated the construction of leak detection monitoring (observation) wells. Provided oversight for monitor (observation) well and injection well construction, including lithology descriptions, porosity determinations, and water table elevations for proper screen placement. Evaluated annual monitoring data to determine migration rate of hydrocarbon plume. Prepared project summary reports documenting findings for client and MDNR.

# Ann O'Brien

## Environmental Due Diligence Manager

### OFFICE LOCATION

Novi, Michigan

### EDUCATION

BS, Earth Science 1990  
BS Geology 1992  
Eastern Michigan University

### SPECIALIZED TRAINING

40-Hour HAZWOPER Training  
29 CFR 1910.120 OSHA

8-Hour HAZWOPER Refresher

### HIRE DATE

05/2021

Prior ATC Employment  
1996-2000

### EXPERIENCE PRIOR TO JOINING ATLAS

20+

### EXPERIENCE & RESPONSIBILITIES

Ann is the Environmental Due Diligence Manager for ATC Group Services LLC (ATC), she has over 20 years of comprehensive experience in the environmental consulting service industry. Ms. O'Brien's experience includes oversight of assessment projects including Phase I ESAs, Phase II Subsurface Investigations, BEAs, and Superfund Amendment Reauthorization Act Tier II reporting; and, MDEQ Part 201 Environmental Remediation and Part 213 Leaking Underground Storage Tank site investigations and closures. Resource Conservation and Recovery Act (RCRA) experience includes preparation and implementation of a post closure plan; RCRA Facility Investigation. Remedial activities include soil vapor extraction; air sparge; biostimulation; bioaugmentation; vacuum enhanced recovery; in-situ chemical oxidation, and, dual phase extraction system with horizontal well installation.

Ann has been responsible for reviewing site data, designing site assessment and remediation plans preparing work scopes, calculating associated costs, and managing work. These projects include the site assessment, remediation and site closure of properties with soil, soil vapor, and groundwater impacted by chemical compounds associated with sites including industrial, manufacturing sites, landfills, and commercial, and governmental properties.

### PROJECT EXPERIENCE

#### Phase I and II Environmental Site Assessments (ESA) - Numerous Clients, Michigan

Completion of Phase I and Phase II ESAs for residential, commercial and industrial clients within Michigan. Duties and responsibilities included proposal preparation, project set up, client/site owner liaison, property reconnaissance, regulatory records review,

#### Underground Storage Tank (UST) and Leaking Underground Storage Tank (LUST) Sites, Michigan, Ohio, Indiana

Environmental/Petroleum Manager primary point of contact, responsible for oversight of environmental staff, and ultimately responsible for a significant portion of coordination for over multiple LUST sites and other regulated facilities in Michigan, Ohio, and Indiana. Primary role responsibilities include construction oversight, management and documentation of UST removal and/or upgrade projects. These projects included management of preliminary pre-construction site assessments; estimation of soil excavation and dewatering requirements and associated management costs; implementing environmental and construction permit acquisitions, and associated compliance monitoring and reporting. Projects also included comprehensive senior technical review of subcontractor bid specifications and pricing

documents; human health risk assessments; and the preparation and submittal of UST removal notifications and reports in order to maintain regulatory compliance.

#### Part 213 Investigations, Numerous Clients Michigan

Completion of MDEQ Part 213 Leaking Underground Storage Tank Closure reports for sites with reported petroleum releases. Tasks included supervision of UST removal activities; collection of soil; quarterly groundwater monitoring events and data evaluation, monthly LNAPL monitoring events, system operation and maintenance and development of corrective action plans.

#### Part 201 State of Michigan: Numerous Clients Michigan

Project manager responsible for the coordination, planning and implementation of environmental services. Primary responsibilities included preparing cost estimates, contractor procurement, work plan review, management of field staff and communication. UST Removal, excavation, soil and ground water investigation. Reporting requirements to maintain regulatory compliance.

## Ryann Scott

Project Scientist

### OFFICE LOCATION

Novi, Michigan

### EDUCATION

BS, Environmental Geosciences,  
Michigan State University, 2003

### CERTIFICATIONS

Environmental Professional per  
EPA's "All Appropriate Inquiry  
Rule"

40-Hour Hazardous Waste  
Operations and Emergency  
Response Certification  
(OSHA)\8-Hour Refresher

AHERA Asbestos Building  
Inspector; State of Michigan EPA  
Accredited Asbestos Inspector,  
MI#A55737

Risk-based Corrective Action at  
Petroleum Release Sites

Resource Conservation and  
Recovery Act (RCRA) Hazardous  
Waste Training

### HIRE DATE

10/2019

### EXPERIENCE PRIOR TO JOINING ATLAS

15

### EXPERIENCE & RESPONSIBILITIES

Ryann Scott is a Project Scientist with Atlas Technical Consultants LLC (Atlas) and has over 17 years of experience in the environmental consulting field. Ms. Scott's experience includes assessment projects consisting of Phase I Environmental Site Assessments (ESAs), Phase II Subsurface ESAs, Transaction Screens, Baseline Environmental Assessments (BEAs), Due Care Plans (DCPs), Restrictive Covenants, and extensive experience with the Michigan Department of Environment, Great Lakes, and Energy (EGLE) Part 201 Environmental Remediation and Part 213 Leaking Underground Storage Tank site investigations and closures. Ms. Scott also has experience with Resource Conservation and Recovery Act (RCRA) Corrective Actions including generation of Description of Current Conditions and Interim Measures Report (CCR) and RCRA Corrective Action Facility Investigation Work Plan (RFI).

### PROJECT EXPERIENCE

#### Phase I/ Phase II Environmental Site Assessments (ESAs)

Completed Phase I ESAs, some of which have included asbestos, lead based paint, radon and mold sampling. Types of ESAs include:

- Commercial and industrial properties throughout Michigan.
- Various Industrial / manufacturing / automotive facilities throughout Michigan.
- Retail businesses and restaurants throughout Michigan.
- Various gasoline stations and automotive related projects throughout Michigan.
- Numerous parcels of undeveloped and/or agricultural property of various sizes in Michigan.
- Apartment complexes and various apartment buildings throughout Michigan.

#### Underground Storage Tank Closures

- Completion of EGLE Part 213 Leaking Underground Storage Tank (LUST) Closure Reports for sites with reported petroleum releases.
- Tasks completed included preparation of various reports required by EGLE in order to keep client in compliance with applicable regulations; supervision of UST removal activities; collection of verification soil remediation samples; groundwater monitoring events and data evaluation; monthly light non-aqueous phase liquid (LNAPL) monitoring events; system operation

and maintenance; development of corrective action plans; and preparation of Conceptual Site Models (CSMs).

#### RCRA Facility Investigation

Currently serving as project manager for CCR and RFI of a former chemical research and development facility encompassing approximately 32 acres in the metropolitan Detroit area. Scoped multiple phases of the RFI in a strategically-implemented stepwise progression, with focus on the eastern boundary of the property, at the direction of EGLE. Emphasis was placed upon the eastern boundary due to the presence of volatile organic chemicals in groundwater and soil gas, particularly trichloroethylene (TCE), and its potential for migrating towards a residential community located immediately east of the facility boundary.



# Madelyn Haas

Field Geologist

## OFFICE LOCATION

Novi, Michigan

## EDUCATION

BS, Environmental Sustainability and Resource Management, Auburn Hills, Michigan

## CERTIFICATIONS

40-hour Hazardous Waste Training Certification (OSHA), original certification acquired 8-hour Refresher

CPR/AED First Aid

## HIRE DATE

06/2021

## EXPERIENCE PRIOR TO JOINING ATLAS

0

## EXPERIENCE & RESPONSIBILITIES

Madelyn is a Field Geologist for Atlas' Novi, Michigan office. She has 1 year of experience in the petroleum and environmental consulting industries. She is responsible for the facilitation and completion of fieldwork, emergency response field investigations and remediation, and providing project oversight for various remediation and drilling jobs.

She has experience in groundwater sampling equipment and procedures. She has had the opportunity to learn the coordination of monitoring well installation, and collection of soil samples for various projects including LUST projects and Phase II site assessments. She has been involved in the sampling of various soil vapor intrusion points both indoor and outdoor. Ms. Haas also has experience with remediation system sampling.

She has also been trained on oversight of UST removal and sampling, soil excavation oversight and coordination with on-site contractors, and underground utility vault cleanouts. She has been involved in AT&T vault sampling events.

## PROJECT EXPERIENCE

Leaking Underground Storage Tank Response Investigation and Remediation / Retail Petroleum Clients throughout Michigan / 2021-Present. Field Geologist for Leaking Underground Storage Tank (LUST) projects, including removal and in-place closures, contaminant delineation, and remediation in accordance with Risk-Based Corrective Action (RBCA) procedures. Implemented the investigation, delineation and remediation of phase separated, adsorbed, and dissolved phase hydrocarbon plumes from the release of gasoline and diesel fuel at retail petroleum facilities.

Emergency Spill Response Investigations and Remediation / Transportation Clients throughout Michigan / 2021 - present, provided oversight, sampling and reporting for Emergency Response Spill Cleanup projects. The cleanups involve interfacing and coordination with the client, and remediation contractors.





## **APPENDIX B**

### ***Geophysical Survey Report***

April 15, 2022

Gerard DeBusschere  
Atlas  
46555 Humboldt Drive, Suite 100  
Novi, MI 48377

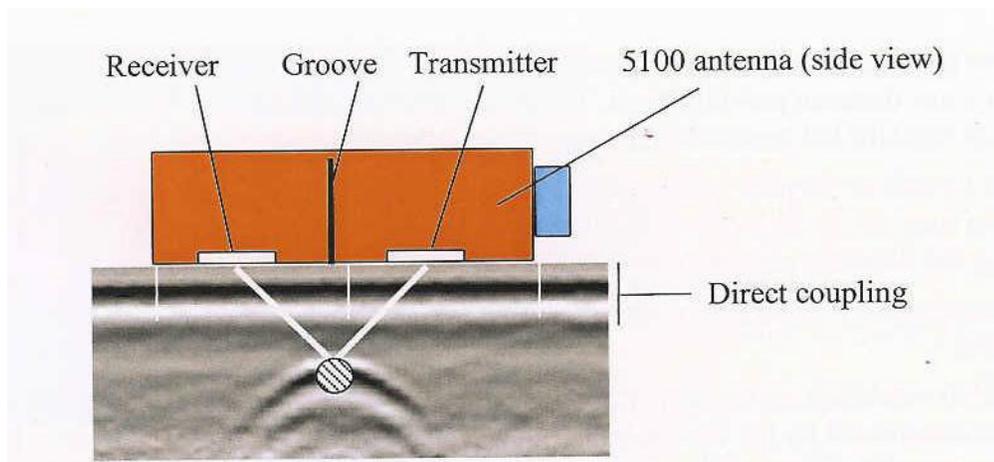
**Survey Site:** City of Ann Arbor-2000 South Industrial Drive-Ann Arbor, MI

**Project Objective:**

Utilize GPR/EM to investigate for the location of any obstructing utilities in the areas of the proposed soil boring locations along with a 50 feet perimeter of the existing building for evidence of remaining underground storage tanks.

**GPR Information and Background:**

GPR has been used extensively in the past for geological and archeological exploration and mapping; however, it has only been since 2001 that GPR had the capability to image shallow targets. The system used for this project has the ability to image targets to a depth of 12 feet with an accuracy of  $\pm 2$  inches. The 350 MHz antenna broadcasts a microwave energy pulse of less than  $1/6^{\text{th}}$  watt at a rate of 100 ns. This energy pulse is timed as it propagates through a material noting when a return pulse arrives. The time and strength of the return pulse is captured and analyzed and interpreted graphically. This process is shown in the figure of a 1500 MHz antenna below.



### **Project Procedures:**

Scans were completed at 3-5 feet intervals from west to east and from south to north throughout the survey area.

Ryann Scott of Atlas was on site to verify proposed boring locations.

All data was collected on April 12, 2022.

### **Project Results:**

The data collected determined no anomalies indicative of remaining underground storage tanks in the survey area. The following utilities were marked on site: sewer in green, water in blue, electric in red, and natural gas in yellow. There was one unknown utility found just below the concrete floor near one of the proposed boring locations. This unknown utility was marked in red crayon.

All results of the data collected are documented in the attached pictures.

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Sincerely,



Nick Schwartz  
Facility Management Consultants International  
[nick@facilitiescompliance.com](mailto:nick@facilitiescompliance.com)  
(616) 730-3331

Image shows storm sewer marked in green.



Image shows storm sewer marked in green and cleared boring location.



Image shows electric marked in red.



Image shows cleared boring location.



Image shows cleared boring location inside the building.



Image shows cleared boring location in orange and unknown utility marked in red crayon.

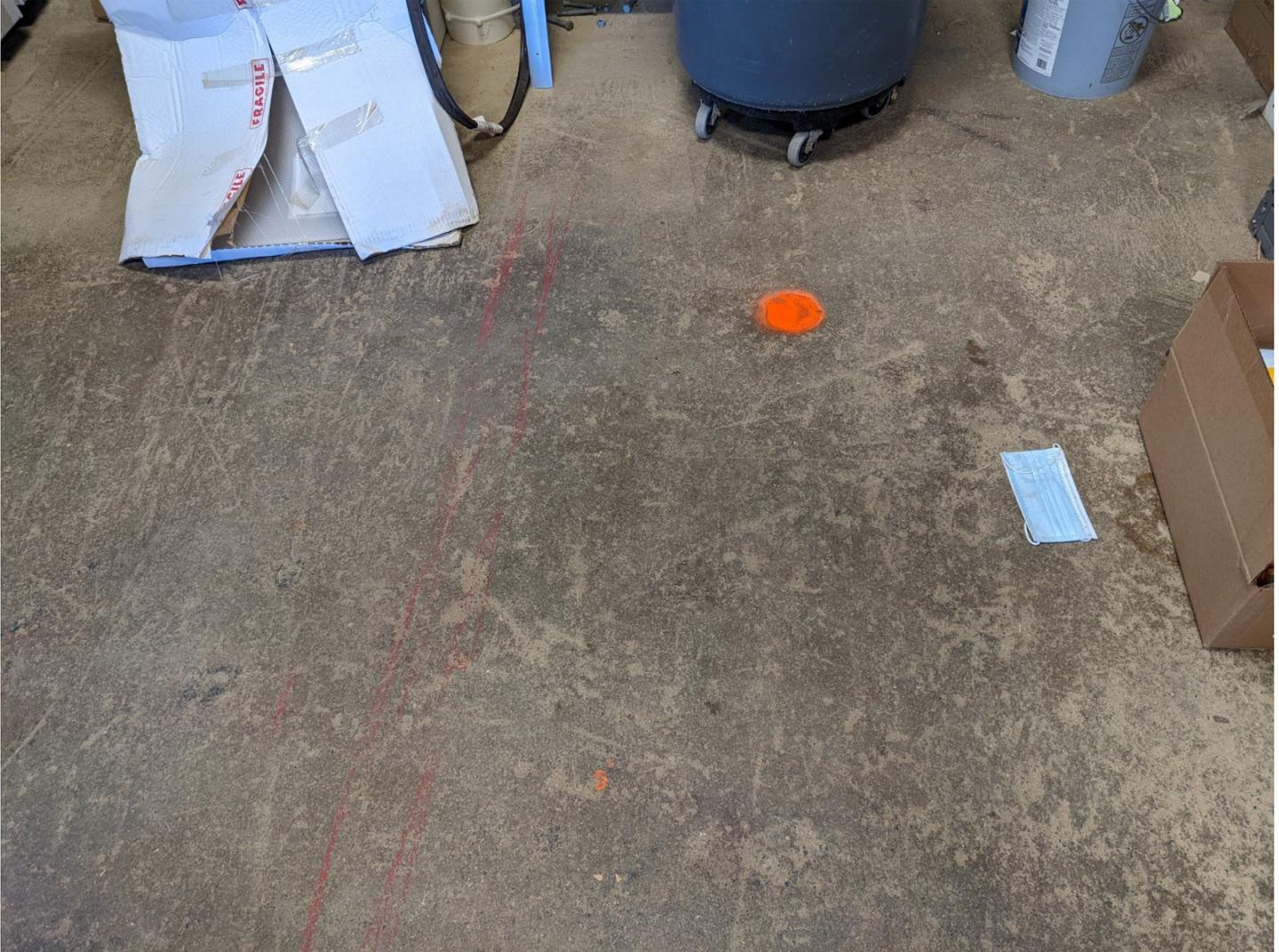


Image shows electric marked in red.



Image shows sewer marked in green.



Image shows sewer marked in green.



Image shows natural gas marked in yellow.



Image shows sewer marked in green.



Image shows natural gas in yellow.



Image shows electric marked in red and water marked in blue.

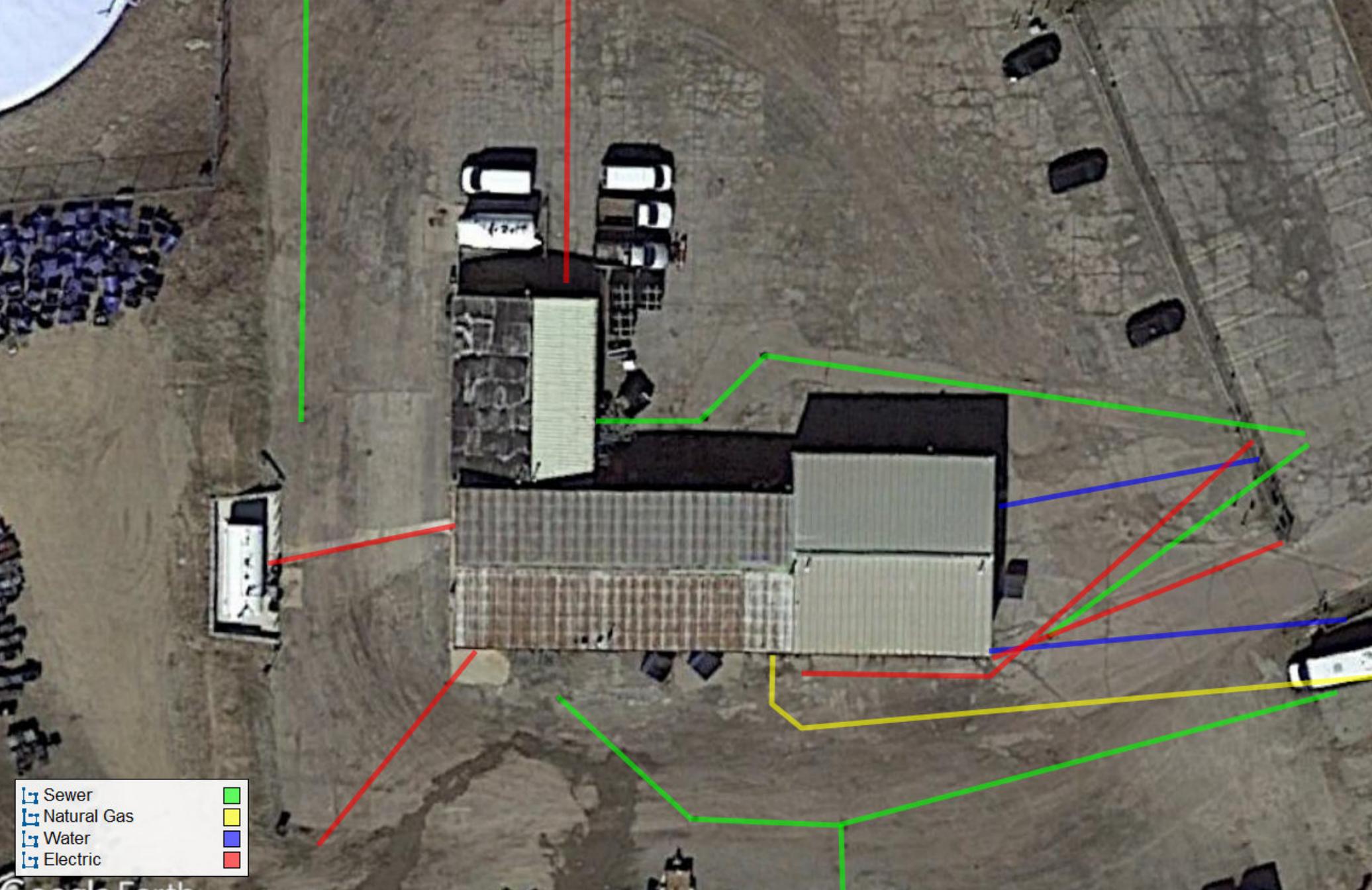


Image shows electric marked in red and water in blue.

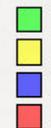


Image shows water marked in blue.





- Sewer
- Natural Gas
- Water
- Electric





**APPENDIX C**  
*Soil Boring Logs*



# Monitoring Well Log

46555 Humboldt Drive  
 Suite 100  
 Novi, MI 48377  
 Phone: (248) 669-5140

**Project Name:** Ann Arbor Affordable Housing Corp  
**Site Location:** 2050 S. Industrial Highway  
**City, State:** Ann Arbor, Michigan  
**Boring Diameter:** 4" HA, 2.25" MC, 4.25" HSA  
**Drilling Method:** Hand Auger/GeoProbe/Auger

**Boring Number:** GP/TMW-1 **Page:** 1 of 1  
**Start Date:** 04/19/22 **End Date:** 04/19/22  
**Casing:** Schedule 40 PVC  
**Casing Diameter:** 2" **Length:** 10'  
**Screen Slot Size:** 0.010"  
**Screen Diameter:** 2" **Length:** 5'

FEET (bgs)	SAMPLE TYPE	SAMPLE INTERVAL (bgs)	SAMPLE TIME	Rec.	Graphic	LITHOLOGY DESCRIPTION	PID PPMV	Well Construction
0						Asphalt		Asphalt
1								Filter Sand
2						SAND - fine to medium grained, brown, damp	0.0	Bentonite
3	Grab	3-4'	0915	100%				Well Casing
4						SAND - fine to medium grained, brown, wet	0.0	Filter Sand
5								Well Screen
6						SAND - fine to medium grained, brown, saturated	0.0	
7								
8				100%		SANDY CLAY - fine to medium grained sand, trace gravel, gray, damp/wet	0.0	
9						SANDY CLAY - fine to medium grained sand, trace gravel, brown/gray, damp/wet	0.0	
10								
11								
12				100%		SILTY CLAY - with little fine to medium grained sand, trace gravel, dense, moist, semi-plastic	0.0	Bentonite
13								
14								
15								

EOB @ 15'

(HA) = HAND AUGER (AK) = AIR KNIFE (DS) = DISTURBED SAMPLE (GP) = GEOPROBE Clay  Gravel	<b>Borehole Observations</b>	(Rec.) = RECOVERY (EOB) = END OF BORING
	Depth to water during drilling: <u>NA</u> Depth to water after drilling: <u>NA</u> Backfill: <u>NA</u>	(bgs) = Below Ground Surface (NR) = NO RECOVERY  Water Table (NA) = NOT APPLICABLE
Logged by: <u>RS</u> Drawn by: <u>RS</u> Checked by:	Drilling Co.: <u>Fibertec</u> Drill Rig Type: <u>Hand Auger + GeoProbe 6620</u>	Driller: <u>Rhex</u> Assistant: <u>Kody</u>



# Monitoring Well Log

46555 Humboldt Drive  
 Suite 100  
 Novi, MI 48377  
 Phone: (248) 669-5140

**Project Name:** Ann Arbor Affordable Housing Corp.  
**Site Location:** 2050 S. Industrial Highway  
**City, State:** Ann Arbor, Michigan  
**Boring Diameter:** 4" HA, 2.25" MC, 4.25" HSA  
**Drilling Method:** Hand Auger/GeoProbe/Auger

**Boring Number:** GP/TMW-2  
**Start Date:** 04/19/22  
**Casing:** Schedule 40 PVC  
**Casing Diameter:** 2" **Length:** 10'  
**Screen Slot Size:** 0.010"  
**Screen Diameter:** 2" **Length:** 5'

**Page:** 1 of 1  
**End Date:** 04/19/22

FEET (bgs)	SAMPLE TYPE	SAMPLE INTERVAL (bgs)	SAMPLE TIME	Rec.	Graphic	LITHOLOGY DESCRIPTION	PID PPMV	Well Construction
0						Asphalt	0.0	Asphalt
1							0.0	Filter Sand
2							0.0	
3				100%		SANDY CLAY - fine to medium grained sand and gravel, brown, damp	0.0	Bentonite
4	Grab	(3.5-4.5')	1011				0.0	Well Casing
5						GRAVEL - large, saturated	0.0	
6							0.0	Well Screen
7				100%		SANDY CLAY - fine to coarse grained sand with some gravel, gray/brown, saturated	0.0	
8							0.0	
9							0.0	
10				100%		SILTY CLAY - with fine to medium grained sand, gray, wet	0.0	
11							0.0	
12							0.0	
13							0.0	
14							0.0	
15				100%		SILTY CLAY - with little fine grained sand and trace gravel, brown/gray, dense, semi-plastic, moist	0.0	Bentonite
16							0.0	
17							0.0	
18							0.0	
19							0.0	
20							0.0	

EOB @ 20'

(HA) = HAND AUGER (AK) = AIR KNIFE (DS) = DISTURBED SAMPLE (GP) = GEOPROBE Clay  Gravel	<b>Borehole Observations</b>	(Rec.) = RECOVERY (EOB) = END OF BORING
	Depth to water during drilling: NA Depth to water after drilling: NA Backfill : NA	(bgs) = Below Ground Surface (NR) = NO RECOVERY (NA) = NOT APPLICABLE
<b>Logged by:</b> RS <b>Drawn by:</b> RS <b>Checked by:</b>	<b>Drilling Co.:</b> Fibertec <b>Drill Rig Type:</b> Hand Auger + GeoProbe 6620	<b>Driller:</b> Rhex <b>Assistant:</b> Kody



# Monitoring Well Log

46555 Humboldt Drive  
Suite 100  
Novi, MI 48377  
Phone: (248) 669-5140

**Project Name:** Ann Arbor Affordable Housing Corp.  
**Site Location:** 2050 S. Industrial Highway  
**City, State:** Ann Arbor, Michigan  
**Boring Diameter:** 4" HA, 2.25" MC, 4.25" HSA  
**Drilling Method:** Hand Auger/GeoProbe/Auger

**Boring Number:** GP/TMW-3  
**Start Date:** 04/19/22  
**End Date:** 04/19/22  
**Casing:** Schedule 40 PVC  
**Casing Diameter:** 2" **Length:** 10'  
**Screen Slot Size:** 0.010"  
**Screen Diameter:** 2" **Length:** 5'

Page: 1 of 1

FEET (bgs)	SAMPLE TYPE	SAMPLE INTERVAL (bgs)	SAMPLE TIME	Rec.	Graphic	LITHOLOGY DESCRIPTION	PID PPMV	Well Construction
0						Asphalt	0.0	Asphalt
1				100%		FILL SAND and CRUSHED LIMESTONE	1.5	Filter Sand
2				100%		CLAY - black/gray with some coarse grained sand		
3				100%		SANDY CLAY - black with fine grained sand and some gravel, little debris (wood chips), moist	47.6	Bentonite
4				100%		SILTY CLAY - gray/green with little fine grained sand, dense, moist, semi-plastic	362.1	Well Casing
5	Grab	(4-5')	1105					
6				100%		SANDY CLAY - gray/black, some silt and fine to medium grained sand and little gravel, saturated	776.5	Well Screen
8				100%		SAND - coarse grained with gravel, brown/gray, saturated	132.0	
9							58.2	
11				100%		SILTY SAND - very fine grained sand, brown, saturated	27.2	
12							5.6	
15				100%		SILTY CLAY - with little fine grained sand and trace gravel, brown/gray, dense, semi-plastic, moist	1.4	Bentonite
18							0.0	

EOB @ 20'

(HA) = HAND AUGER (AK) = AIR KNIFE (DS) = DISTURBED SAMPLE (GP) = GEOPROBE Clay  Gravel	<b>Borehole Observations</b>	(Rec.) = RECOVERY (EOB) = END OF BORING
	Depth to water during drilling: NA Depth to water after drilling: NA Backfill : NA	(bgs) = Below Ground Surface (NR) = NO RECOVERY (NA) = NOT APPLICABLE
Logged by: RS Drawn by: RS Checked by:	Drilling Co.: Fibertec Drill Rig Type: Hand Auger + GeoProbe 6620	Driller: Rhex Assistant: Kody



# Monitoring Well Log

46555 Humboldt Drive  
Suite 100  
Novi, MI 48377  
Phone: (248) 669-5140

**Project Name:** Ann Arbor Affordable Housing Corp.  
**Site Location:** 2050 S. Industrial Highway  
**City, State:** Ann Arbor, Michigan  
**Boring Diameter:** 4" HA, 2.25" MC, 4.25" HSA  
**Drilling Method:** Hand Auger/GeoProbe/Auger

**Boring Number:** GP/TMW-4  
**Start Date:** 04/19/22  
**Casing:** Schedule 40 PVC  
**Casing Diameter:** 2" **Length:** 10'  
**Screen Slot Size:** 0.010"  
**Screen Diameter:** 2" **Length:** 5'

**Page:** 1 of 1  
**End Date:** 04/19/22

FEET (bgs)	SAMPLE TYPE	SAMPLE INTERVAL (bgs)	SAMPLE TIME	Rec.	Graphic	LITHOLOGY DESCRIPTION	PID PPMV	Well Construction
0	Grab	3-4'	0915			Concrete		Concrete
1						SANDY CLAY - fine to medium grained sand and gravel, dk brown	1.8	Filter Sand
2				100%		SILTY CLAY - black/green with trace sand and gravel, dense, moist, semi-plastic	95.1	Bentonite
3								
4				100%		SANDY CLAY - dark gray with fine to medium grained sand and gravel, moist	291.4	Well Casing
5								
6				100%	▼	SAND - coarse grained with gravel and some clay, gray, saturated	12.4	Filter Sand
7							1.2	Well Screen
8								
9				100%		SILTY SAND - fine grained sand with little clay, gray, saturated	0.0	
10								

EOB @ 10'

(HA) = HAND AUGER (AK) = AIR KNIFE (DS) = DISTURBED SAMPLE (GP) = GEOPROBE Clay  Gravel	<b>Borehole Observations</b>	(Rec.) = RECOVERY	(EOB) = END OF BORING
	Depth to water during drilling: NA Depth to water after drilling: NA Backfill : NA	(bgs) = Below Ground Surface	(NR) = NO RECOVERY
Logged by: RS Drawn by: RS Checked by:	Drilling Co.: Fibertec Drill Rig Type: Hand Auger + GeoProbe 6620	Driller: Rhex Assistant: Kody	(NA) = NOT APPLICABLE



# Monitoring Well Log

46555 Humboldt Drive  
Suite 100  
Novi, MI 48377  
Phone: (248) 669-5140

**Project Name:** Ann Arbor Affordable Housing Corp.  
**Site Location:** 2050 S. Industrial Highway  
**City, State:** Ann Arbor, Michigan  
**Boring Diameter:** 4" HA, 2.25" MC, 4.25" HSA  
**Drilling Method:** Hand Auger/GeoProbe/Auger

**Boring Number:** GP/TMW-5 **Page:** 1 of 1  
**Start Date:** 04/19/22 **End Date:** 04/19/22  
**Casing:** Schedule 40 PVC  
**Casing Diameter:** 2" **Length:** 10'  
**Screen Slot Size:** 0.010"  
**Screen Diameter:** 2" **Length:** 5'

FEET (bgs)	SAMPLE TYPE	SAMPLE INTERVAL (bgs)	SAMPLE TIME	Rec.	Graphic	LITHOLOGY DESCRIPTION	PID PPMV	Well Construction		
0	Grab	4-5'	1316			Concrete		Concrete		
1									Filter Sand	
2				100%				SILTY CLAY - black and green with little sand, dense, moist, semi-plastic	1.5	Bentonite
3									11.2	
4				100%				SILTY SAND - fine grained sand with little gravel, gray with some black, damp/wet	33.3	Well Casing
5									1.9	Filter Sand
6				100%				SAND - coarse grained with gravel and some clay, gray (black 5-5.5'), saturated	1.2	Well Screen
7						0.0				
8						0.0				
9										
10						SILTY SAND - fine grained sand with little clay, gray, saturated	0.0			

EOB @ 10'

(HA) = HAND AUGER (AK) = AIR KNIFE (DS) = DISTURBED SAMPLE (GP) = GEOPROBE Clay  Gravel	<b>Borehole Observations</b>		(Rec.) = RECOVERY	(EOB) = END OF BORING
	Depth to water during drilling: <u>NA</u>		(bgs) = Below Ground Surface	
	Depth to water after drilling: <u>NA</u>		(NR) = NO RECOVERY	Water Table
	Backfill : <u>NA</u>		(NA) = NOT APPLICABLE	
Logged by: <u>RS</u>	Drilling Co.: <u>Fibertec</u>		Driller: <u>Rhex</u>	
Drawn by: <u>RS</u>	Drill Rig Type: <u>Hand Auger + GeoProbe 6620</u>		Assistant: <u>Kody</u>	
Checked by:				



# Soil Boring Log

46555 Humboldt Drive  
Suite 100  
Novi, MI 48377  
Phone: (248) 669-5140

**Project Name:** Ann Arbor Affordable Housing Corp.      **Boring Number:** HA-1      **Page:** 1 of 1  
**Site Location:** 2050 S. Industrial Highway      **Start Date:** 04/19/22      **End Date:** 04/19/22  
**City, State:** Ann Arbor, Michigan      **Casing:** NA  
**Boring Diameter:** 4" HA      **Casing Diameter:** NA      **Length:** NA  
**Drilling Method:** Hand Auger      **Screen Slot Size:** NA  
**Screen Diameter:** NA      **Length:** NA

FEET (bgs)	SAMPLE TYPE	SAMPLE INTERVAL (bgs)	SAMPLE TIME	Rec.	Graphic	LITHOLOGY DESCRIPTION	PID PPMV	Well Construction	
0	Grab	2-3'	1352	100%		Concrete			
1						SAND - medium to coarse grained with some clay, moist, brown	0.2		
2							2.1		
3						SILTY CLAY - brown/gray with little sand, dense, semi-plastic, wet @ 5'	0.5		
4			100%				0.1		
5	EOB @ 5'								
6									
7									
8									
9									
10									

(HA) = HAND AUGER (AK) = AIR KNIFE (DS) = DISTURBED SAMPLE (GP) = GEOPROBE Clay     Gravel	<b>Borehole Observations</b>	(Rec.) = RECOVERY      (EOB) = END OF BORING
	Depth to water during drilling: <u>NA</u>	(bgs) = Below Ground Surface
	Depth to water after drilling: <u>NA</u>	(NR) = NO RECOVERY       Water Table
	Backfill : <u>NA</u>	(NA) = NOT APPLICABLE
Logged by: <u>RS</u>	Drilling Co.: <u>Fibertec</u>	Driller: <u>Rhex</u>
Drawn by: <u>RS</u>	Drill Rig Type: <u>Hand Auger</u>	Assistant: <u>Kody</u>
Checked by:		



# Soil Gas Monitoring Point Log

46555 Humboldt Drive  
Suite 100  
Novi, MI 48377  
Phone: (248) 669-5140

**Project Name:** Ann Arbor Affordable Housing Corp.  
**Site Location:** 2050 S. Industrial Highway  
**City, State:** Ann Arbor, Michigan  
**Boring Diameter:** 4" HA, 2.25" MC, 4.25" HSA  
**Drilling Method:** Hand Auger/GeoProbe/Auger

**Boring Number:** SG-5 (GP/TMW-2) **Page:** 1 of 1  
**Start Date:** 04/19/22 **End Date:** 04/19/22  
**Casing:** Teflon Tubing  
**Casing Diameter:** 1/4" Tubing **Length:** 3'  
**Screen Slot Size:** 0.010"  
**Screen Diameter:** 1" **Length:** 6"

FEET (bgs)	SAMPLE TYPE	SAMPLE INTERVAL (bgs)	SAMPLE TIME	Rec.	Graphic	LITHOLOGY DESCRIPTION	PID PPMV	Well Construction
0						Asphalt	0.0	Asphalt
1						SANDY CLAY - fine to medium grained sand and gravel, brown, damp	0.0	1/4" Teflon Tubing
2					100%		0.0	Bentonite
3							0.0	Screen (3-3.5')
4							0.0	Filter Sand
5						GRAVEL - large, saturated	0.0	
6						SANDY CLAY - fine to coarse grained sand with some gravel, gray/brown, saturated	0.0	Bentonite
7					100%		0.0	
8							0.0	
9							0.0	
10						SILTY CLAY - with fine to medium grained sand, gray, wet	0.0	
11					100%		0.0	
12							0.0	
13							0.0	
14						SILTY CLAY - with little fine grained sand and trace gravel, brown/gray, dense, semi-plastic, moist	0.0	
15					100%		0.0	
16							0.0	
17							0.0	
18							0.0	
19							0.0	
20							0.0	

EOB @ 20'

(HA) = HAND AUGER (AK) = AIR KNIFE (DS) = DISTURBED SAMPLE (GP) = GEOPROBE 	<b>Borehole Observations</b> Depth to water during drilling: NA Depth to water after drilling: NA Backfill : NA	(Rec.) = RECOVERY (EOB) = END OF BORING (bgs) = Below Ground Surface (NR) = NO RECOVERY <span style="color: blue;">▼</span> Water Table (NA) = NOT APPLICABLE
<b>Logged by:</b> RS <b>Drawn by:</b> RS <b>Checked by:</b>	<b>Drilling Co.:</b> Fibertec <b>Drill Rig Type:</b> Hand Auger + GeoProbe 6620	<b>Driller:</b> Rhex <b>Assistant:</b> Kody



# Soil Gas Monitoring Point Log

46555 Humboldt Drive  
Suite 100  
Novi, MI 48377  
Phone: (248) 669-5140

**Project Name:** Ann Arbor Affordable Housing Corp.  
**Site Location:** 2050 S. Industrial Highway  
**City, State:** Ann Arbor, Michigan  
**Boring Diameter:** 4" HA, 2.25" MC, 4.25" HSA  
**Drilling Method:** Hand Auger/GeoProbe/Auger

**Boring Number:** SG-6 (GP/TMW-3)      **Page:** 1 of 1  
**Start Date:** 04/19/22      **End Date:** 04/19/22  
**Casing:** Teflon Tubing  
**Casing Diameter:** 1/4" Tubing      **Length:** 3'  
**Screen Slot Size:** 0.010"  
**Screen Diameter:** 1"      **Length:** 6"

FEET (bgs)	SAMPLE TYPE	SAMPLE INTERVAL (bgs)	SAMPLE TIME	Rec.	Graphic	LITHOLOGY DESCRIPTION	PID PPMV	Well Construction
0						Asphalt	0.0	Asphalt
1				100%		FILL SAND and CRUSHED LIMESTONE	1.5	Bentonite
2				100%		CLAY - black/gray with some coarse grained sand		1/4" Teflon Tubing
3				100%		SANDY CLAY - black with fine grained sand and some gravel, little debris (wood chips), moist	47.6	Screen (3-3.5') Filter Sand
4				100%		SILTY CLAY - gray/green with little fine grained sand, dense, moist, semi-plastic	362.1	
5								
6				100%		SANDY CLAY - gray/black, some silt and fine to medium grained sand and little gravel, saturated	776.5	
7								
8				100%		SAND - coarse grained with gravel, brown/gray, saturated	132.0	
9							58.2	Bentonite
10				100%		SILTY SAND - very fine grained sand, brown, saturated	27.2	
11								
12							5.6	
13								
14								
15				100%		SILTY CLAY - with little fine grained sand and trace gravel, brown/gray, dense, semi-plastic, moist	1.4	
16								
17								
18								
19							0.0	
20								

EOB @ 20'

(HA) = HAND AUGER (AK) = AIR KNIFE (DS) = DISTURBED SAMPLE (GP) = GEOPROBE Clay       Gravel	<b>Borehole Observations</b> <b>Depth to water during drilling:</b> NA <b>Depth to water after drilling:</b> NA <b>Backfill:</b> NA	(Rec.) = RECOVERY      (EOB) = END OF BORING (bgs) = Below Ground Surface (NR) = NO RECOVERY       Water Table (NA) = NOT APPLICABLE
<b>Logged by:</b> RS <b>Drawn by:</b> RS <b>Checked by:</b>	<b>Drilling Co.:</b> Fibertec <b>Drill Rig Type:</b> Hand Auger + GeoProbe 6620	<b>Driller:</b> Rhex <b>Assistant:</b> Kody



## **APPENDIX D**

### *Laboratory Analytical Reports*

## ANALYTICAL REPORT

For: Atlas Technical Consultants (ATLAS)  
46555 Humboldt Dr. Ste. 100  
Novi MI 48377

**Report Number: 12245**  
Report Date: May 2, 2022  
Project Name: Ann Arbor Housing  
Project Number: 188EM22001  
Page: 1 of 83

Attn: Mr. Gerry DeBusschere

248-669-5140

Fax: 248-669-5147

### Sample Description

Sixteen (16) samples reported to be Soil (8) and Water (8) and identified as "Ann Arbor Housing", 2050 S. Industrial Hwy., Ann Arbor, MI, 4/19/22, Grab and:

- |                                |                                    |
|--------------------------------|------------------------------------|
| 1. GP/TMW-1, 0945 (Water)      | 9. GP/TMW-2, 3.5-4.5', 1011 (Soil) |
| 2. GP/TMW-2, 1040 (Water)      | 10. GP/TMW-3, 4-5', 1105 (Soil)    |
| 3. GP/TMW-3, 1135 (Water)      | 11. GP/TMW-4, 3-4', 1212 (Soil)    |
| 4. GP/TMW-4, 1243 (Water)      | 12. GP/TMW-5, 4-5', 1316 (Soil)    |
| 5. GP/TMW-5, 1350 (Water)      | 13. HA-1, 2-3', 1352 (Soil)        |
| 6. ST Sewer, 1202 (Water)      | 14. Dup, 0000 (Soil)               |
| 7. DUP, 0000 (Water)           | 15. ST Sewer Sediment, 1205 (Soil) |
| 8. GP/TMW-1, 3-4', 0915 (Soil) | 16. Trip Blank (Water)             |

### Analysis Requested

Chemical Analysis per SW-846 (SW) for:

1. Volatile Organic Compounds (VOC), Methods 8260B and 5035 (Soil) (All Samples)
2. Semi-Volatile Organic Compounds (SVOC), Method 8270C (Samples 1-15)
3. Total Petroleum Hydrocarbons (TPH) for:
  - a) Gasoline Range Organics (GRO), Methods 8015C and 8260B, Modified (Samples 2-7, 9-12, 14 and 15)
  - b) Diesel Range Organics (DRO), Methods 8015C and 8270C, Modified (Samples 1-12, 14 and 15)
  - c) Oil Range Organics (ORO), Method 8015C and 8270C, Modified (Samples 1-12, 14 and 15)
4. 10 Michigan Metals (Samples 1, 6, 8 and 15)

a) Arsenic, Method 7010	f) Lead, Method 7010
b) Barium, Method 7010	g) Mercury, Method 7470A (Water) or Method 7471B (Soil)
c) Cadmium, Method 7010	h) Selenium, Method 7010
d) Chromium, Method 7010	i) Silver, Method 7010
e) Copper, Method 7010	j) Zinc, Method 7010

## Analytical Results

Sample Description:		GP/TMW-1, 0945, 4/19/22				
Laboratory ID:	12245-1	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b><i>Volatile Organic Compounds</i></b>						
Acetone	Not Detected	50	µg/L	04/26/22	BD	
Benzene	3	1	µg/L	04/26/22	BD	
Bromobenzene	Not Detected	1	µg/L	04/26/22	BD	
Bromochloromethane	Not Detected	1	µg/L	04/26/22	BD	
Bromodichloromethane	Not Detected	1	µg/L	04/26/22	BD	
Bromoform	Not Detected	1	µg/L	04/26/22	BD	
Bromomethane	Not Detected	5	µg/L	04/26/22	BD	
2-Butanone (MEK)	Not Detected	25	µg/L	04/26/22	BD	
n-Butylbenzene	Not Detected	1	µg/L	04/26/22	BD	
sec-Butylbenzene	Not Detected	1	µg/L	04/26/22	BD	
tert-Butylbenzene	Not Detected	1	µg/L	04/26/22	BD	
Carbon disulfide	Not Detected	5	µg/L	04/26/22	BD	
Carbon tetrachloride	Not Detected	1	µg/L	04/26/22	BD	
Chlorobenzene	Not Detected	1	µg/L	04/26/22	BD	
Chloroethane	Not Detected	5	µg/L	04/26/22	BD	
Chloroform	Not Detected	1	µg/L	04/26/22	BD	
Chloromethane	Not Detected	5	µg/L	04/26/22	BD	
2-Chlorotoluene	Not Detected	5	µg/L	04/26/22	BD	
4-Chlorotoluene	Not Detected	5	µg/L	04/26/22	BD	
Dibromochloromethane	Not Detected	5	µg/L	04/26/22	BD	
1,2-Dibromo-3-chloropropane	Not Detected	0.2	µg/L	04/26/22	BD	
Dibromomethane	Not Detected	5	µg/L	04/26/22	BD	
1,2-Dichlorobenzene	Not Detected	1	µg/L	04/26/22	BD	
1,3-Dichlorobenzene	Not Detected	1	µg/L	04/26/22	BD	
1,4-Dichlorobenzene	Not Detected	1	µg/L	04/26/22	BD	
Dichlorodifluoromethane	Not Detected	5	µg/L	04/26/22	BD	
1,1-Dichloroethane	Not Detected	1	µg/L	04/26/22	BD	
1,2-Dichloroethane	Not Detected	1	µg/L	04/26/22	BD	
1,1-Dichloroethylene	Not Detected	1	µg/L	04/26/22	BD	
cis-1,2-Dichloroethylene	Not Detected	1	µg/L	04/26/22	BD	
trans-1,2-Dichloroethylene	Not Detected	1	µg/L	04/26/22	BD	
1,2-Dichloropropane	Not Detected	1	µg/L	04/26/22	BD	
1,3-Dichloropropane	Not Detected	1	µg/L	04/26/22	BD	
2,2-Dichloropropane	Not Detected	1	µg/L	04/26/22	BD	
1,1-Dichloropropene	Not Detected	1	µg/L	04/26/22	BD	
1,3-Dichloropropene	Not Detected	1	µg/L	04/26/22	BD	
<b>continued</b>						

Sample Description:		GP/TMW-1, 0945, 4/19/22				
Laboratory ID:	12245-1	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>VOC's, Cont'd</b>						
Ethylbenzene	Not Detected	1	µg/L	04/26/22	BD	
Ethylene Dibromide (1,2-Dibromoethane)	Not Detected	0.2	µg/L	04/26/22	BD	
Hexachlorobutadiene	Not Detected	0.2	µg/L	04/26/22	BD	
2-Hexanone	Not Detected	50	µg/L	04/26/22	BD	
Isopropyl benzene	Not Detected	5	µg/L	04/26/22	BD	
4-Methyl-2-pentanone (MIBK)	Not Detected	50	µg/L	04/26/22	BD	
Methyl-t-butyl ether (MTBE)	Not Detected	5	µg/L	04/26/22	BD	
Methylene chloride	Not Detected	5	µg/L	04/26/22	BD	
2-Methylnaphthalene	Not Detected	5	µg/L	04/26/22	BD	
Naphthalene	Not Detected	5	µg/L	04/26/22	BD	
n-Propyl benzene	Not Detected	1	µg/L	04/26/22	BD	
Styrene	Not Detected	1	µg/L	04/26/22	BD	
1,1,1,2-Tetrachloroethane	Not Detected	1	µg/L	04/26/22	BD	
1,1,2,2-Tetrachloroethane	Not Detected	1	µg/L	04/26/22	BD	
Tetrachloroethylene	Not Detected	1	µg/L	04/26/22	BD	
Tetrahydrofuran	Not Detected	90	µg/L	04/26/22	BD	
Toluene	1	1	µg/L	04/26/22	BD	
1,2,3-Trichlorobenzene	Not Detected	5	µg/L	04/26/22	BD	
1,2,4-Trichlorobenzene	Not Detected	5	µg/L	04/26/22	BD	
1,1,1-Trichloroethane	Not Detected	1	µg/L	04/26/22	BD	
1,1,2-Trichloroethane	Not Detected	1	µg/L	04/26/22	BD	
Trichloroethylene	Not Detected	1	µg/L	04/26/22	BD	
Trichlorofluoromethane	Not Detected	1	µg/L	04/26/22	BD	
1,2,3-Trichloropropane	Not Detected	1	µg/L	04/26/22	BD	
1,2,4-Trimethylbenzene	Not Detected	1	µg/L	04/26/22	BD	
1,3,5-Trimethylbenzene	Not Detected	1	µg/L	04/26/22	BD	
Vinyl Acetate	Not Detected	100	µg/L	04/26/22	BD	
Vinyl chloride	Not Detected	1	µg/L	04/26/22	BD	
Xylene (Total)	Not Detected	3	µg/L	04/26/22	BD	
<b>Surrogate Standards</b>						
1,2-Dichloroethane-d4	101%	-	% Recovery	04/26/22	BD	
Toluene-d8	103%	-	% Recovery	04/26/22	BD	
4-Bromofluorobenzene	104%	-	% Recovery	04/26/22	BD	
<b>continued</b>						

Sample Description:		GP/TMW-1, 0945, 4/19/22				
Laboratory ID:	12245-1	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>Semi-Volatile Organic Cmpds</b>			☐			
Acenaphthene	Not Detected	5	µg/L	04/23/22	BD	
Acenaphthylene	Not Detected	5	µg/L	04/23/22	BD	
Aniline	Not Detected	4	µg/L	04/23/22	BD	
Anthracene	Not Detected	5	µg/L	04/23/22	BD	
Azobenzene	Not Detected	2	µg/L	04/23/22	BD	
Benzidine	Not Detected	2	µg/L	04/23/22	BD	
Benzo(a)anthracene	Not Detected	1	µg/L	04/23/22	BD	
Benzo(b)fluoranthene	Not Detected	1	µg/L	04/23/22	BD	
Benzo(k)fluoranthene	Not Detected	1	µg/L	04/23/22	BD	
Benzo(g,h,i)perylene	Not Detected	1	µg/L	04/23/22	BD	
Benzo(a)pyrene	Not Detected	1	µg/L	04/23/22	BD	
Benzyl alcohol	Not Detected	50	µg/L	04/23/22	BD	
Bis(2-chloroethyl)ether	Not Detected	1	µg/L	04/23/22	BD	
Bis(2-chloroisopropyl)ether	Not Detected	5	µg/L	04/23/22	BD	
Bis(2-chloroethoxy)methane	Not Detected	5	µg/L	04/23/22	BD	
Bis(2-ethylhexyl)phthalate	Not Detected	5	µg/L	04/23/22	BD	
4-Bromophenyl phenyl ether	Not Detected	5	µg/L	04/23/22	BD	
Butyl benzyl phthalate	Not Detected	5	µg/L	04/23/22	BD	
Carbazole	Not Detected	10	µg/L	04/23/22	BD	
4-Chloroaniline	Not Detected	10	µg/L	04/23/22	BD	
4-Chloro-3-methylphenol	Not Detected	5	µg/L	04/23/22	BD	
2-Chloronaphthalene (beta)	Not Detected	5	µg/L	04/23/22	BD	
2-Chlorophenol	Not Detected	10	µg/L	04/23/22	BD	
4-Chlorophenyl phenyl ether	Not Detected	5	µg/L	04/23/22	BD	
Chrysene	Not Detected	1	µg/L	04/23/22	BD	
Di-n-butylphthalate	Not Detected	5	µg/L	04/23/22	BD	
Di-n-octyl phthalate	Not Detected	5	µg/L	04/23/22	BD	
Dibenzo(a,h)anthracene	Not Detected	2	µg/L	04/23/22	BD	
Dibenzofuran	Not Detected	4	µg/L	04/23/22	BD	
3,3'-Dichlorobenzidine	Not Detected	2	µg/L	04/23/22	BD	
2,4-Dichlorophenol	Not Detected	10	µg/L	04/23/22	BD	
Diethylphthalate	Not Detected	5	µg/L	04/23/22	BD	
Dimethyl phthalate	Not Detected	5	µg/L	04/23/22	BD	
2,4-Dimethylphenol	Not Detected	5	µg/L	04/23/22	BD	
2,4-Dinitrophenol	Not Detected	25	µg/L	04/23/22	BD	
2,4-Dinitrotoluene	Not Detected	5	µg/L	04/23/22	BD	
2,6-Dinitrotoluene	Not Detected	5	µg/L	04/23/22	BD	
<b>continued</b>						

Sample Description:		GP/TMW-1, 0945, 4/19/22				
Laboratory ID:	12245-1	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>SVOC's, Cont'd</b>			☐			
Fluoranthene	Not Detected	1	µg/L	04/23/22	BD	
Fluorene	Not Detected	5	µg/L	04/23/22	BD	
Hexachlorobenzene	Not Detected	1	µg/L	04/23/22	BD	
Hexachlorocyclopentadiene	Not Detected	5	µg/L	04/23/22	BD	
Hexachloroethane	Not Detected	5	µg/L	04/23/22	BD	
Indeno(1,2,3-cd)pyrene	Not Detected	2	µg/L	04/23/22	BD	
Isophorone	Not Detected	5	µg/L	04/23/22	BD	
2-Methyl-4,6-Dinitrophenol	Not Detected	20	µg/L	04/23/22	BD	
2-Methylnaphthalene	Not Detected	5	µg/L	04/23/22	BD	
2-Methylphenol	Not Detected	10	µg/L	04/23/22	BD	
4-Methylphenol	Not Detected	10	µg/L	04/23/22	BD	
Methylphenols (total)	Not Detected	30	µg/L	04/23/22	BD	
Naphthalene	Not Detected	5	µg/L	04/23/22	BD	
2-Nitroaniline	Not Detected	25	µg/L	04/23/22	BD	
3-Nitroaniline	Not Detected	25	µg/L	04/23/22	BD	
4-Nitroaniline	Not Detected	25	µg/L	04/23/22	BD	
Nitrobenzene	Not Detected	3	µg/L	04/23/22	BD	
2-Nitrophenol	Not Detected	5	µg/L	04/23/22	BD	
4-Nitrophenol	Not Detected	25	µg/L	04/23/22	BD	
N-Nitrosodi-n-propylamine	Not Detected	5	µg/L	04/23/22	BD	
N-Nitrosodiphenylamine	Not Detected	5	µg/L	04/23/22	BD	
Pentachlorophenol	Not Detected	1	µg/L	04/23/22	BD	
Phenanthrene	Not Detected	2	µg/L	04/23/22	BD	
Phenol	Not Detected	5	µg/L	04/23/22	BD	
Pyrene	Not Detected	5	µg/L	04/23/22	BD	
Pyridine	Not Detected	20	µg/L	04/23/22	BD	
2,4,5-Trichlorophenol	Not Detected	5	µg/L	04/23/22	BD	
2,4,6-Trichlorophenol	Not Detected	4	µg/L	04/23/22	BD	
<b>Surrogate Standards</b>						
2-Fluorophenol	30.7%	-	% Recovery	04/23/22	BD	
Phenol-d5	26.6%	-	% Recovery	04/23/22	BD	
Nitrobenzene-d5	41.0%	-	% Recovery	04/23/22	BD	
2-Fluorobiphenyl	51.9%	-	% Recovery	04/23/22	BD	
2,4,6-Tribromophenol	43.6%	-	% Recovery	04/23/22	BD	
Terphenyl-d14	44.0%	-	% Recovery	04/23/22	BD	
<b>continued</b>						

Sample Description:		GP/TMW-1, 0945, 4/19/22				
Laboratory ID:	12245-1	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>Michigan Metals</b>						
Arsenic	Not Detected	5	µg/L	04/26/22	DS	
Barium	440	100	µg/L	04/26/22	DS	
Cadmium	Not Detected	1	µg/L	04/26/22	DS	
Chromium	Not Detected	5	µg/L	04/26/22	DS	
Copper	Not Detected	4	µg/L	04/26/22	DS	
Lead	Not Detected	3	µg/L	04/26/22	DS	
Mercury	Not Detected	0.2	µg/L	04/27/22	DS	
Selenium	Not Detected	5	µg/L	04/26/22	DS	
Silver	Not Detected	0.2	µg/L	04/26/22	DS	
Zinc	Not Detected	50	µg/L	04/26/22	DS	
<b>Total Petroleum Hydrocarbons</b>						
DRO (C <sub>10</sub> -C <sub>28</sub> )	146	100	µg/L	04/26/22	DS	
ORO (C <sub>28</sub> -C <sub>34</sub> )	Not Detected	200	µg/L	04/29/22	DS	
<b>Analysis Information</b>						
SVOC Extraction	Completed	-	-	04/22/22	LB	
TPH-DRO/ ORO Extraction	Completed	-	-	04/23/22	LB	
Mercury Digestion	Completed	-	-	04/26/22	LB	
Metals Digestion	Completed	-	-	04/26/22	LB	

Sample Description:		GP/TMW-2, 1040, 4/19/22				
Laboratory ID:	12245-2	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b><i>Volatile Organic Compounds</i></b>						
Acetone	Not Detected	50	µg/L	04/26/22	BD	
Benzene	Not Detected	1	µg/L	04/26/22	BD	
Bromobenzene	Not Detected	1	µg/L	04/26/22	BD	
Bromochloromethane	Not Detected	1	µg/L	04/26/22	BD	
Bromodichloromethane	Not Detected	1	µg/L	04/26/22	BD	
Bromoform	Not Detected	1	µg/L	04/26/22	BD	
Bromomethane	Not Detected	5	µg/L	04/26/22	BD	
2-Butanone (MEK)	Not Detected	25	µg/L	04/26/22	BD	
n-Butylbenzene	Not Detected	1	µg/L	04/26/22	BD	
sec-Butylbenzene	Not Detected	1	µg/L	04/26/22	BD	
tert-Butylbenzene	Not Detected	1	µg/L	04/26/22	BD	
Carbon disulfide	Not Detected	5	µg/L	04/26/22	BD	
Carbon tetrachloride	Not Detected	1	µg/L	04/26/22	BD	
Chlorobenzene	Not Detected	1	µg/L	04/26/22	BD	
Chloroethane	Not Detected	5	µg/L	04/26/22	BD	
Chloroform	Not Detected	1	µg/L	04/26/22	BD	
Chloromethane	Not Detected	5	µg/L	04/26/22	BD	
2-Chlorotoluene	Not Detected	5	µg/L	04/26/22	BD	
4-Chlorotoluene	Not Detected	5	µg/L	04/26/22	BD	
Dibromochloromethane	Not Detected	5	µg/L	04/26/22	BD	
1,2-Dibromo-3-chloropropane	Not Detected	0.2	µg/L	04/26/22	BD	
Dibromomethane	Not Detected	5	µg/L	04/26/22	BD	
1,2-Dichlorobenzene	Not Detected	1	µg/L	04/26/22	BD	
1,3-Dichlorobenzene	Not Detected	1	µg/L	04/26/22	BD	
1,4-Dichlorobenzene	Not Detected	1	µg/L	04/26/22	BD	
Dichlorodifluoromethane	Not Detected	5	µg/L	04/26/22	BD	
1,1-Dichloroethane	Not Detected	1	µg/L	04/26/22	BD	
1,2-Dichloroethane	Not Detected	1	µg/L	04/26/22	BD	
1,1-Dichloroethylene	Not Detected	1	µg/L	04/26/22	BD	
cis-1,2-Dichloroethylene	Not Detected	1	µg/L	04/26/22	BD	
trans-1,2-Dichloroethylene	Not Detected	1	µg/L	04/26/22	BD	
1,2-Dichloropropane	Not Detected	1	µg/L	04/26/22	BD	
1,3-Dichloropropane	Not Detected	1	µg/L	04/26/22	BD	
2,2-Dichloropropane	Not Detected	1	µg/L	04/26/22	BD	
1,1-Dichloropropene	Not Detected	1	µg/L	04/26/22	BD	
1,3-Dichloropropene	Not Detected	1	µg/L	04/26/22	BD	
<b>continued</b>						

Data Qualifiers: I Internal Standard results outside of acceptance limits E Reporting limit is elevated M Matrix interference observed  
 S QC spike recovery outside of acceptance limits D Result is from a dilution F Matrix Spike four times rule applied  
 R RPD outside of acceptance limits J Result should be considered estimated C See Case Narrative

Sample Description:		GP/TMW-2, 1040, 4/19/22				
Laboratory ID:	12245-2	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>VOC's, Cont'd</b>						
Ethylbenzene	Not Detected	1	µg/L	04/26/22	BD	
Ethylene Dibromide (1,2-Dibromoethane)	Not Detected	0.2	µg/L	04/26/22	BD	
Hexachlorobutadiene	Not Detected	0.2	µg/L	04/26/22	BD	
2-Hexanone	Not Detected	50	µg/L	04/26/22	BD	
Isopropyl benzene	Not Detected	5	µg/L	04/26/22	BD	
4-Methyl-2-pentanone (MIBK)	Not Detected	50	µg/L	04/26/22	BD	
Methyl-t-butyl ether (MTBE)	Not Detected	5	µg/L	04/26/22	BD	
Methylene chloride	Not Detected	5	µg/L	04/26/22	BD	
2-Methylnaphthalene	Not Detected	5	µg/L	04/26/22	BD	
Naphthalene	Not Detected	5	µg/L	04/26/22	BD	
n-Propyl benzene	Not Detected	1	µg/L	04/26/22	BD	
Styrene	Not Detected	1	µg/L	04/26/22	BD	
1,1,1,2-Tetrachloroethane	Not Detected	1	µg/L	04/26/22	BD	
1,1,2,2-Tetrachloroethane	Not Detected	1	µg/L	04/26/22	BD	
Tetrachloroethylene	Not Detected	1	µg/L	04/26/22	BD	
Tetrahydrofuran	Not Detected	90	µg/L	04/26/22	BD	
Toluene	Not Detected	1	µg/L	04/26/22	BD	
1,2,3-Trichlorobenzene	Not Detected	5	µg/L	04/26/22	BD	
1,2,4-Trichlorobenzene	Not Detected	5	µg/L	04/26/22	BD	
1,1,1-Trichloroethane	Not Detected	1	µg/L	04/26/22	BD	
1,1,2-Trichloroethane	Not Detected	1	µg/L	04/26/22	BD	
Trichloroethylene	Not Detected	1	µg/L	04/26/22	BD	
Trichlorofluoromethane	Not Detected	1	µg/L	04/26/22	BD	
1,2,3-Trichloropropane	Not Detected	1	µg/L	04/26/22	BD	
1,2,4-Trimethylbenzene	Not Detected	1	µg/L	04/26/22	BD	
1,3,5-Trimethylbenzene	Not Detected	1	µg/L	04/26/22	BD	
Vinyl Acetate	Not Detected	100	µg/L	04/26/22	BD	
Vinyl chloride	Not Detected	1	µg/L	04/26/22	BD	
Xylene (Total)	Not Detected	3	µg/L	04/26/22	BD	
<b>Surrogate Standards</b>						
1,2-Dichloroethane-d4	96.7%	-	% Recovery	04/26/22	BD	
Toluene-d8	103%	-	% Recovery	04/26/22	BD	
4-Bromofluorobenzene	98.8%	-	% Recovery	04/26/22	BD	
<b>continued</b>						

Data Qualifiers: I Internal Standard results outside of acceptance limits E Reporting limit is elevated M Matrix interference observed  
 S QC spike recovery outside of acceptance limits D Result is from a dilution F Matrix Spike four times rule applied  
 R RPD outside of acceptance limits J Result should be considered estimated C See Case Narrative

Sample Description:		GP/TMW-2, 1040, 4/19/22				
Laboratory ID:	12245-2	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>Semi-Volatile Organic Cmpds</b>			☐			
Acenaphthene	Not Detected	5	µg/L	04/23/22	BD	
Acenaphthylene	Not Detected	5	µg/L	04/23/22	BD	
Aniline	Not Detected	4	µg/L	04/23/22	BD	
Anthracene	Not Detected	5	µg/L	04/23/22	BD	
Azobenzene	Not Detected	2	µg/L	04/23/22	BD	
Benzidine	Not Detected	2	µg/L	04/23/22	BD	
Benzo(a)anthracene	Not Detected	1	µg/L	04/23/22	BD	
Benzo(b)fluoranthene	Not Detected	1	µg/L	04/23/22	BD	
Benzo(k)fluoranthene	Not Detected	1	µg/L	04/23/22	BD	
Benzo(g,h,i)perylene	Not Detected	1	µg/L	04/23/22	BD	
Benzo(a)pyrene	Not Detected	1	µg/L	04/23/22	BD	
Benzyl alcohol	Not Detected	50	µg/L	04/23/22	BD	
Bis(2-chloroethyl)ether	Not Detected	1	µg/L	04/23/22	BD	
Bis(2-chloroisopropyl)ether	Not Detected	5	µg/L	04/23/22	BD	
Bis(2-chloroethoxy)methane	Not Detected	5	µg/L	04/23/22	BD	
Bis(2-ethylhexyl)phthalate	Not Detected	5	µg/L	04/23/22	BD	
4-Bromophenyl phenyl ether	Not Detected	5	µg/L	04/23/22	BD	
Butyl benzyl phthalate	Not Detected	5	µg/L	04/23/22	BD	
Carbazole	Not Detected	10	µg/L	04/23/22	BD	
4-Chloroaniline	Not Detected	10	µg/L	04/23/22	BD	
4-Chloro-3-methylphenol	Not Detected	5	µg/L	04/23/22	BD	
2-Chloronaphthalene (beta)	Not Detected	5	µg/L	04/23/22	BD	
2-Chlorophenol	Not Detected	10	µg/L	04/23/22	BD	
4-Chlorophenyl phenyl ether	Not Detected	5	µg/L	04/23/22	BD	
Chrysene	Not Detected	1	µg/L	04/23/22	BD	
Di-n-butylphthalate	Not Detected	5	µg/L	04/23/22	BD	
Di-n-octyl phthalate	Not Detected	5	µg/L	04/23/22	BD	
Dibenzo(a,h)anthracene	Not Detected	2	µg/L	04/23/22	BD	
Dibenzofuran	Not Detected	4	µg/L	04/23/22	BD	
3,3'-Dichlorobenzidine	Not Detected	2	µg/L	04/23/22	BD	
2,4-Dichlorophenol	Not Detected	10	µg/L	04/23/22	BD	
Diethylphthalate	Not Detected	5	µg/L	04/23/22	BD	
Dimethyl phthalate	Not Detected	5	µg/L	04/23/22	BD	
2,4-Dimethylphenol	Not Detected	5	µg/L	04/23/22	BD	
2,4-Dinitrophenol	Not Detected	25	µg/L	04/23/22	BD	
2,4-Dinitrotoluene	Not Detected	5	µg/L	04/23/22	BD	
2,6-Dinitrotoluene	Not Detected	5	µg/L	04/23/22	BD	
<b>continued</b>						

Data Qualifiers: I Internal Standard results outside of acceptance limits  
 S QC spike recovery outside of acceptance limits  
 R RPD outside of acceptance limits  
 E Reporting limit is elevated  
 D Result is from a dilution  
 J Result should be considered estimated  
 M Matrix interference observed  
 F Matrix Spike four times rule applied  
 C See Case Narrative

Sample Description:		GP/TMW-2, 1040, 4/19/22				
Laboratory ID:	12245-2	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>SVOC's, Cont'd</b>			☐			
Fluoranthene	Not Detected	1	µg/L	04/23/22	BD	
Fluorene	Not Detected	5	µg/L	04/23/22	BD	
Hexachlorobenzene	Not Detected	1	µg/L	04/23/22	BD	
Hexachlorocyclopentadiene	Not Detected	5	µg/L	04/23/22	BD	
Hexachloroethane	Not Detected	5	µg/L	04/23/22	BD	
Indeno(1,2,3-cd)pyrene	Not Detected	2	µg/L	04/23/22	BD	
Isophorone	Not Detected	5	µg/L	04/23/22	BD	
2-Methyl-4,6-Dinitrophenol	Not Detected	20	µg/L	04/23/22	BD	
2-Methylnaphthalene	Not Detected	5	µg/L	04/23/22	BD	
2-Methylphenol	Not Detected	10	µg/L	04/23/22	BD	
4-Methylphenol	Not Detected	10	µg/L	04/23/22	BD	
Methylphenols (total)	Not Detected	30	µg/L	04/23/22	BD	
Naphthalene	Not Detected	5	µg/L	04/23/22	BD	
2-Nitroaniline	Not Detected	25	µg/L	04/23/22	BD	
3-Nitroaniline	Not Detected	25	µg/L	04/23/22	BD	
4-Nitroaniline	Not Detected	25	µg/L	04/23/22	BD	
Nitrobenzene	Not Detected	3	µg/L	04/23/22	BD	
2-Nitrophenol	Not Detected	5	µg/L	04/23/22	BD	
4-Nitrophenol	Not Detected	25	µg/L	04/23/22	BD	
N-Nitrosodi-n-propylamine	Not Detected	5	µg/L	04/23/22	BD	
N-Nitrosodiphenylamine	Not Detected	5	µg/L	04/23/22	BD	
Pentachlorophenol	Not Detected	1	µg/L	04/23/22	BD	
Phenanthrene	Not Detected	2	µg/L	04/23/22	BD	
Phenol	Not Detected	5	µg/L	04/23/22	BD	
Pyrene	Not Detected	5	µg/L	04/23/22	BD	
Pyridine	Not Detected	20	µg/L	04/23/22	BD	
2,4,5-Trichlorophenol	Not Detected	5	µg/L	04/23/22	BD	
2,4,6-Trichlorophenol	Not Detected	4	µg/L	04/23/22	BD	
<b>Surrogate Standards</b>						
2-Fluorophenol	30.0%	-	% Recovery	04/23/22	BD	
Phenol-d5	25.5%	-	% Recovery	04/23/22	BD	
Nitrobenzene-d5	43.3%	-	% Recovery	04/23/22	BD	
2-Fluorobiphenyl	50.0%	-	% Recovery	04/23/22	BD	
2,4,6-Tribromophenol	42.2%	-	% Recovery	04/23/22	BD	
Terphenyl-d14	42.7%	-	% Recovery	04/23/22	BD	
<b>continued</b>						

Sample Description:		GP/TMW-2, 1040, 4/19/22				
Laboratory ID:	12245-2	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>Total Petroleum Hydrocarbons</b>						
GRO (C <sub>6</sub> -C <sub>10</sub> )	Not Detected	100	µg/L	04/26/22	BD	
DRO (C <sub>10</sub> -C <sub>28</sub> )	157	100	µg/L	04/26/22	DS	
ORO (C <sub>28</sub> -C <sub>34</sub> )	Not Detected	200	µg/L	04/29/22	DS	
<b>Analysis Information</b>						
SVOC Extraction	Completed	-	-	04/22/22	LB	
TPH-DRO/ ORO Extraction	Completed	-	-	04/23/22	LB	

Sample Description:		GP/TMW-3, 1135, 4/19/22				
Laboratory ID:	12245-3	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b><i>Volatile Organic Compounds</i></b>						
Acetone	Not Detected	50	µg/L	04/27/22	BD	
Benzene	6	1	µg/L	04/27/22	BD	
Bromobenzene	Not Detected	1	µg/L	04/27/22	BD	
Bromochloromethane	Not Detected	1	µg/L	04/27/22	BD	
Bromodichloromethane	Not Detected	1	µg/L	04/27/22	BD	
Bromoform	Not Detected	1	µg/L	04/27/22	BD	
Bromomethane	Not Detected	5	µg/L	04/27/22	BD	
2-Butanone (MEK)	Not Detected	25	µg/L	04/27/22	BD	
n-Butylbenzene	13	1	µg/L	04/27/22	BD	
sec-Butylbenzene	7	1	µg/L	04/27/22	BD	
tert-Butylbenzene	Not Detected	1	µg/L	04/27/22	BD	
Carbon disulfide	Not Detected	5	µg/L	04/27/22	BD	
Carbon tetrachloride	Not Detected	1	µg/L	04/27/22	BD	
Chlorobenzene	Not Detected	1	µg/L	04/27/22	BD	
Chloroethane	Not Detected	5	µg/L	04/27/22	BD	
Chloroform	Not Detected	1	µg/L	04/27/22	BD	
Chloromethane	Not Detected	5	µg/L	04/27/22	BD	
2-Chlorotoluene	Not Detected	5	µg/L	04/27/22	BD	
4-Chlorotoluene	Not Detected	5	µg/L	04/27/22	BD	
Dibromochloromethane	Not Detected	5	µg/L	04/27/22	BD	
1,2-Dibromo-3-chloropropane	Not Detected	0.2	µg/L	04/27/22	BD	
Dibromomethane	Not Detected	5	µg/L	04/27/22	BD	
1,2-Dichlorobenzene	Not Detected	1	µg/L	04/27/22	BD	
1,3-Dichlorobenzene	Not Detected	1	µg/L	04/27/22	BD	
1,4-Dichlorobenzene	Not Detected	1	µg/L	04/27/22	BD	
Dichlorodifluoromethane	Not Detected	5	µg/L	04/27/22	BD	
1,1-Dichloroethane	Not Detected	1	µg/L	04/27/22	BD	
1,2-Dichloroethane	Not Detected	1	µg/L	04/27/22	BD	
1,1-Dichloroethylene	Not Detected	1	µg/L	04/27/22	BD	
cis-1,2-Dichloroethylene	Not Detected	1	µg/L	04/27/22	BD	
trans-1,2-Dichloroethylene	Not Detected	1	µg/L	04/27/22	BD	
1,2-Dichloropropane	Not Detected	1	µg/L	04/27/22	BD	
1,3-Dichloropropane	Not Detected	1	µg/L	04/27/22	BD	
2,2-Dichloropropane	Not Detected	1	µg/L	04/27/22	BD	
1,1-Dichloropropene	Not Detected	1	µg/L	04/27/22	BD	
1,3-Dichloropropene	Not Detected	1	µg/L	04/27/22	BD	
<b>continued</b>						

Data Qualifiers: I Internal Standard results outside of acceptance limits E Reporting limit is elevated M Matrix interference observed  
 S QC spike recovery outside of acceptance limits D Result is from a dilution F Matrix Spike four times rule applied  
 R RPD outside of acceptance limits J Result should be considered estimated C See Case Narrative

Sample Description:		GP/TMW-3, 1135, 4/19/22				
Laboratory ID:	12245-3	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>VOC's, Cont'd</b>						
Ethylbenzene	6	1	µg/L	04/27/22	BD	
Ethylene Dibromide (1,2-Dibromoethane)	Not Detected	0.2	µg/L	04/27/22	BD	
Hexachlorobutadiene	Not Detected	0.2	µg/L	04/27/22	BD	
2-Hexanone	Not Detected	50	µg/L	04/27/22	BD	
Isopropyl benzene	19	5	µg/L	04/27/22	BD	
4-Methyl-2-pentanone (MIBK)	Not Detected	50	µg/L	04/27/22	BD	
Methyl-t-butyl ether (MTBE)	Not Detected	5	µg/L	04/27/22	BD	
Methylene chloride	Not Detected	5	µg/L	04/27/22	BD	
2-Methylnaphthalene	18	5	µg/L	04/27/22	BD	
Naphthalene	25	5	µg/L	04/27/22	BD	
n-Propyl benzene	52	1	µg/L	04/27/22	BD	
Styrene	Not Detected	1	µg/L	04/27/22	BD	
1,1,1,2-Tetrachloroethane	Not Detected	1	µg/L	04/27/22	BD	
1,1,2,2-Tetrachloroethane	Not Detected	1	µg/L	04/27/22	BD	
Tetrachloroethylene	Not Detected	1	µg/L	04/27/22	BD	
Tetrahydrofuran	Not Detected	90	µg/L	04/27/22	BD	
Toluene	1	1	µg/L	04/27/22	BD	
1,2,3-Trichlorobenzene	Not Detected	5	µg/L	04/27/22	BD	
1,2,4-Trichlorobenzene	Not Detected	5	µg/L	04/27/22	BD	
1,1,1-Trichloroethane	Not Detected	1	µg/L	04/27/22	BD	
1,1,2-Trichloroethane	Not Detected	1	µg/L	04/27/22	BD	
Trichloroethylene	Not Detected	1	µg/L	04/27/22	BD	
Trichlorofluoromethane	Not Detected	1	µg/L	04/27/22	BD	
1,2,3-Trichloropropane	Not Detected	1	µg/L	04/27/22	BD	
1,2,4-Trimethylbenzene	2	1	µg/L	04/27/22	BD	
1,3,5-Trimethylbenzene	Not Detected	1	µg/L	04/27/22	BD	
Vinyl Acetate	Not Detected	100	µg/L	04/27/22	BD	
Vinyl chloride	Not Detected	1	µg/L	04/27/22	BD	
Xylene (Total)	Not Detected	3	µg/L	04/27/22	BD	
<b>Surrogate Standards</b>						
1,2-Dichloroethane-d4	87.6%	-	% Recovery	04/27/22	BD	
Toluene-d8	92.5%	-	% Recovery	04/27/22	BD	
4-Bromofluorobenzene	100%	-	% Recovery	04/27/22	BD	
<b>continued</b>						

Data Qualifiers: I Internal Standard results outside of acceptance limits E Reporting limit is elevated M Matrix interference observed  
 S QC spike recovery outside of acceptance limits D Result is from a dilution F Matrix Spike four times rule applied  
 R RPD outside of acceptance limits J Result should be considered estimated C See Case Narrative

Sample Description:		GP/TMW-3, 1135, 4/19/22				
Laboratory ID:	12245-3	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>Semi-Volatile Organic Cmpds</b>			☐			
Acenaphthene	Not Detected	5	µg/L	04/23/22	BD	
Acenaphthylene	Not Detected	5	µg/L	04/23/22	BD	
Aniline	Not Detected	4	µg/L	04/23/22	BD	
Anthracene	Not Detected	5	µg/L	04/23/22	BD	
Azobenzene	Not Detected	2	µg/L	04/23/22	BD	
Benzidine	Not Detected	2	µg/L	04/23/22	BD	
Benzo(a)anthracene	Not Detected	1	µg/L	04/23/22	BD	
Benzo(b)fluoranthene	Not Detected	1	µg/L	04/23/22	BD	
Benzo(k)fluoranthene	Not Detected	1	µg/L	04/23/22	BD	
Benzo(g,h,i)perylene	Not Detected	1	µg/L	04/23/22	BD	
Benzo(a)pyrene	Not Detected	1	µg/L	04/23/22	BD	
Benzyl alcohol	Not Detected	50	µg/L	04/23/22	BD	
Bis(2-chloroethyl)ether	Not Detected	1	µg/L	04/23/22	BD	
Bis(2-chloroisopropyl)ether	Not Detected	5	µg/L	04/23/22	BD	
Bis(2-chloroethoxy)methane	Not Detected	5	µg/L	04/23/22	BD	
Bis(2-ethylhexyl)phthalate	Not Detected	5	µg/L	04/23/22	BD	
4-Bromophenyl phenyl ether	Not Detected	5	µg/L	04/23/22	BD	
Butyl benzyl phthalate	Not Detected	5	µg/L	04/23/22	BD	
Carbazole	Not Detected	10	µg/L	04/23/22	BD	
4-Chloroaniline	Not Detected	10	µg/L	04/23/22	BD	
4-Chloro-3-methylphenol	Not Detected	5	µg/L	04/23/22	BD	
2-Chloronaphthalene (beta)	Not Detected	5	µg/L	04/23/22	BD	
2-Chlorophenol	Not Detected	10	µg/L	04/23/22	BD	
4-Chlorophenyl phenyl ether	Not Detected	5	µg/L	04/23/22	BD	
Chrysene	Not Detected	1	µg/L	04/23/22	BD	
Di-n-butylphthalate	Not Detected	5	µg/L	04/23/22	BD	
Di-n-octyl phthalate	Not Detected	5	µg/L	04/23/22	BD	
Dibenzo(a,h)anthracene	Not Detected	2	µg/L	04/23/22	BD	
Dibenzofuran	Not Detected	4	µg/L	04/23/22	BD	
3,3'-Dichlorobenzidine	Not Detected	2	µg/L	04/23/22	BD	
2,4-Dichlorophenol	Not Detected	10	µg/L	04/23/22	BD	
Diethylphthalate	Not Detected	5	µg/L	04/23/22	BD	
Dimethyl phthalate	Not Detected	5	µg/L	04/23/22	BD	
2,4-Dimethylphenol	Not Detected	5	µg/L	04/23/22	BD	
2,4-Dinitrophenol	Not Detected	25	µg/L	04/23/22	BD	
2,4-Dinitrotoluene	Not Detected	5	µg/L	04/23/22	BD	
2,6-Dinitrotoluene	Not Detected	5	µg/L	04/23/22	BD	
<b>continued</b>						

Data Qualifiers: I Internal Standard results outside of acceptance limits  
 S QC spike recovery outside of acceptance limits  
 R RPD outside of acceptance limits  
 E Reporting limit is elevated  
 D Result is from a dilution  
 J Result should be considered estimated  
 M Matrix interference observed  
 F Matrix Spike four times rule applied  
 C See Case Narrative

Sample Description:		GP/TMW-3, 1135, 4/19/22				
Laboratory ID:	12245-3	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>SVOC's, Cont'd</b>			☐			
Fluoranthene	Not Detected	1	µg/L	04/23/22	BD	
Fluorene	Not Detected	5	µg/L	04/23/22	BD	
Hexachlorobenzene	Not Detected	1	µg/L	04/23/22	BD	
Hexachlorocyclopentadiene	Not Detected	5	µg/L	04/23/22	BD	
Hexachloroethane	Not Detected	5	µg/L	04/23/22	BD	
Indeno(1,2,3-cd)pyrene	Not Detected	2	µg/L	04/23/22	BD	
Isophorone	Not Detected	5	µg/L	04/23/22	BD	
2-Methyl-4,6-Dinitrophenol	Not Detected	20	µg/L	04/23/22	BD	
2-Methylnaphthalene	9	5	µg/L	04/23/22	BD	
2-Methylphenol	Not Detected	10	µg/L	04/23/22	BD	
4-Methylphenol	Not Detected	10	µg/L	04/23/22	BD	
Methylphenols (total)	Not Detected	30	µg/L	04/23/22	BD	
Naphthalene	9	5	µg/L	04/23/22	BD	
2-Nitroaniline	Not Detected	25	µg/L	04/23/22	BD	
3-Nitroaniline	Not Detected	25	µg/L	04/23/22	BD	
4-Nitroaniline	Not Detected	25	µg/L	04/23/22	BD	
Nitrobenzene	Not Detected	3	µg/L	04/23/22	BD	
2-Nitrophenol	Not Detected	5	µg/L	04/23/22	BD	
4-Nitrophenol	Not Detected	25	µg/L	04/23/22	BD	
N-Nitrosodi-n-propylamine	Not Detected	5	µg/L	04/23/22	BD	
N-Nitrosodiphenylamine	Not Detected	5	µg/L	04/23/22	BD	
Pentachlorophenol	Not Detected	1	µg/L	04/23/22	BD	
Phenanthrene	Not Detected	2	µg/L	04/23/22	BD	
Phenol	Not Detected	5	µg/L	04/23/22	BD	
Pyrene	Not Detected	5	µg/L	04/23/22	BD	
Pyridine	Not Detected	20	µg/L	04/23/22	BD	
2,4,5-Trichlorophenol	Not Detected	5	µg/L	04/23/22	BD	
2,4,6-Trichlorophenol	Not Detected	4	µg/L	04/23/22	BD	
<b>Surrogate Standards</b>						
2-Fluorophenol	27.7%	-	% Recovery	04/23/22	BD	
Phenol-d5	28.4%	-	% Recovery	04/23/22	BD	
Nitrobenzene-d5	41.5%	-	% Recovery	04/23/22	BD	
2-Fluorobiphenyl	51.3%	-	% Recovery	04/23/22	BD	
2,4,6-Tribromophenol	39.9%	-	% Recovery	04/23/22	BD	
Terphenyl-d14	43.3%	-	% Recovery	04/23/22	BD	
<b>continued</b>						

Data Qualifiers: I Internal Standard results outside of acceptance limits E Reporting limit is elevated M Matrix interference observed  
 S QC spike recovery outside of acceptance limits D Result is from a dilution F Matrix Spike four times rule applied  
 R RPD outside of acceptance limits J Result should be considered estimated C See Case Narrative

Sample Description:		GP/TMW-3, 1135, 4/19/22				
Laboratory ID:	12245-3	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>Total Petroleum Hydrocarbons</b>						
GRO (C <sub>6</sub> -C <sub>10</sub> )	2,810	100	µg/L	04/26/22	BD	
DRO (C <sub>10</sub> -C <sub>28</sub> )	670	100	µg/L	04/26/22	DS	
ORO (C <sub>28</sub> -C <sub>34</sub> )	Not Detected	200	µg/L	04/29/22	DS	
<b>Analysis Information</b>						
SVOC Extraction	Completed	-	-	04/22/22	LB	
TPH-DRO/ ORO Extraction	Completed	-	-	04/23/22	LB	

Data Qualifiers: I Internal Standard results outside of acceptance limits  
 S QC spike recovery outside of acceptance limits  
 R RPD outside of acceptance limits

E Reporting limit is elevated  
 D Result is from a dilution  
 J Result should be considered estimated

M Matrix interference observed  
 F Matrix Spike four times rule applied  
 C See Case Narrative

Sample Description:		GP/TMW-4, 1243, 4/19/22				
Laboratory ID:	12245-4	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b><i>Volatile Organic Compounds</i></b>						
Acetone	Not Detected	50	µg/L	04/26/22	BD	
Benzene	Not Detected	1	µg/L	04/26/22	BD	
Bromobenzene	Not Detected	1	µg/L	04/26/22	BD	
Bromochloromethane	Not Detected	1	µg/L	04/26/22	BD	
Bromodichloromethane	Not Detected	1	µg/L	04/26/22	BD	
Bromoform	Not Detected	1	µg/L	04/26/22	BD	
Bromomethane	Not Detected	5	µg/L	04/26/22	BD	
2-Butanone (MEK)	Not Detected	25	µg/L	04/26/22	BD	
n-Butylbenzene	Not Detected	1	µg/L	04/26/22	BD	
sec-Butylbenzene	Not Detected	1	µg/L	04/26/22	BD	
tert-Butylbenzene	Not Detected	1	µg/L	04/26/22	BD	
Carbon disulfide	Not Detected	5	µg/L	04/26/22	BD	
Carbon tetrachloride	Not Detected	1	µg/L	04/26/22	BD	
Chlorobenzene	Not Detected	1	µg/L	04/26/22	BD	
Chloroethane	Not Detected	5	µg/L	04/26/22	BD	
Chloroform	Not Detected	1	µg/L	04/26/22	BD	
Chloromethane	Not Detected	5	µg/L	04/26/22	BD	
2-Chlorotoluene	Not Detected	5	µg/L	04/26/22	BD	
4-Chlorotoluene	Not Detected	5	µg/L	04/26/22	BD	
Dibromochloromethane	Not Detected	5	µg/L	04/26/22	BD	
1,2-Dibromo-3-chloropropane	Not Detected	0.2	µg/L	04/26/22	BD	
Dibromomethane	Not Detected	5	µg/L	04/26/22	BD	
1,2-Dichlorobenzene	Not Detected	1	µg/L	04/26/22	BD	
1,3-Dichlorobenzene	Not Detected	1	µg/L	04/26/22	BD	
1,4-Dichlorobenzene	Not Detected	1	µg/L	04/26/22	BD	
Dichlorodifluoromethane	Not Detected	5	µg/L	04/26/22	BD	
1,1-Dichloroethane	Not Detected	1	µg/L	04/26/22	BD	
1,2-Dichloroethane	Not Detected	1	µg/L	04/26/22	BD	
1,1-Dichloroethylene	Not Detected	1	µg/L	04/26/22	BD	
cis-1,2-Dichloroethylene	Not Detected	1	µg/L	04/26/22	BD	
trans-1,2-Dichloroethylene	Not Detected	1	µg/L	04/26/22	BD	
1,2-Dichloropropane	Not Detected	1	µg/L	04/26/22	BD	
1,3-Dichloropropane	Not Detected	1	µg/L	04/26/22	BD	
2,2-Dichloropropane	Not Detected	1	µg/L	04/26/22	BD	
1,1-Dichloropropene	Not Detected	1	µg/L	04/26/22	BD	
1,3-Dichloropropene	Not Detected	1	µg/L	04/26/22	BD	
<b>continued</b>						

Data Qualifiers: I Internal Standard results outside of acceptance limits E Reporting limit is elevated M Matrix interference observed  
 S QC spike recovery outside of acceptance limits D Result is from a dilution F Matrix Spike four times rule applied  
 R RPD outside of acceptance limits J Result should be considered estimated C See Case Narrative

Sample Description:		GP/TMW-4, 1243, 4/19/22				
Laboratory ID:	12245-4	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>VOC's, Cont'd</b>						
Ethylbenzene	Not Detected	1	µg/L	04/26/22	BD	
Ethylene Dibromide (1,2-Dibromoethane)	Not Detected	0.2	µg/L	04/26/22	BD	
Hexachlorobutadiene	Not Detected	0.2	µg/L	04/26/22	BD	
2-Hexanone	Not Detected	50	µg/L	04/26/22	BD	
Isopropyl benzene	Not Detected	5	µg/L	04/26/22	BD	
4-Methyl-2-pentanone (MIBK)	Not Detected	50	µg/L	04/26/22	BD	
Methyl-t-butyl ether (MTBE)	Not Detected	5	µg/L	04/26/22	BD	
Methylene chloride	Not Detected	5	µg/L	04/26/22	BD	
2-Methylnaphthalene	Not Detected	5	µg/L	04/26/22	BD	
Naphthalene	Not Detected	5	µg/L	04/26/22	BD	
n-Propyl benzene	Not Detected	1	µg/L	04/26/22	BD	
Styrene	Not Detected	1	µg/L	04/26/22	BD	
1,1,1,2-Tetrachloroethane	Not Detected	1	µg/L	04/26/22	BD	
1,1,2,2-Tetrachloroethane	Not Detected	1	µg/L	04/26/22	BD	
Tetrachloroethylene	Not Detected	1	µg/L	04/26/22	BD	
Tetrahydrofuran	Not Detected	90	µg/L	04/26/22	BD	
Toluene	Not Detected	1	µg/L	04/26/22	BD	
1,2,3-Trichlorobenzene	Not Detected	5	µg/L	04/26/22	BD	
1,2,4-Trichlorobenzene	Not Detected	5	µg/L	04/26/22	BD	
1,1,1-Trichloroethane	Not Detected	1	µg/L	04/26/22	BD	
1,1,2-Trichloroethane	Not Detected	1	µg/L	04/26/22	BD	
Trichloroethylene	Not Detected	1	µg/L	04/26/22	BD	
Trichlorofluoromethane	Not Detected	1	µg/L	04/26/22	BD	
1,2,3-Trichloropropane	Not Detected	1	µg/L	04/26/22	BD	
1,2,4-Trimethylbenzene	Not Detected	1	µg/L	04/26/22	BD	
1,3,5-Trimethylbenzene	Not Detected	1	µg/L	04/26/22	BD	
Vinyl Acetate	Not Detected	100	µg/L	04/26/22	BD	
Vinyl chloride	Not Detected	1	µg/L	04/26/22	BD	
Xylene (Total)	Not Detected	3	µg/L	04/26/22	BD	
<b>Surrogate Standards</b>						
1,2-Dichloroethane-d4	94.5%	-	% Recovery	04/26/22	BD	
Toluene-d8	103%	-	% Recovery	04/26/22	BD	
4-Bromofluorobenzene	103%	-	% Recovery	04/26/22	BD	
<b>continued</b>						

Data Qualifiers: I Internal Standard results outside of acceptance limits E Reporting limit is elevated M Matrix interference observed  
 S QC spike recovery outside of acceptance limits D Result is from a dilution F Matrix Spike four times rule applied  
 R RPD outside of acceptance limits J Result should be considered estimated C See Case Narrative

Sample Description:	GP/TMW-4, 1243, 4/19/22					
Laboratory ID:	12245-4	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>Semi-Volatile Organic Cmpds</b>			☐			
Acenaphthene	Not Detected	5	µg/L	04/23/22	BD	
Acenaphthylene	Not Detected	5	µg/L	04/23/22	BD	
Aniline	Not Detected	4	µg/L	04/23/22	BD	
Anthracene	Not Detected	5	µg/L	04/23/22	BD	
Azobenzene	Not Detected	2	µg/L	04/23/22	BD	
Benzidine	Not Detected	2	µg/L	04/23/22	BD	
Benzo(a)anthracene	Not Detected	1	µg/L	04/23/22	BD	
Benzo(b)fluoranthene	Not Detected	1	µg/L	04/23/22	BD	
Benzo(k)fluoranthene	Not Detected	1	µg/L	04/23/22	BD	
Benzo(g,h,i)perylene	Not Detected	1	µg/L	04/23/22	BD	
Benzo(a)pyrene	Not Detected	1	µg/L	04/23/22	BD	
Benzyl alcohol	Not Detected	50	µg/L	04/23/22	BD	
Bis(2-chloroethyl)ether	Not Detected	1	µg/L	04/23/22	BD	
Bis(2-chloroisopropyl)ether	Not Detected	5	µg/L	04/23/22	BD	
Bis(2-chloroethoxy)methane	Not Detected	5	µg/L	04/23/22	BD	
Bis(2-ethylhexyl)phthalate	Not Detected	5	µg/L	04/23/22	BD	
4-Bromophenyl phenyl ether	Not Detected	5	µg/L	04/23/22	BD	
Butyl benzyl phthalate	Not Detected	5	µg/L	04/23/22	BD	
Carbazole	Not Detected	10	µg/L	04/23/22	BD	
4-Chloroaniline	Not Detected	10	µg/L	04/23/22	BD	
4-Chloro-3-methylphenol	Not Detected	5	µg/L	04/23/22	BD	
2-Chloronaphthalene (beta)	Not Detected	5	µg/L	04/23/22	BD	
2-Chlorophenol	Not Detected	10	µg/L	04/23/22	BD	
4-Chlorophenyl phenyl ether	Not Detected	5	µg/L	04/23/22	BD	
Chrysene	Not Detected	1	µg/L	04/23/22	BD	
Di-n-butylphthalate	Not Detected	5	µg/L	04/23/22	BD	
Di-n-octyl phthalate	Not Detected	5	µg/L	04/23/22	BD	
Dibenzo(a,h)anthracene	Not Detected	2	µg/L	04/23/22	BD	
Dibenzofuran	Not Detected	4	µg/L	04/23/22	BD	
3,3'-Dichlorobenzidine	Not Detected	2	µg/L	04/23/22	BD	
2,4-Dichlorophenol	Not Detected	10	µg/L	04/23/22	BD	
Diethylphthalate	Not Detected	5	µg/L	04/23/22	BD	
Dimethyl phthalate	Not Detected	5	µg/L	04/23/22	BD	
2,4-Dimethylphenol	Not Detected	5	µg/L	04/23/22	BD	
2,4-Dinitrophenol	Not Detected	25	µg/L	04/23/22	BD	
2,4-Dinitrotoluene	Not Detected	5	µg/L	04/23/22	BD	
2,6-Dinitrotoluene	Not Detected	5	µg/L	04/23/22	BD	
<b>continued</b>						

Data Qualifiers: I Internal Standard results outside of acceptance limits E Reporting limit is elevated M Matrix interference observed  
 S QC spike recovery outside of acceptance limits D Result is from a dilution F Matrix Spike four times rule applied  
 R RPD outside of acceptance limits J Result should be considered estimated C See Case Narrative

Sample Description:		GP/TMW-4, 1243, 4/19/22				
Laboratory ID:	12245-4	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>SVOC's, Cont'd</b>			☐			
Fluoranthene	Not Detected	1	µg/L	04/23/22	BD	
Fluorene	Not Detected	5	µg/L	04/23/22	BD	
Hexachlorobenzene	Not Detected	1	µg/L	04/23/22	BD	
Hexachlorocyclopentadiene	Not Detected	5	µg/L	04/23/22	BD	
Hexachloroethane	Not Detected	5	µg/L	04/23/22	BD	
Indeno(1,2,3-cd)pyrene	Not Detected	2	µg/L	04/23/22	BD	
Isophorone	Not Detected	5	µg/L	04/23/22	BD	
2-Methyl-4,6-Dinitrophenol	Not Detected	20	µg/L	04/23/22	BD	
2-Methylnaphthalene	Not Detected	5	µg/L	04/23/22	BD	
2-Methylphenol	Not Detected	10	µg/L	04/23/22	BD	
4-Methylphenol	Not Detected	10	µg/L	04/23/22	BD	
Methylphenols (total)	Not Detected	30	µg/L	04/23/22	BD	
Naphthalene	Not Detected	5	µg/L	04/23/22	BD	
2-Nitroaniline	Not Detected	25	µg/L	04/23/22	BD	
3-Nitroaniline	Not Detected	25	µg/L	04/23/22	BD	
4-Nitroaniline	Not Detected	25	µg/L	04/23/22	BD	
Nitrobenzene	Not Detected	3	µg/L	04/23/22	BD	
2-Nitrophenol	Not Detected	5	µg/L	04/23/22	BD	
4-Nitrophenol	Not Detected	25	µg/L	04/23/22	BD	
N-Nitrosodi-n-propylamine	Not Detected	5	µg/L	04/23/22	BD	
N-Nitrosodiphenylamine	Not Detected	5	µg/L	04/23/22	BD	
Pentachlorophenol	Not Detected	1	µg/L	04/23/22	BD	
Phenanthrene	Not Detected	2	µg/L	04/23/22	BD	
Phenol	Not Detected	5	µg/L	04/23/22	BD	
Pyrene	Not Detected	5	µg/L	04/23/22	BD	
Pyridine	Not Detected	20	µg/L	04/23/22	BD	
2,4,5-Trichlorophenol	Not Detected	5	µg/L	04/23/22	BD	
2,4,6-Trichlorophenol	Not Detected	4	µg/L	04/23/22	BD	
<b>Surrogate Standards</b>						
2-Fluorophenol	33.2%	-	% Recovery	04/23/22	BD	
Phenol-d5	31.9%	-	% Recovery	04/23/22	BD	
Nitrobenzene-d5	41.9%	-	% Recovery	04/23/22	BD	
2-Fluorobiphenyl	52.4%	-	% Recovery	04/23/22	BD	
2,4,6-Tribromophenol	47.6%	-	% Recovery	04/23/22	BD	
Terphenyl-d14	43.0%	-	% Recovery	04/23/22	BD	
<b>continued</b>						

Sample Description:		GP/TMW-4, 1243, 4/19/22				
Laboratory ID:	12245-4	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>Total Petroleum Hydrocarbons</b>						
GRO (C <sub>6</sub> -C <sub>10</sub> )	Not Detected	100	µg/L	04/26/22	BD	
DRO (C <sub>10</sub> -C <sub>28</sub> )	Not Detected	100	µg/L	04/26/22	DS	
ORO (C <sub>28</sub> -C <sub>34</sub> )	Not Detected	200	µg/L	04/29/22	DS	
<b>Analysis Information</b>						
SVOC Extraction	Completed	-	-	04/22/22	LB	
TPH-DRO/ ORO Extraction	Completed	-	-	04/23/22	LB	

Sample Description:		GP/TMW-5, 1350, 4/19/22				
Laboratory ID:	12245-5	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b><i>Volatile Organic Compounds</i></b>						
Acetone	Not Detected	50	µg/L	04/26/22	BD	
Benzene	Not Detected	1	µg/L	04/26/22	BD	
Bromobenzene	Not Detected	1	µg/L	04/26/22	BD	
Bromochloromethane	Not Detected	1	µg/L	04/26/22	BD	
Bromodichloromethane	Not Detected	1	µg/L	04/26/22	BD	
Bromoform	Not Detected	1	µg/L	04/26/22	BD	
Bromomethane	Not Detected	5	µg/L	04/26/22	BD	
2-Butanone (MEK)	Not Detected	25	µg/L	04/26/22	BD	
n-Butylbenzene	Not Detected	1	µg/L	04/26/22	BD	
sec-Butylbenzene	Not Detected	1	µg/L	04/26/22	BD	
tert-Butylbenzene	Not Detected	1	µg/L	04/26/22	BD	
Carbon disulfide	Not Detected	5	µg/L	04/26/22	BD	
Carbon tetrachloride	Not Detected	1	µg/L	04/26/22	BD	
Chlorobenzene	Not Detected	1	µg/L	04/26/22	BD	
Chloroethane	Not Detected	5	µg/L	04/26/22	BD	
Chloroform	Not Detected	1	µg/L	04/26/22	BD	
Chloromethane	Not Detected	5	µg/L	04/26/22	BD	
2-Chlorotoluene	Not Detected	5	µg/L	04/26/22	BD	
4-Chlorotoluene	Not Detected	5	µg/L	04/26/22	BD	
Dibromochloromethane	Not Detected	5	µg/L	04/26/22	BD	
1,2-Dibromo-3-chloropropane	Not Detected	0.2	µg/L	04/26/22	BD	
Dibromomethane	Not Detected	5	µg/L	04/26/22	BD	
1,2-Dichlorobenzene	Not Detected	1	µg/L	04/26/22	BD	
1,3-Dichlorobenzene	Not Detected	1	µg/L	04/26/22	BD	
1,4-Dichlorobenzene	Not Detected	1	µg/L	04/26/22	BD	
Dichlorodifluoromethane	Not Detected	5	µg/L	04/26/22	BD	
1,1-Dichloroethane	Not Detected	1	µg/L	04/26/22	BD	
1,2-Dichloroethane	Not Detected	1	µg/L	04/26/22	BD	
1,1-Dichloroethylene	Not Detected	1	µg/L	04/26/22	BD	
cis-1,2-Dichloroethylene	Not Detected	1	µg/L	04/26/22	BD	
trans-1,2-Dichloroethylene	Not Detected	1	µg/L	04/26/22	BD	
1,2-Dichloropropane	Not Detected	1	µg/L	04/26/22	BD	
1,3-Dichloropropane	Not Detected	1	µg/L	04/26/22	BD	
2,2-Dichloropropane	Not Detected	1	µg/L	04/26/22	BD	
1,1-Dichloropropene	Not Detected	1	µg/L	04/26/22	BD	
1,3-Dichloropropene	Not Detected	1	µg/L	04/26/22	BD	
<b>continued</b>						

Data Qualifiers: I Internal Standard results outside of acceptance limits E Reporting limit is elevated M Matrix interference observed  
 S QC spike recovery outside of acceptance limits D Result is from a dilution F Matrix Spike four times rule applied  
 R RPD outside of acceptance limits J Result should be considered estimated C See Case Narrative

Sample Description:		GP/TMW-5, 1350, 4/19/22				
Laboratory ID:	12245-5	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>VOC's, Cont'd</b>						
Ethylbenzene	Not Detected	1	µg/L	04/26/22	BD	
Ethylene Dibromide (1,2-Dibromoethane)	Not Detected	0.2	µg/L	04/26/22	BD	
Hexachlorobutadiene	Not Detected	0.2	µg/L	04/26/22	BD	
2-Hexanone	Not Detected	50	µg/L	04/26/22	BD	
Isopropyl benzene	Not Detected	5	µg/L	04/26/22	BD	
4-Methyl-2-pentanone (MIBK)	Not Detected	50	µg/L	04/26/22	BD	
Methyl-t-butyl ether (MTBE)	Not Detected	5	µg/L	04/26/22	BD	
Methylene chloride	Not Detected	5	µg/L	04/26/22	BD	
2-Methylnaphthalene	Not Detected	5	µg/L	04/26/22	BD	
Naphthalene	Not Detected	5	µg/L	04/26/22	BD	
n-Propyl benzene	Not Detected	1	µg/L	04/26/22	BD	
Styrene	Not Detected	1	µg/L	04/26/22	BD	
1,1,1,2-Tetrachloroethane	Not Detected	1	µg/L	04/26/22	BD	
1,1,2,2-Tetrachloroethane	Not Detected	1	µg/L	04/26/22	BD	
Tetrachloroethylene	Not Detected	1	µg/L	04/26/22	BD	
Tetrahydrofuran	Not Detected	90	µg/L	04/26/22	BD	
Toluene	Not Detected	1	µg/L	04/26/22	BD	
1,2,3-Trichlorobenzene	Not Detected	5	µg/L	04/26/22	BD	
1,2,4-Trichlorobenzene	Not Detected	5	µg/L	04/26/22	BD	
1,1,1-Trichloroethane	Not Detected	1	µg/L	04/26/22	BD	
1,1,2-Trichloroethane	Not Detected	1	µg/L	04/26/22	BD	
Trichloroethylene	Not Detected	1	µg/L	04/26/22	BD	
Trichlorofluoromethane	Not Detected	1	µg/L	04/26/22	BD	
1,2,3-Trichloropropane	Not Detected	1	µg/L	04/26/22	BD	
1,2,4-Trimethylbenzene	Not Detected	1	µg/L	04/26/22	BD	
1,3,5-Trimethylbenzene	Not Detected	1	µg/L	04/26/22	BD	
Vinyl Acetate	Not Detected	100	µg/L	04/26/22	BD	
Vinyl chloride	Not Detected	1	µg/L	04/26/22	BD	
Xylene (Total)	Not Detected	3	µg/L	04/26/22	BD	
<b>Surrogate Standards</b>						
1,2-Dichloroethane-d4	88.8%	-	% Recovery	04/26/22	BD	
Toluene-d8	103%	-	% Recovery	04/26/22	BD	
4-Bromofluorobenzene	102%	-	% Recovery	04/26/22	BD	
<b>continued</b>						

Data Qualifiers: I Internal Standard results outside of acceptance limits E Reporting limit is elevated M Matrix interference observed  
 S QC spike recovery outside of acceptance limits D Result is from a dilution F Matrix Spike four times rule applied  
 R RPD outside of acceptance limits J Result should be considered estimated C See Case Narrative

Sample Description:		GP/TMW-5, 1350, 4/19/22				
Laboratory ID:	12245-5	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>Semi-Volatile Organic Cmpds</b>			☐			
Acenaphthene	Not Detected	5	µg/L	04/23/22	BD	
Acenaphthylene	Not Detected	5	µg/L	04/23/22	BD	
Aniline	Not Detected	4	µg/L	04/23/22	BD	
Anthracene	Not Detected	5	µg/L	04/23/22	BD	
Azobenzene	Not Detected	2	µg/L	04/23/22	BD	
Benzidine	Not Detected	2	µg/L	04/23/22	BD	
Benzo(a)anthracene	Not Detected	1	µg/L	04/23/22	BD	
Benzo(b)fluoranthene	Not Detected	1	µg/L	04/23/22	BD	
Benzo(k)fluoranthene	Not Detected	1	µg/L	04/23/22	BD	
Benzo(g,h,i)perylene	Not Detected	1	µg/L	04/23/22	BD	
Benzo(a)pyrene	Not Detected	1	µg/L	04/23/22	BD	
Benzyl alcohol	Not Detected	50	µg/L	04/23/22	BD	
Bis(2-chloroethyl)ether	Not Detected	1	µg/L	04/23/22	BD	
Bis(2-chloroisopropyl)ether	Not Detected	5	µg/L	04/23/22	BD	
Bis(2-chloroethoxy)methane	Not Detected	5	µg/L	04/23/22	BD	
Bis(2-ethylhexyl)phthalate	Not Detected	5	µg/L	04/23/22	BD	
4-Bromophenyl phenyl ether	Not Detected	5	µg/L	04/23/22	BD	
Butyl benzyl phthalate	Not Detected	5	µg/L	04/23/22	BD	
Carbazole	Not Detected	10	µg/L	04/23/22	BD	
4-Chloroaniline	Not Detected	10	µg/L	04/23/22	BD	
4-Chloro-3-methylphenol	Not Detected	5	µg/L	04/23/22	BD	
2-Chloronaphthalene (beta)	Not Detected	5	µg/L	04/23/22	BD	
2-Chlorophenol	Not Detected	10	µg/L	04/23/22	BD	
4-Chlorophenyl phenyl ether	Not Detected	5	µg/L	04/23/22	BD	
Chrysene	Not Detected	1	µg/L	04/23/22	BD	
Di-n-butylphthalate	Not Detected	5	µg/L	04/23/22	BD	
Di-n-octyl phthalate	Not Detected	5	µg/L	04/23/22	BD	
Dibenzo(a,h)anthracene	Not Detected	2	µg/L	04/23/22	BD	
Dibenzofuran	Not Detected	4	µg/L	04/23/22	BD	
3,3'-Dichlorobenzidine	Not Detected	2	µg/L	04/23/22	BD	
2,4-Dichlorophenol	Not Detected	10	µg/L	04/23/22	BD	
Diethylphthalate	Not Detected	5	µg/L	04/23/22	BD	
Dimethyl phthalate	Not Detected	5	µg/L	04/23/22	BD	
2,4-Dimethylphenol	Not Detected	5	µg/L	04/23/22	BD	
2,4-Dinitrophenol	Not Detected	25	µg/L	04/23/22	BD	
2,4-Dinitrotoluene	Not Detected	5	µg/L	04/23/22	BD	
2,6-Dinitrotoluene	Not Detected	5	µg/L	04/23/22	BD	
<b>continued</b>						

Data Qualifiers: I Internal Standard results outside of acceptance limits E Reporting limit is elevated M Matrix interference observed  
 S QC spike recovery outside of acceptance limits D Result is from a dilution F Matrix Spike four times rule applied  
 R RPD outside of acceptance limits J Result should be considered estimated C See Case Narrative

Sample Description:		GP/TMW-5, 1350, 4/19/22				
Laboratory ID:	12245-5	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>SVOC's, Cont'd</b>			☐			
Fluoranthene	Not Detected	1	µg/L	04/23/22	BD	
Fluorene	Not Detected	5	µg/L	04/23/22	BD	
Hexachlorobenzene	Not Detected	1	µg/L	04/23/22	BD	
Hexachlorocyclopentadiene	Not Detected	5	µg/L	04/23/22	BD	
Hexachloroethane	Not Detected	5	µg/L	04/23/22	BD	
Indeno(1,2,3-cd)pyrene	Not Detected	2	µg/L	04/23/22	BD	
Isophorone	Not Detected	5	µg/L	04/23/22	BD	
2-Methyl-4,6-Dinitrophenol	Not Detected	20	µg/L	04/23/22	BD	
2-Methylnaphthalene	Not Detected	5	µg/L	04/23/22	BD	
2-Methylphenol	Not Detected	10	µg/L	04/23/22	BD	
4-Methylphenol	Not Detected	10	µg/L	04/23/22	BD	
Methylphenols (total)	Not Detected	30	µg/L	04/23/22	BD	
Naphthalene	Not Detected	5	µg/L	04/23/22	BD	
2-Nitroaniline	Not Detected	25	µg/L	04/23/22	BD	
3-Nitroaniline	Not Detected	25	µg/L	04/23/22	BD	
4-Nitroaniline	Not Detected	25	µg/L	04/23/22	BD	
Nitrobenzene	Not Detected	3	µg/L	04/23/22	BD	
2-Nitrophenol	Not Detected	5	µg/L	04/23/22	BD	
4-Nitrophenol	Not Detected	25	µg/L	04/23/22	BD	
N-Nitrosodi-n-propylamine	Not Detected	5	µg/L	04/23/22	BD	
N-Nitrosodiphenylamine	Not Detected	5	µg/L	04/23/22	BD	
Pentachlorophenol	Not Detected	1	µg/L	04/23/22	BD	
Phenanthrene	Not Detected	2	µg/L	04/23/22	BD	
Phenol	Not Detected	5	µg/L	04/23/22	BD	
Pyrene	Not Detected	5	µg/L	04/23/22	BD	
Pyridine	Not Detected	20	µg/L	04/23/22	BD	
2,4,5-Trichlorophenol	Not Detected	5	µg/L	04/23/22	BD	
2,4,6-Trichlorophenol	Not Detected	4	µg/L	04/23/22	BD	
<b>Surrogate Standards</b>						
2-Fluorophenol	32.2%	-	% Recovery	04/23/22	BD	
Phenol-d5	28.0%	-	% Recovery	04/23/22	BD	
Nitrobenzene-d5	44.3%	-	% Recovery	04/23/22	BD	
2-Fluorobiphenyl	54.0%	-	% Recovery	04/23/22	BD	
2,4,6-Tribromophenol	43.4%	-	% Recovery	04/23/22	BD	
Terphenyl-d14	43.9%	-	% Recovery	04/23/22	BD	
<b>continued</b>						

Sample Description:		GP/TMW-5, 1350, 4/19/22				
Laboratory ID:	12245-5	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>Total Petroleum Hydrocarbons</b>						
GRO (C <sub>6</sub> -C <sub>10</sub> )	Not Detected	100	µg/L	04/26/22	BD	
DRO (C <sub>10</sub> -C <sub>28</sub> )	188	100	µg/L	04/26/22	DS	
ORO (C <sub>28</sub> -C <sub>34</sub> )	284	200	µg/L	04/29/22	DS	
<b>Analysis Information</b>						
SVOC Extraction	Completed	-	-	04/22/22	LB	
TPH-DRO/ ORO Extraction	Completed	-	-	04/23/22	LB	

Sample Description:	ST Sewer, 1202, 4/19/22					
Laboratory ID:	12245-6	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b><i>Volatile Organic Compounds</i></b>						
Acetone	Not Detected	50	µg/L	04/26/22	BD	
Benzene	Not Detected	1	µg/L	04/26/22	BD	
Bromobenzene	Not Detected	1	µg/L	04/26/22	BD	
Bromochloromethane	Not Detected	1	µg/L	04/26/22	BD	
Bromodichloromethane	Not Detected	1	µg/L	04/26/22	BD	
Bromoform	Not Detected	1	µg/L	04/26/22	BD	
Bromomethane	Not Detected	5	µg/L	04/26/22	BD	
2-Butanone (MEK)	Not Detected	25	µg/L	04/26/22	BD	
n-Butylbenzene	Not Detected	1	µg/L	04/26/22	BD	
sec-Butylbenzene	Not Detected	1	µg/L	04/26/22	BD	
tert-Butylbenzene	Not Detected	1	µg/L	04/26/22	BD	
Carbon disulfide	Not Detected	5	µg/L	04/26/22	BD	
Carbon tetrachloride	Not Detected	1	µg/L	04/26/22	BD	
Chlorobenzene	Not Detected	1	µg/L	04/26/22	BD	
Chloroethane	Not Detected	5	µg/L	04/26/22	BD	
Chloroform	Not Detected	1	µg/L	04/26/22	BD	
Chloromethane	Not Detected	5	µg/L	04/26/22	BD	
2-Chlorotoluene	Not Detected	5	µg/L	04/26/22	BD	
4-Chlorotoluene	Not Detected	5	µg/L	04/26/22	BD	
Dibromochloromethane	Not Detected	5	µg/L	04/26/22	BD	
1,2-Dibromo-3-chloropropane	Not Detected	0.2	µg/L	04/26/22	BD	
Dibromomethane	Not Detected	5	µg/L	04/26/22	BD	
1,2-Dichlorobenzene	Not Detected	1	µg/L	04/26/22	BD	
1,3-Dichlorobenzene	Not Detected	1	µg/L	04/26/22	BD	
1,4-Dichlorobenzene	Not Detected	1	µg/L	04/26/22	BD	
Dichlorodifluoromethane	Not Detected	5	µg/L	04/26/22	BD	
1,1-Dichloroethane	Not Detected	1	µg/L	04/26/22	BD	
1,2-Dichloroethane	Not Detected	1	µg/L	04/26/22	BD	
1,1-Dichloroethylene	Not Detected	1	µg/L	04/26/22	BD	
cis-1,2-Dichloroethylene	Not Detected	1	µg/L	04/26/22	BD	
trans-1,2-Dichloroethylene	Not Detected	1	µg/L	04/26/22	BD	
1,2-Dichloropropane	Not Detected	1	µg/L	04/26/22	BD	
1,3-Dichloropropane	Not Detected	1	µg/L	04/26/22	BD	
2,2-Dichloropropane	Not Detected	1	µg/L	04/26/22	BD	
1,1-Dichloropropene	Not Detected	1	µg/L	04/26/22	BD	
1,3-Dichloropropene	Not Detected	1	µg/L	04/26/22	BD	
<b>continued</b>						

Sample Description:		ST Sewer, 1202, 4/19/22				
Laboratory ID:	12245-6	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>VOC's, Cont'd</b>						
Ethylbenzene	Not Detected	1	µg/L	04/26/22	BD	
Ethylene Dibromide (1,2-Dibromoethane)	Not Detected	0.2	µg/L	04/26/22	BD	
Hexachlorobutadiene	Not Detected	0.2	µg/L	04/26/22	BD	
2-Hexanone	Not Detected	50	µg/L	04/26/22	BD	
Isopropyl benzene	Not Detected	5	µg/L	04/26/22	BD	
4-Methyl-2-pentanone (MIBK)	Not Detected	50	µg/L	04/26/22	BD	
Methyl-t-butyl ether (MTBE)	Not Detected	5	µg/L	04/26/22	BD	
Methylene chloride	Not Detected	5	µg/L	04/26/22	BD	
2-Methylnaphthalene	Not Detected	5	µg/L	04/26/22	BD	
Naphthalene	Not Detected	5	µg/L	04/26/22	BD	
n-Propyl benzene	Not Detected	1	µg/L	04/26/22	BD	
Styrene	Not Detected	1	µg/L	04/26/22	BD	
1,1,1,2-Tetrachloroethane	Not Detected	1	µg/L	04/26/22	BD	
1,1,2,2-Tetrachloroethane	Not Detected	1	µg/L	04/26/22	BD	
Tetrachloroethylene	Not Detected	1	µg/L	04/26/22	BD	
Tetrahydrofuran	Not Detected	90	µg/L	04/26/22	BD	
Toluene	Not Detected	1	µg/L	04/26/22	BD	
1,2,3-Trichlorobenzene	Not Detected	5	µg/L	04/26/22	BD	
1,2,4-Trichlorobenzene	Not Detected	5	µg/L	04/26/22	BD	
1,1,1-Trichloroethane	Not Detected	1	µg/L	04/26/22	BD	
1,1,2-Trichloroethane	Not Detected	1	µg/L	04/26/22	BD	
Trichloroethylene	Not Detected	1	µg/L	04/26/22	BD	
Trichlorofluoromethane	Not Detected	1	µg/L	04/26/22	BD	
1,2,3-Trichloropropane	Not Detected	1	µg/L	04/26/22	BD	
1,2,4-Trimethylbenzene	Not Detected	1	µg/L	04/26/22	BD	
1,3,5-Trimethylbenzene	Not Detected	1	µg/L	04/26/22	BD	
Vinyl Acetate	Not Detected	100	µg/L	04/26/22	BD	
Vinyl chloride	Not Detected	1	µg/L	04/26/22	BD	
Xylene (Total)	Not Detected	3	µg/L	04/26/22	BD	
<b>Surrogate Standards</b>						
1,2-Dichloroethane-d4	91.4%	-	% Recovery	04/26/22	BD	
Toluene-d8	104%	-	% Recovery	04/26/22	BD	
4-Bromofluorobenzene	104%	-	% Recovery	04/26/22	BD	
<b>continued</b>						

Sample Description:	ST Sewer, 1202, 4/19/22					
Laboratory ID:	12245-6	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>Semi-Volatile Organic Cmpds</b>			☐			
Acenaphthene	Not Detected	5	µg/L	04/23/22	BD	
Acenaphthylene	Not Detected	5	µg/L	04/23/22	BD	
Aniline	Not Detected	4	µg/L	04/23/22	BD	
Anthracene	Not Detected	5	µg/L	04/23/22	BD	
Azobenzene	Not Detected	2	µg/L	04/23/22	BD	
Benzidine	Not Detected	2	µg/L	04/23/22	BD	
Benzo(a)anthracene	Not Detected	1	µg/L	04/23/22	BD	
Benzo(b)fluoranthene	Not Detected	1	µg/L	04/23/22	BD	
Benzo(k)fluoranthene	Not Detected	1	µg/L	04/23/22	BD	
Benzo(g,h,i)perylene	Not Detected	1	µg/L	04/23/22	BD	
Benzo(a)pyrene	Not Detected	1	µg/L	04/23/22	BD	
Benzyl alcohol	Not Detected	50	µg/L	04/23/22	BD	
Bis(2-chloroethyl)ether	Not Detected	1	µg/L	04/23/22	BD	
Bis(2-chloroisopropyl)ether	Not Detected	5	µg/L	04/23/22	BD	
Bis(2-chloroethoxy)methane	Not Detected	5	µg/L	04/23/22	BD	
Bis(2-ethylhexyl)phthalate	Not Detected	5	µg/L	04/23/22	BD	
4-Bromophenyl phenyl ether	Not Detected	5	µg/L	04/23/22	BD	
Butyl benzyl phthalate	Not Detected	5	µg/L	04/23/22	BD	
Carbazole	Not Detected	10	µg/L	04/23/22	BD	
4-Chloroaniline	Not Detected	10	µg/L	04/23/22	BD	
4-Chloro-3-methylphenol	Not Detected	5	µg/L	04/23/22	BD	
2-Chloronaphthalene (beta)	Not Detected	5	µg/L	04/23/22	BD	
2-Chlorophenol	Not Detected	10	µg/L	04/23/22	BD	
4-Chlorophenyl phenyl ether	Not Detected	5	µg/L	04/23/22	BD	
Chrysene	Not Detected	1	µg/L	04/23/22	BD	
Di-n-butylphthalate	Not Detected	5	µg/L	04/23/22	BD	
Di-n-octyl phthalate	Not Detected	5	µg/L	04/23/22	BD	
Dibenzo(a,h)anthracene	Not Detected	2	µg/L	04/23/22	BD	
Dibenzofuran	Not Detected	4	µg/L	04/23/22	BD	
3,3'-Dichlorobenzidine	Not Detected	2	µg/L	04/23/22	BD	
2,4-Dichlorophenol	Not Detected	10	µg/L	04/23/22	BD	
Diethylphthalate	Not Detected	5	µg/L	04/23/22	BD	
Dimethyl phthalate	Not Detected	5	µg/L	04/23/22	BD	
2,4-Dimethylphenol	Not Detected	5	µg/L	04/23/22	BD	
2,4-Dinitrophenol	Not Detected	25	µg/L	04/23/22	BD	
2,4-Dinitrotoluene	Not Detected	5	µg/L	04/23/22	BD	
2,6-Dinitrotoluene	Not Detected	5	µg/L	04/23/22	BD	
<b>continued</b>						

Data Qualifiers: I Internal Standard results outside of acceptance limits E Reporting limit is elevated M Matrix interference observed  
 S QC spike recovery outside of acceptance limits D Result is from a dilution F Matrix Spike four times rule applied  
 R RPD outside of acceptance limits J Result should be considered estimated C See Case Narrative

Sample Description:		ST Sewer, 1202, 4/19/22				
Laboratory ID:	12245-6	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>SVOC's, Cont'd</b>			☐			
Fluoranthene	Not Detected	1	µg/L	04/23/22	BD	
Fluorene	Not Detected	5	µg/L	04/23/22	BD	
Hexachlorobenzene	Not Detected	1	µg/L	04/23/22	BD	
Hexachlorocyclopentadiene	Not Detected	5	µg/L	04/23/22	BD	
Hexachloroethane	Not Detected	5	µg/L	04/23/22	BD	
Indeno(1,2,3-cd)pyrene	Not Detected	2	µg/L	04/23/22	BD	
Isophorone	Not Detected	5	µg/L	04/23/22	BD	
2-Methyl-4,6-Dinitrophenol	Not Detected	20	µg/L	04/23/22	BD	
2-Methylnaphthalene	Not Detected	5	µg/L	04/23/22	BD	
2-Methylphenol	Not Detected	10	µg/L	04/23/22	BD	
4-Methylphenol	Not Detected	10	µg/L	04/23/22	BD	
Methylphenols (total)	Not Detected	30	µg/L	04/23/22	BD	
Naphthalene	Not Detected	5	µg/L	04/23/22	BD	
2-Nitroaniline	Not Detected	25	µg/L	04/23/22	BD	
3-Nitroaniline	Not Detected	25	µg/L	04/23/22	BD	
4-Nitroaniline	Not Detected	25	µg/L	04/23/22	BD	
Nitrobenzene	Not Detected	3	µg/L	04/23/22	BD	
2-Nitrophenol	Not Detected	5	µg/L	04/23/22	BD	
4-Nitrophenol	Not Detected	25	µg/L	04/23/22	BD	
N-Nitrosodi-n-propylamine	Not Detected	5	µg/L	04/23/22	BD	
N-Nitrosodiphenylamine	Not Detected	5	µg/L	04/23/22	BD	
Pentachlorophenol	Not Detected	1	µg/L	04/23/22	BD	
Phenanthrene	Not Detected	2	µg/L	04/23/22	BD	
Phenol	Not Detected	5	µg/L	04/23/22	BD	
Pyrene	Not Detected	5	µg/L	04/23/22	BD	
Pyridine	Not Detected	20	µg/L	04/23/22	BD	
2,4,5-Trichlorophenol	Not Detected	5	µg/L	04/23/22	BD	
2,4,6-Trichlorophenol	Not Detected	4	µg/L	04/23/22	BD	
<b>Surrogate Standards</b>						
2-Fluorophenol	34.6%	-	% Recovery	04/23/22	BD	
Phenol-d5	32.1%	-	% Recovery	04/23/22	BD	
Nitrobenzene-d5	45.1%	-	% Recovery	04/23/22	BD	
2-Fluorobiphenyl	54.6%	-	% Recovery	04/23/22	BD	
2,4,6-Tribromophenol	44.3%	-	% Recovery	04/23/22	BD	
Terphenyl-d14	42.5%	-	% Recovery	04/23/22	BD	
<b>continued</b>						

Sample Description:		ST Sewer, 1202, 4/19/22				
Laboratory ID:	12245-6	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>Michigan Metals</b>						
Arsenic	Not Detected	5	µg/L	04/26/22	DS	
Barium	452	100	µg/L	04/26/22	DS	
Cadmium	Not Detected	1	µg/L	04/26/22	DS	
Chromium	Not Detected	5	µg/L	04/26/22	DS	
Copper	Not Detected	4	µg/L	04/26/22	DS	
Lead	Not Detected	3	µg/L	04/26/22	DS	
Mercury	Not Detected	0.2	µg/L	04/27/22	DS	
Selenium	Not Detected	5	µg/L	04/26/22	DS	
Silver	Not Detected	0.2	µg/L	04/26/22	DS	
Zinc	Not Detected	50	µg/L	04/26/22	DS	
<b>Total Petroleum Hydrocarbons</b>						
GRO (C <sub>6</sub> -C <sub>10</sub> )	146	100	µg/L	04/26/22	BD	
DRO (C <sub>10</sub> -C <sub>28</sub> )	132	100	µg/L	04/26/22	DS	
ORO (C <sub>28</sub> -C <sub>34</sub> )	Not Detected	200	µg/L	04/29/22	DS	
<b>Analysis Information</b>						
SVOC Extraction	Completed	-	-	04/22/22	LB	
TPH-DRO/ ORO Extraction	Completed	-	-	04/23/22	LB	
Mercury Digestion	Completed	-	-	04/26/22	LB	
Metals Digestion	Completed	-	-	04/26/22	LB	

Sample Description:	Dup, 0000, 4/19/22					
Laboratory ID:	12245-7	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b><i>Volatile Organic Compounds</i></b>						
Acetone	Not Detected	50	µg/L	04/26/22	BD	
Benzene	Not Detected	1	µg/L	04/26/22	BD	
Bromobenzene	Not Detected	1	µg/L	04/26/22	BD	
Bromochloromethane	Not Detected	1	µg/L	04/26/22	BD	
Bromodichloromethane	Not Detected	1	µg/L	04/26/22	BD	
Bromoform	Not Detected	1	µg/L	04/26/22	BD	
Bromomethane	Not Detected	5	µg/L	04/26/22	BD	
2-Butanone (MEK)	Not Detected	25	µg/L	04/26/22	BD	
n-Butylbenzene	14	1	µg/L	04/26/22	BD	
sec-Butylbenzene	6	1	µg/L	04/26/22	BD	
tert-Butylbenzene	Not Detected	1	µg/L	04/26/22	BD	
Carbon disulfide	Not Detected	5	µg/L	04/26/22	BD	
Carbon tetrachloride	Not Detected	1	µg/L	04/26/22	BD	
Chlorobenzene	Not Detected	1	µg/L	04/26/22	BD	
Chloroethane	Not Detected	5	µg/L	04/26/22	BD	
Chloroform	Not Detected	1	µg/L	04/26/22	BD	
Chloromethane	Not Detected	5	µg/L	04/26/22	BD	
2-Chlorotoluene	Not Detected	5	µg/L	04/26/22	BD	
4-Chlorotoluene	Not Detected	5	µg/L	04/26/22	BD	
Dibromochloromethane	Not Detected	5	µg/L	04/26/22	BD	
1,2-Dibromo-3-chloropropane	Not Detected	0.2	µg/L	04/26/22	BD	
Dibromomethane	Not Detected	5	µg/L	04/26/22	BD	
1,2-Dichlorobenzene	Not Detected	1	µg/L	04/26/22	BD	
1,3-Dichlorobenzene	Not Detected	1	µg/L	04/26/22	BD	
1,4-Dichlorobenzene	Not Detected	1	µg/L	04/26/22	BD	
Dichlorodifluoromethane	Not Detected	5	µg/L	04/26/22	BD	
1,1-Dichloroethane	Not Detected	1	µg/L	04/26/22	BD	
1,2-Dichloroethane	Not Detected	1	µg/L	04/26/22	BD	
1,1-Dichloroethylene	Not Detected	1	µg/L	04/26/22	BD	
cis-1,2-Dichloroethylene	Not Detected	1	µg/L	04/26/22	BD	
trans-1,2-Dichloroethylene	Not Detected	1	µg/L	04/26/22	BD	
1,2-Dichloropropane	Not Detected	1	µg/L	04/26/22	BD	
1,3-Dichloropropane	Not Detected	1	µg/L	04/26/22	BD	
2,2-Dichloropropane	Not Detected	1	µg/L	04/26/22	BD	
1,1-Dichloropropene	Not Detected	1	µg/L	04/26/22	BD	
1,3-Dichloropropene	Not Detected	1	µg/L	04/26/22	BD	
<b>continued</b>						

Data Qualifiers: I Internal Standard results outside of acceptance limits E Reporting limit is elevated M Matrix interference observed  
 S QC spike recovery outside of acceptance limits D Result is from a dilution F Matrix Spike four times rule applied  
 R RPD outside of acceptance limits J Result should be considered estimated C See Case Narrative

Sample Description:	Dup, 0000, 4/19/22					
Laboratory ID:	12245-7	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>VOC's, Cont'd</b>						
Ethylbenzene	5	1	µg/L	04/26/22	BD	
Ethylene Dibromide (1,2-Dibromoethane)	Not Detected	0.2	µg/L	04/26/22	BD	
Hexachlorobutadiene	Not Detected	0.2	µg/L	04/26/22	BD	
2-Hexanone	Not Detected	50	µg/L	04/26/22	BD	
Isopropyl benzene	15	5	µg/L	04/26/22	BD	
4-Methyl-2-pentanone (MIBK)	Not Detected	50	µg/L	04/26/22	BD	
Methyl-t-butyl ether (MTBE)	Not Detected	5	µg/L	04/26/22	BD	
Methylene chloride	Not Detected	5	µg/L	04/26/22	BD	
2-Methylnaphthalene	21	5	µg/L	04/26/22	BD	
Naphthalene	32	5	µg/L	04/26/22	BD	
n-Propyl benzene	46	1	µg/L	04/26/22	BD	
Styrene	Not Detected	1	µg/L	04/26/22	BD	
1,1,1,2-Tetrachloroethane	Not Detected	1	µg/L	04/26/22	BD	
1,1,2,2-Tetrachloroethane	Not Detected	1	µg/L	04/26/22	BD	
Tetrachloroethylene	Not Detected	1	µg/L	04/26/22	BD	
Tetrahydrofuran	Not Detected	90	µg/L	04/26/22	BD	
Toluene	Not Detected	1	µg/L	04/26/22	BD	
1,2,3-Trichlorobenzene	Not Detected	5	µg/L	04/26/22	BD	
1,2,4-Trichlorobenzene	Not Detected	5	µg/L	04/26/22	BD	
1,1,1-Trichloroethane	Not Detected	1	µg/L	04/26/22	BD	
1,1,2-Trichloroethane	Not Detected	1	µg/L	04/26/22	BD	
Trichloroethylene	Not Detected	1	µg/L	04/26/22	BD	
Trichlorofluoromethane	Not Detected	1	µg/L	04/26/22	BD	
1,2,3-Trichloropropane	Not Detected	1	µg/L	04/26/22	BD	
1,2,4-Trimethylbenzene	2	1	µg/L	04/26/22	BD	
1,3,5-Trimethylbenzene	Not Detected	1	µg/L	04/26/22	BD	
Vinyl Acetate	Not Detected	100	µg/L	04/26/22	BD	
Vinyl chloride	Not Detected	1	µg/L	04/26/22	BD	
Xylene (Total)	Not Detected	3	µg/L	04/26/22	BD	
<b>Surrogate Standards</b>						
1,2-Dichloroethane-d4	88.6%	-	% Recovery	04/26/22	BD	
Toluene-d8	95.5%	-	% Recovery	04/26/22	BD	
4-Bromofluorobenzene	101%	-	% Recovery	04/26/22	BD	
<b>continued</b>						

Sample Description:	Dup, 0000, 4/19/22					
Laboratory ID:	12245-7	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>Semi-Volatile Organic Cmpds</b>			☐			
Acenaphthene	Not Detected	5	µg/L	04/23/22	BD	
Acenaphthylene	Not Detected	5	µg/L	04/23/22	BD	
Aniline	Not Detected	4	µg/L	04/23/22	BD	
Anthracene	Not Detected	5	µg/L	04/23/22	BD	
Azobenzene	Not Detected	2	µg/L	04/23/22	BD	
Benzidine	Not Detected	2	µg/L	04/23/22	BD	
Benzo(a)anthracene	Not Detected	1	µg/L	04/23/22	BD	
Benzo(b)fluoranthene	Not Detected	1	µg/L	04/23/22	BD	
Benzo(k)fluoranthene	Not Detected	1	µg/L	04/23/22	BD	
Benzo(g,h,i)perylene	Not Detected	1	µg/L	04/23/22	BD	
Benzo(a)pyrene	Not Detected	1	µg/L	04/23/22	BD	
Benzyl alcohol	Not Detected	50	µg/L	04/23/22	BD	
Bis(2-chloroethyl)ether	Not Detected	1	µg/L	04/23/22	BD	
Bis(2-chloroisopropyl)ether	Not Detected	5	µg/L	04/23/22	BD	
Bis(2-chloroethoxy)methane	Not Detected	5	µg/L	04/23/22	BD	
Bis(2-ethylhexyl)phthalate	Not Detected	5	µg/L	04/23/22	BD	
4-Bromophenyl phenyl ether	Not Detected	5	µg/L	04/23/22	BD	
Butyl benzyl phthalate	Not Detected	5	µg/L	04/23/22	BD	
Carbazole	Not Detected	10	µg/L	04/23/22	BD	
4-Chloroaniline	Not Detected	10	µg/L	04/23/22	BD	
4-Chloro-3-methylphenol	Not Detected	5	µg/L	04/23/22	BD	
2-Chloronaphthalene (beta)	Not Detected	5	µg/L	04/23/22	BD	
2-Chlorophenol	Not Detected	10	µg/L	04/23/22	BD	
4-Chlorophenyl phenyl ether	Not Detected	5	µg/L	04/23/22	BD	
Chrysene	Not Detected	1	µg/L	04/23/22	BD	
Di-n-butylphthalate	Not Detected	5	µg/L	04/23/22	BD	
Di-n-octyl phthalate	Not Detected	5	µg/L	04/23/22	BD	
Dibenzo(a,h)anthracene	Not Detected	2	µg/L	04/23/22	BD	
Dibenzofuran	Not Detected	4	µg/L	04/23/22	BD	
3,3'-Dichlorobenzidine	Not Detected	2	µg/L	04/23/22	BD	
2,4-Dichlorophenol	Not Detected	10	µg/L	04/23/22	BD	
Diethylphthalate	Not Detected	5	µg/L	04/23/22	BD	
Dimethyl phthalate	Not Detected	5	µg/L	04/23/22	BD	
2,4-Dimethylphenol	Not Detected	5	µg/L	04/23/22	BD	
2,4-Dinitrophenol	Not Detected	25	µg/L	04/23/22	BD	
2,4-Dinitrotoluene	Not Detected	5	µg/L	04/23/22	BD	
2,6-Dinitrotoluene	Not Detected	5	µg/L	04/23/22	BD	
<b>continued</b>						

Sample Description:	Dup, 0000, 4/19/22					
Laboratory ID:	12245-7	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>SVOC's, Cont'd</b>						
Fluoranthene	Not Detected	1	µg/L	04/23/22	BD	
Fluorene	Not Detected	5	µg/L	04/23/22	BD	
Hexachlorobenzene	Not Detected	1	µg/L	04/23/22	BD	
Hexachlorocyclopentadiene	Not Detected	5	µg/L	04/23/22	BD	
Hexachloroethane	Not Detected	5	µg/L	04/23/22	BD	
Indeno(1,2,3-cd)pyrene	Not Detected	2	µg/L	04/23/22	BD	
Isophorone	Not Detected	5	µg/L	04/23/22	BD	
2-Methyl-4,6-Dinitrophenol	Not Detected	20	µg/L	04/23/22	BD	
2-Methylnaphthalene	7	5	µg/L	04/23/22	BD	
2-Methylphenol	Not Detected	10	µg/L	04/23/22	BD	
4-Methylphenol	Not Detected	10	µg/L	04/23/22	BD	
Methylphenols (total)	Not Detected	30	µg/L	04/23/22	BD	
Naphthalene	7	5	µg/L	04/23/22	BD	
2-Nitroaniline	Not Detected	25	µg/L	04/23/22	BD	
3-Nitroaniline	Not Detected	25	µg/L	04/23/22	BD	
4-Nitroaniline	Not Detected	25	µg/L	04/23/22	BD	
Nitrobenzene	Not Detected	3	µg/L	04/23/22	BD	
2-Nitrophenol	Not Detected	5	µg/L	04/23/22	BD	
4-Nitrophenol	Not Detected	25	µg/L	04/23/22	BD	
N-Nitrosodi-n-propylamine	Not Detected	5	µg/L	04/23/22	BD	
N-Nitrosodiphenylamine	Not Detected	5	µg/L	04/23/22	BD	
Pentachlorophenol	Not Detected	1	µg/L	04/23/22	BD	
Phenanthrene	Not Detected	2	µg/L	04/23/22	BD	
Phenol	Not Detected	5	µg/L	04/23/22	BD	
Pyrene	Not Detected	5	µg/L	04/23/22	BD	
Pyridine	Not Detected	20	µg/L	04/23/22	BD	
2,4,5-Trichlorophenol	Not Detected	5	µg/L	04/23/22	BD	
2,4,6-Trichlorophenol	Not Detected	4	µg/L	04/23/22	BD	
<b>Surrogate Standards</b>						
2-Fluorophenol	25.1%	-	% Recovery	04/23/22	BD	
Phenol-d5	25.4%	-	% Recovery	04/23/22	BD	
Nitrobenzene-d5	37.5%	-	% Recovery	04/23/22	BD	
2-Fluorobiphenyl	45.1%	-	% Recovery	04/23/22	BD	
2,4,6-Tribromophenol	38.5%	-	% Recovery	04/23/22	BD	
Terphenyl-d14	39.4%	-	% Recovery	04/23/22	BD	
<b>continued</b>						

Data Qualifiers: I Internal Standard results outside of acceptance limits E Reporting limit is elevated M Matrix interference observed  
 S QC spike recovery outside of acceptance limits D Result is from a dilution F Matrix Spike four times rule applied  
 R RPD outside of acceptance limits J Result should be considered estimated C See Case Narrative

Sample Description:		Dup, 0000, 4/19/22				
Laboratory ID:	12245-7	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>Total Petroleum Hydrocarbons</b>						
GRO (C <sub>6</sub> -C <sub>10</sub> )	3,050	100	µg/L	04/26/22	BD	
DRO (C <sub>10</sub> -C <sub>28</sub> )	684	100	µg/L	04/26/22	DS	
ORO (C <sub>28</sub> -C <sub>34</sub> )	Not Detected	200	µg/L	04/29/22	DS	
<b>Analysis Information</b>						
SVOC Extraction	Completed	-	-	04/22/22	LB	
TPH-DRO/ ORO Extraction	Completed	-	-	04/23/22	LB	

Sample Description:		GP/TMW-1, 3-4', 0915, 4/19/22				
Laboratory ID:	12245-8	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b><i>Volatile Organic Compounds</i></b>						
Acetone	Not Detected	1,000	µg/Kg, dry wt.	04/26/22	BD	
Benzene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Bromobenzene	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
Bromochloromethane	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
Bromodichloromethane	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
Bromoform	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
Bromomethane	Not Detected	200	µg/Kg, dry wt.	04/26/22	BD	
2-Butanone (MEK)	Not Detected	750	µg/Kg, dry wt.	04/26/22	BD	
n-Butylbenzene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
sec-Butylbenzene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
tert-Butylbenzene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Carbon disulfide	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
Carbon tetrachloride	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Chlorobenzene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Chloroethane	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
Chloroform	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Chloromethane	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
2-Chlorotoluene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
4-Chlorotoluene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Dibromochloromethane	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
1,2-Dibromo-3-chloropropane	Not Detected	10	µg/Kg, dry wt.	04/26/22	BD	
Dibromomethane	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
1,2-Dichlorobenzene	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
1,3-Dichlorobenzene	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
1,4-Dichlorobenzene	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
Dichlorodifluoromethane	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
1,1-Dichloroethane	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
1,2-Dichloroethane	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
1,1-Dichloroethylene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
cis-1,2-Dichloroethylene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
trans-1,2-Dichloroethylene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
1,2-Dichloropropane	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
1,3-Dichloropropane	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
2,2-Dichloropropane	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
1,1-Dichloropropene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
1,3-Dichloropropene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
<b>continued</b>						

Data Qualifiers: I Internal Standard results outside of acceptance limits E Reporting limit is elevated M Matrix interference observed  
 S QC spike recovery outside of acceptance limits D Result is from a dilution F Matrix Spike four times rule applied  
 R RPD outside of acceptance limits J Result should be considered estimated C See Case Narrative

Sample Description:		GP/TMW-1, 3-4', 0915, 4/19/22				
Laboratory ID:	12245-8	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>VOC's, Cont'd</b>						
Ethylbenzene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Ethylene Dibromide (1,2-Dibromoethane)	Not Detected	20	µg/Kg, dry wt.	04/26/22	BD	
Hexachlorobutadiene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
2-Hexanone	Not Detected	2,500	µg/Kg, dry wt.	04/26/22	BD	
Isopropyl benzene	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
4-Methyl-2-pentanone (MIBK)	Not Detected	2,500	µg/Kg, dry wt.	04/26/22	BD	
Methyl-t-butyl ether (MTBE)	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
Methylene chloride	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
2-Methylnaphthalene	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
Naphthalene	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
n-Propylbenzene	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
Styrene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
1,1,1,2-Tetrachloroethane	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
1,1,2,2-Tetrachloroethane	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Tetrachloroethylene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Tetrahydrofuran	Not Detected	1,000	µg/Kg, dry wt.	04/26/22	BD	
Toluene	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
1,2,3-Trichlorobenzene	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
1,2,4-Trichlorobenzene	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
1,1,1-Trichloroethane	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
1,1,2-Trichloroethane	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Trichloroethylene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Trichlorofluoromethane	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
1,2,3-Trichloropropane	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
1,2,4-Trimethylbenzene	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
1,3,5-Trimethylbenzene	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
Vinyl Acetate	Not Detected	5,000	µg/Kg, dry wt.	04/26/22	BD	
Vinyl Chloride	Not Detected	40	µg/Kg, dry wt.	04/26/22	BD	
Xylene (Total)	Not Detected	150	µg/Kg, dry wt.	04/26/22	BD	
<b>Surrogate Standards</b>						
1,2-Dichloroethane-d4	94.2%	-	% Recovery	04/26/22	BD	
Toluene-d8	104%	-	% Recovery	04/26/22	BD	
4-Bromofluorobenzene	101%	-	% Recovery	04/26/22	BD	
<b>continued</b>						

Sample Description:	GP/TMW-1, 3-4', 0915, 4/19/22					
Laboratory ID:	12245-8	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>Semi-Volatile Organic Cmpds</b>						
Acenaphthene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Acenaphthylene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Aniline	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Anthracene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Azobenzene	Not Detected	200	µg/Kg, dry wt.	04/27/22	BD	
Benzidine	Not Detected	1,000	µg/Kg, dry wt.	04/27/22	BD	
Benzo(a)anthracene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Benzo(b)fluoranthene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Benzo(k)fluoranthene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Benzo(g,h,i)perylene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Benzo(a)pyrene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Benzyl alcohol	Not Detected	3,300	µg/Kg, dry wt.	04/27/22	BD	
Bis(2-chloroethyl)ether	Not Detected	100	µg/Kg, dry wt.	04/27/22	BD	
Bis(2-chloroisopropyl)ether	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Bis(2-chloroethoxy)methane	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Bis(2-ethylhexyl)phthalate	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
4-Bromophenyl phenyl ether	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Butyl benzyl phthalate	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Carbazole	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
4-Chloroaniline	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
4-Chloro-3-methylphenol	Not Detected	280	µg/Kg, dry wt.	04/27/22	BD	
2-Chloronaphthalene (beta)	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2-Chlorophenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
4-Chlorophenyl phenyl ether	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Chrysene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Di-n-butylphthalate	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Di-n-octyl phthalate	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Dibenzo(a,h)anthracene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Dibenzofuran	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
3,3'-Dichlorobenzidine	Not Detected	2,000	µg/Kg, dry wt.	04/27/22	BD	
2,4-Dichlorophenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Diethylphthalate	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Dimethyl phthalate	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2,4-Dimethylphenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2,4-Dinitrophenol	Not Detected	830	µg/Kg, dry wt.	04/27/22	BD	
2,4-Dinitrotoluene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2,6-Dinitrotoluene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
<b>continued</b>						

Data Qualifiers: I Internal Standard results outside of acceptance limits E Reporting limit is elevated M Matrix interference observed  
 S QC spike recovery outside of acceptance limits D Result is from a dilution F Matrix Spike four times rule applied  
 R RPD outside of acceptance limits J Result should be considered estimated C See Case Narrative

Sample Description:		GP/TMW-1, 3-4', 0915, 4/19/22				
Laboratory ID:	12245-8	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>SVOC's, Cont'd</b>						
Fluoranthene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Fluorene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Hexachlorobenzene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Hexachlorocyclopentadiene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Hexachloroethane	Not Detected	300	µg/Kg, dry wt.	04/27/22	BD	
Indeno(1,2,3-cd)pyrene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Isophorone	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2-Methyl-4,6-Dinitrophenol	Not Detected	830	µg/Kg, dry wt.	04/27/22	BD	
2-Methylnaphthalene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2-Methylphenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
4-Methylphenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Methylphenols (total)	Not Detected	1,000	µg/Kg, dry wt.	04/27/22	BD	
Naphthalene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2-Nitroaniline	Not Detected	830	µg/Kg, dry wt.	04/27/22	BD	
3-Nitroaniline	Not Detected	830	µg/Kg, dry wt.	04/27/22	BD	
4-Nitroaniline	Not Detected	830	µg/Kg, dry wt.	04/27/22	BD	
Nitrobenzene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2-Nitrophenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
4-Nitrophenol	Not Detected	830	µg/Kg, dry wt.	04/27/22	BD	
N-Nitrosodi-n-propylamine	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
N-Nitrosodiphenylamine	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Pentachlorophenol	Not Detected	20	µg/Kg, dry wt.	04/27/22	BD	
Phenanthrene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Phenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Pyrene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Pyridine	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2,4,5-Trichlorophenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2,4,6-Trichlorophenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
<b>Surrogate Standards</b>						
2-Fluorophenol	72.6%	-	% Recovery	04/27/22	BD	
Phenol-d5	73.9%	-	% Recovery	04/27/22	BD	
Nitrobenzene-d5	61.1%	-	% Recovery	04/27/22	BD	
2-Fluorobiphenyl	65.4%	-	% Recovery	04/27/22	BD	
2,4,6-Tribromophenol	76.7%	-	% Recovery	04/27/22	BD	
Terphenyl-d14	81.3%	-	% Recovery	04/27/22	BD	
<b>continued</b>						

Sample Description:		GP/TMW-1, 3-4', 0915, 4/19/22				
Laboratory ID:	12245-8	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>Michigan Metals</b>						
Arsenic	614	100	µg/Kg, dry wt.	04/26/22	DS	
Barium	41,600	1,000	µg/Kg, dry wt.	04/26/22	DS	
Cadmium	Not Detected	200	µg/Kg, dry wt.	04/26/22	DS	
Chromium	Not Detected	2,000	µg/Kg, dry wt.	04/26/22	DS	
Copper	3,060	1,000	µg/Kg, dry wt.	04/26/22	DS	
Lead	2,050	1,000	µg/Kg, dry wt.	04/26/22	DS	
Mercury	Not Detected	50	µg/Kg, dry wt.	04/27/22	DS	
Selenium	Not Detected	200	µg/Kg, dry wt.	04/26/22	DS	
Silver	Not Detected	100	µg/Kg, dry wt.	04/26/22	DS	
Zinc	10,600	1,000	µg/Kg, dry wt.	04/26/22	DS	
<b>Total Petroleum Hydrocarbons</b>						
DRO (C <sub>10</sub> -C <sub>28</sub> )	Not Detected	20,000	µg/Kg, dry wt.	04/26/22	DS	E, C
ORO (C <sub>28</sub> -C <sub>34</sub> )	Not Detected	20,000	µg/Kg, dry wt.	04/29/22	DS	
<b>Analysis Information</b>						
Dry Weight Solids	87.6%	-	% by weight	04/22/22	LB	
SVOC Extraction	Completed	-	-	04/22/22	LB	
TPH-DRO/ ORO Extraction	Completed	-	-	04/24/22	LB	
Mercury Digestion	Completed	-	-	04/26/22	LB	
Metals Digestion	Completed	-	-	04/26/22	LB	

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 R RPD outside of acceptance limits J Result should be considered estimated C See Case Narrative

Sample Description:		GP/TMW-2, 3.5-4.5', 1011, 4/19/22				
Laboratory ID:	12245-9	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b><i>Volatile Organic Compounds</i></b>						
Acetone	Not Detected	1,000	µg/Kg, dry wt.	04/26/22	BD	
Benzene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Bromobenzene	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
Bromochloromethane	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
Bromodichloromethane	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
Bromoform	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
Bromomethane	Not Detected	200	µg/Kg, dry wt.	04/26/22	BD	
2-Butanone (MEK)	Not Detected	750	µg/Kg, dry wt.	04/26/22	BD	
n-Butylbenzene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
sec-Butylbenzene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
tert-Butylbenzene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Carbon disulfide	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
Carbon tetrachloride	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Chlorobenzene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Chloroethane	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
Chloroform	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Chloromethane	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
2-Chlorotoluene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
4-Chlorotoluene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Dibromochloromethane	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
1,2-Dibromo-3-chloropropane	Not Detected	10	µg/Kg, dry wt.	04/26/22	BD	
Dibromomethane	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
1,2-Dichlorobenzene	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
1,3-Dichlorobenzene	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
1,4-Dichlorobenzene	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
Dichlorodifluoromethane	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
1,1-Dichloroethane	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
1,2-Dichloroethane	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
1,1-Dichloroethylene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
cis-1,2-Dichloroethylene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
trans-1,2-Dichloroethylene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
1,2-Dichloropropane	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
1,3-Dichloropropane	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
2,2-Dichloropropane	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
1,1-Dichloropropene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
1,3-Dichloropropene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
<b>continued</b>						

Data Qualifiers: I Internal Standard results outside of acceptance limits E Reporting limit is elevated M Matrix interference observed  
 S QC spike recovery outside of acceptance limits D Result is from a dilution F Matrix Spike four times rule applied  
 R RPD outside of acceptance limits J Result should be considered estimated C See Case Narrative

Sample Description:		GP/TMW-2, 3.5-4.5', 1011, 4/19/22				
Laboratory ID:	12245-9	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>VOC's, Cont'd</b>						
Ethylbenzene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Ethylene Dibromide (1,2-Dibromoethane)	Not Detected	20	µg/Kg, dry wt.	04/26/22	BD	
Hexachlorobutadiene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
2-Hexanone	Not Detected	2,500	µg/Kg, dry wt.	04/26/22	BD	
Isopropyl benzene	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
4-Methyl-2-pentanone (MIBK)	Not Detected	2,500	µg/Kg, dry wt.	04/26/22	BD	
Methyl-t-butyl ether (MTBE)	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
Methylene chloride	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
2-Methylnaphthalene	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
Naphthalene	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
n-Propylbenzene	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
Styrene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
1,1,1,2-Tetrachloroethane	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
1,1,2,2-Tetrachloroethane	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Tetrachloroethylene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Tetrahydrofuran	Not Detected	1,000	µg/Kg, dry wt.	04/26/22	BD	
Toluene	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
1,2,3-Trichlorobenzene	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
1,2,4-Trichlorobenzene	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
1,1,1-Trichloroethane	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
1,1,2-Trichloroethane	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Trichloroethylene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Trichlorofluoromethane	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
1,2,3-Trichloropropane	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
1,2,4-Trimethylbenzene	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
1,3,5-Trimethylbenzene	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
Vinyl Acetate	Not Detected	5,000	µg/Kg, dry wt.	04/26/22	BD	
Vinyl Chloride	Not Detected	40	µg/Kg, dry wt.	04/26/22	BD	
Xylene (Total)	Not Detected	150	µg/Kg, dry wt.	04/26/22	BD	
<b>Surrogate Standards</b>						
1,2-Dichloroethane-d4	90.0%	-	% Recovery	04/26/22	BD	
Toluene-d8	106%	-	% Recovery	04/26/22	BD	
4-Bromofluorobenzene	105%	-	% Recovery	04/26/22	BD	
<b>continued</b>						

Sample Description:	GP/TMW-2, 3.5-4.5', 1011, 4/19/22					
Laboratory ID:	12245-9	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>Semi-Volatile Organic Cmpds</b>						
Acenaphthene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Acenaphthylene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Aniline	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Anthracene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Azobenzene	Not Detected	200	µg/Kg, dry wt.	04/27/22	BD	
Benzidine	Not Detected	1,000	µg/Kg, dry wt.	04/27/22	BD	
Benzo(a)anthracene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Benzo(b)fluoranthene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Benzo(k)fluoranthene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Benzo(g,h,i)perylene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Benzo(a)pyrene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Benzyl alcohol	Not Detected	3,300	µg/Kg, dry wt.	04/27/22	BD	
Bis(2-chloroethyl)ether	Not Detected	100	µg/Kg, dry wt.	04/27/22	BD	
Bis(2-chloroisopropyl)ether	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Bis(2-chloroethoxy)methane	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Bis(2-ethylhexyl)phthalate	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
4-Bromophenyl phenyl ether	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Butyl benzyl phthalate	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Carbazole	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
4-Chloroaniline	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
4-Chloro-3-methylphenol	Not Detected	280	µg/Kg, dry wt.	04/27/22	BD	
2-Chloronaphthalene (beta)	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2-Chlorophenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
4-Chlorophenyl phenyl ether	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Chrysene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Di-n-butylphthalate	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Di-n-octyl phthalate	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Dibenzo(a,h)anthracene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Dibenzofuran	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
3,3'-Dichlorobenzidine	Not Detected	2,000	µg/Kg, dry wt.	04/27/22	BD	
2,4-Dichlorophenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Diethylphthalate	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Dimethyl phthalate	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2,4-Dimethylphenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2,4-Dinitrophenol	Not Detected	830	µg/Kg, dry wt.	04/27/22	BD	
2,4-Dinitrotoluene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2,6-Dinitrotoluene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
<b>continued</b>						

Data Qualifiers: I Internal Standard results outside of acceptance limits E Reporting limit is elevated M Matrix interference observed  
 S QC spike recovery outside of acceptance limits D Result is from a dilution F Matrix Spike four times rule applied  
 R RPD outside of acceptance limits J Result should be considered estimated C See Case Narrative

Sample Description:		GP/TMW-2, 3.5-4.5', 1011, 4/19/22				
Laboratory ID:	12245-9	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>SVOC's, Cont'd</b>						
Fluoranthene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Fluorene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Hexachlorobenzene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Hexachlorocyclopentadiene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Hexachloroethane	Not Detected	300	µg/Kg, dry wt.	04/27/22	BD	
Indeno(1,2,3-cd)pyrene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Isophorone	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2-Methyl-4,6-Dinitrophenol	Not Detected	830	µg/Kg, dry wt.	04/27/22	BD	
2-Methylnaphthalene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2-Methylphenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
4-Methylphenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Methylphenols (total)	Not Detected	1,000	µg/Kg, dry wt.	04/27/22	BD	
Naphthalene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2-Nitroaniline	Not Detected	830	µg/Kg, dry wt.	04/27/22	BD	
3-Nitroaniline	Not Detected	830	µg/Kg, dry wt.	04/27/22	BD	
4-Nitroaniline	Not Detected	830	µg/Kg, dry wt.	04/27/22	BD	
Nitrobenzene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2-Nitrophenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
4-Nitrophenol	Not Detected	830	µg/Kg, dry wt.	04/27/22	BD	
N-Nitrosodi-n-propylamine	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
N-Nitrosodiphenylamine	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Pentachlorophenol	Not Detected	20	µg/Kg, dry wt.	04/27/22	BD	
Phenanthrene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Phenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Pyrene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Pyridine	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2,4,5-Trichlorophenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2,4,6-Trichlorophenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
<b>Surrogate Standards</b>						
2-Fluorophenol	74.8%	-	% Recovery	04/27/22	BD	
Phenol-d5	76.7%	-	% Recovery	04/27/22	BD	
Nitrobenzene-d5	64.7%	-	% Recovery	04/27/22	BD	
2-Fluorobiphenyl	69.1%	-	% Recovery	04/27/22	BD	
2,4,6-Tribromophenol	79.7%	-	% Recovery	04/27/22	BD	
Terphenyl-d14	85.9%	-	% Recovery	04/27/22	BD	
<b>continued</b>						

Data Qualifiers: I Internal Standard results outside of acceptance limits E Reporting limit is elevated M Matrix interference observed  
 S QC spike recovery outside of acceptance limits D Result is from a dilution F Matrix Spike four times rule applied  
 R RPD outside of acceptance limits J Result should be considered estimated C See Case Narrative

Sample Description:		GP/TMW-2, 3.5-4.5', 1011, 4/19/22				
Laboratory ID:	12245-9	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>Total Petroleum Hydrocarbons</b>						
GRO (C <sub>6</sub> -C <sub>10</sub> )	Not Detected	10,000	µg/Kg, dry wt.	04/26/22	BD	
DRO (C <sub>10</sub> -C <sub>28</sub> )	Not Detected	20,000	µg/Kg, dry wt.	04/26/22	DS	E, C
ORO (C <sub>28</sub> -C <sub>34</sub> )	Not Detected	20,000	µg/Kg, dry wt.	04/29/22	DS	
<b>Analysis Information</b>						
Dry Weight Solids	92.3%	-	% by weight	04/22/22	LB	
SVOC Extraction	Completed	-	-	04/22/22	LB	
TPH-DRO/ ORO Extraction	Completed	-	-	04/24/22	LB	

Sample Description:		GP/TMW-3, 4-5', 1105, 4/19/22				
Laboratory ID:	12245-10	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b><i>Volatile Organic Compounds</i></b>						
Acetone	Not Detected	1,000	µg/Kg, dry wt.	04/27/22	BD	
Benzene	100	50	µg/Kg, dry wt.	04/27/22	BD	
Bromobenzene	Not Detected	100	µg/Kg, dry wt.	04/27/22	BD	
Bromochloromethane	Not Detected	100	µg/Kg, dry wt.	04/27/22	BD	
Bromodichloromethane	Not Detected	100	µg/Kg, dry wt.	04/27/22	BD	
Bromoform	Not Detected	100	µg/Kg, dry wt.	04/27/22	BD	
Bromomethane	Not Detected	200	µg/Kg, dry wt.	04/27/22	BD	
2-Butanone (MEK)	Not Detected	750	µg/Kg, dry wt.	04/27/22	BD	
n-Butylbenzene	2,240	50	µg/Kg, dry wt.	04/27/22	BD	
sec-Butylbenzene	667	50	µg/Kg, dry wt.	04/27/22	BD	
tert-Butylbenzene	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
Carbon disulfide	Not Detected	250	µg/Kg, dry wt.	04/27/22	BD	
Carbon tetrachloride	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
Chlorobenzene	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
Chloroethane	Not Detected	250	µg/Kg, dry wt.	04/27/22	BD	
Chloroform	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
Chloromethane	Not Detected	250	µg/Kg, dry wt.	04/27/22	BD	
2-Chlorotoluene	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
4-Chlorotoluene	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
Dibromochloromethane	Not Detected	100	µg/Kg, dry wt.	04/27/22	BD	
1,2-Dibromo-3-chloropropane	Not Detected	10	µg/Kg, dry wt.	04/27/22	BD	
Dibromomethane	Not Detected	250	µg/Kg, dry wt.	04/27/22	BD	
1,2-Dichlorobenzene	Not Detected	100	µg/Kg, dry wt.	04/27/22	BD	
1,3-Dichlorobenzene	Not Detected	100	µg/Kg, dry wt.	04/27/22	BD	
1,4-Dichlorobenzene	Not Detected	100	µg/Kg, dry wt.	04/27/22	BD	
Dichlorodifluoromethane	Not Detected	250	µg/Kg, dry wt.	04/27/22	BD	
1,1-Dichloroethane	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
1,2-Dichloroethane	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
1,1-Dichloroethylene	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
cis-1,2-Dichloroethylene	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
trans-1,2-Dichloroethylene	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
1,2-Dichloropropane	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
1,3-Dichloropropane	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
2,2-Dichloropropane	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
1,1-Dichloropropene	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
1,3-Dichloropropene	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
<b>continued</b>						

Data Qualifiers: I Internal Standard results outside of acceptance limits  
 S QC spike recovery outside of acceptance limits  
 R RPD outside of acceptance limits  
 E Reporting limit is elevated  
 D Result is from a dilution  
 J Result should be considered estimated  
 M Matrix interference observed  
 F Matrix Spike four times rule applied  
 C See Case Narrative

Sample Description:		GP/TMW-3, 4-5', 1105, 4/19/22				
Laboratory ID:	12245-10	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>VOC's, Cont'd</b>						
Ethylbenzene	246	50	µg/Kg, dry wt.	04/27/22	BD	
Ethylene Dibromide (1,2-Dibromoethane)	Not Detected	20	µg/Kg, dry wt.	04/27/22	BD	
Hexachlorobutadiene	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
2-Hexanone	Not Detected	2,500	µg/Kg, dry wt.	04/27/22	BD	
Isopropyl benzene	862	250	µg/Kg, dry wt.	04/27/22	BD	
4-Methyl-2-pentanone (MIBK)	Not Detected	2,500	µg/Kg, dry wt.	04/27/22	BD	
Methyl-t-butyl ether (MTBE)	Not Detected	250	µg/Kg, dry wt.	04/27/22	BD	
Methylene chloride	Not Detected	250	µg/Kg, dry wt.	04/27/22	BD	
2-Methylnaphthalene	5,190	250	µg/Kg, dry wt.	04/27/22	BD	
Naphthalene	3,930	250	µg/Kg, dry wt.	04/27/22	BD	
n-Propylbenzene	3,980	100	µg/Kg, dry wt.	04/27/22	BD	
Styrene	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
1,1,1,2-Tetrachloroethane	Not Detected	100	µg/Kg, dry wt.	04/27/22	BD	
1,1,2,2-Tetrachloroethane	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
Tetrachloroethylene	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
Tetrahydrofuran	Not Detected	1,000	µg/Kg, dry wt.	04/27/22	BD	
Toluene	Not Detected	100	µg/Kg, dry wt.	04/27/22	BD	
1,2,3-Trichlorobenzene	Not Detected	250	µg/Kg, dry wt.	04/27/22	BD	
1,2,4-Trichlorobenzene	Not Detected	250	µg/Kg, dry wt.	04/27/22	BD	
1,1,1-Trichloroethane	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
1,1,2-Trichloroethane	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
Trichloroethylene	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
Trichlorofluoromethane	Not Detected	100	µg/Kg, dry wt.	04/27/22	BD	
1,2,3-Trichloropropane	Not Detected	100	µg/Kg, dry wt.	04/27/22	BD	
1,2,4-Trimethylbenzene	Not Detected	100	µg/Kg, dry wt.	04/27/22	BD	
1,3,5-Trimethylbenzene	Not Detected	100	µg/Kg, dry wt.	04/27/22	BD	
Vinyl Acetate	Not Detected	5,000	µg/Kg, dry wt.	04/27/22	BD	
Vinyl Chloride	Not Detected	40	µg/Kg, dry wt.	04/27/22	BD	
Xylene (Total)	Not Detected	150	µg/Kg, dry wt.	04/27/22	BD	
<b>Surrogate Standards</b>						
1,2-Dichloroethane-d4	100%	-	% Recovery	04/27/22	BD	
Toluene-d8	89.1%	-	% Recovery	04/27/22	BD	
4-Bromofluorobenzene	116%	-	% Recovery	04/27/22	BD	
<b>continued</b>						

Sample Description:		GP/TMW-3, 4-5', 1105, 4/19/22				
Laboratory ID:	12245-10	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>Semi-Volatile Organic Cmpds</b>						
Acenaphthene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Acenaphthylene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Aniline	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Anthracene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Azobenzene	Not Detected	200	µg/Kg, dry wt.	04/27/22	BD	
Benzidine	Not Detected	1,000	µg/Kg, dry wt.	04/27/22	BD	
Benzo(a)anthracene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Benzo(b)fluoranthene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Benzo(k)fluoranthene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Benzo(g,h,i)perylene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Benzo(a)pyrene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Benzyl alcohol	Not Detected	3,300	µg/Kg, dry wt.	04/27/22	BD	
Bis(2-chloroethyl)ether	Not Detected	100	µg/Kg, dry wt.	04/27/22	BD	
Bis(2-chloroisopropyl)ether	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Bis(2-chloroethoxy)methane	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Bis(2-ethylhexyl)phthalate	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
4-Bromophenyl phenyl ether	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Butyl benzyl phthalate	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Carbazole	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
4-Chloroaniline	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
4-Chloro-3-methylphenol	Not Detected	280	µg/Kg, dry wt.	04/27/22	BD	
2-Chloronaphthalene (beta)	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2-Chlorophenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
4-Chlorophenyl phenyl ether	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Chrysene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Di-n-butylphthalate	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Di-n-octyl phthalate	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Dibenzo(a,h)anthracene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Dibenzofuran	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
3,3'-Dichlorobenzidine	Not Detected	2,000	µg/Kg, dry wt.	04/27/22	BD	
2,4-Dichlorophenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Diethylphthalate	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Dimethyl phthalate	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2,4-Dimethylphenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2,4-Dinitrophenol	Not Detected	830	µg/Kg, dry wt.	04/27/22	BD	
2,4-Dinitrotoluene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2,6-Dinitrotoluene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
<b>continued</b>						

Data Qualifiers: I Internal Standard results outside of acceptance limits  
 S QC spike recovery outside of acceptance limits  
 R RPD outside of acceptance limits  
 E Reporting limit is elevated  
 D Result is from a dilution  
 J Result should be considered estimated  
 M Matrix interference observed  
 F Matrix Spike four times rule applied  
 C See Case Narrative

Sample Description:		GP/TMW-3, 4-5', 1105, 4/19/22				
Laboratory ID:	12245-10	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>SVOC's, Cont'd</b>						
Fluoranthene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Fluorene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Hexachlorobenzene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Hexachlorocyclopentadiene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Hexachloroethane	Not Detected	300	µg/Kg, dry wt.	04/27/22	BD	
Indeno(1,2,3-cd)pyrene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Isophorone	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2-Methyl-4,6-Dinitrophenol	Not Detected	830	µg/Kg, dry wt.	04/27/22	BD	
2-Methylnaphthalene	3,530	330	µg/Kg, dry wt.	04/27/22	BD	
2-Methylphenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
4-Methylphenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Methylphenols (total)	Not Detected	1,000	µg/Kg, dry wt.	04/27/22	BD	
Naphthalene	2,880	330	µg/Kg, dry wt.	04/27/22	BD	
2-Nitroaniline	Not Detected	830	µg/Kg, dry wt.	04/27/22	BD	
3-Nitroaniline	Not Detected	830	µg/Kg, dry wt.	04/27/22	BD	
4-Nitroaniline	Not Detected	830	µg/Kg, dry wt.	04/27/22	BD	
Nitrobenzene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2-Nitrophenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
4-Nitrophenol	Not Detected	830	µg/Kg, dry wt.	04/27/22	BD	
N-Nitrosodi-n-propylamine	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
N-Nitrosodiphenylamine	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Pentachlorophenol	Not Detected	20	µg/Kg, dry wt.	04/27/22	BD	
Phenanthrene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Phenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Pyrene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Pyridine	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2,4,5-Trichlorophenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2,4,6-Trichlorophenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
<b>Surrogate Standards</b>						
2-Fluorophenol	68.3%	-	% Recovery	04/27/22	BD	
Phenol-d5	70.8%	-	% Recovery	04/27/22	BD	
Nitrobenzene-d5	58.7%	-	% Recovery	04/27/22	BD	
2-Fluorobiphenyl	65.1%	-	% Recovery	04/27/22	BD	
2,4,6-Tribromophenol	79.6%	-	% Recovery	04/27/22	BD	
Terphenyl-d14	79.5%	-	% Recovery	04/27/22	BD	
<b>continued</b>						

Sample Description:		GP/TMW-3, 4-5', 1105, 4/19/22				
Laboratory ID:	12245-10	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>Total Petroleum Hydrocarbons</b>						
GRO (C <sub>6</sub> -C <sub>10</sub> )	624,000	100,000	µg/Kg, dry wt.	04/26/22	BD	E, D
DRO (C <sub>10</sub> -C <sub>28</sub> )	196,000	20,000	µg/Kg, dry wt.	04/26/22	DS	E, C
ORO (C <sub>28</sub> -C <sub>34</sub> )	111,000	20,000	µg/Kg, dry wt.	04/29/22	DS	
<b>Analysis Information</b>						
Dry Weight Solids	83.3%	-	% by weight	04/22/22	LB	
SVOC Extraction	Completed	-	-	04/22/22	LB	
TPH-DRO/ ORO Extraction	Completed	-	-	04/24/22	LB	

Data Qualifiers: I Internal Standard results outside of acceptance limits  
 S QC spike recovery outside of acceptance limits  
 R RPD outside of acceptance limits

E Reporting limit is elevated  
 D Result is from a dilution  
 J Result should be considered estimated

M Matrix interference observed  
 F Matrix Spike four times rule applied  
 C See Case Narrative

Sample Description:		GP/TMW-4, 3-4', 1212, 4/19/22				
Laboratory ID:	12245-11	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b><i>Volatile Organic Compounds</i></b>						
Acetone	Not Detected	1,000	µg/Kg, dry wt.	04/27/22	BD	
Benzene	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
Bromobenzene	Not Detected	100	µg/Kg, dry wt.	04/27/22	BD	
Bromochloromethane	Not Detected	100	µg/Kg, dry wt.	04/27/22	BD	
Bromodichloromethane	Not Detected	100	µg/Kg, dry wt.	04/27/22	BD	
Bromoform	Not Detected	100	µg/Kg, dry wt.	04/27/22	BD	
Bromomethane	Not Detected	200	µg/Kg, dry wt.	04/27/22	BD	
2-Butanone (MEK)	Not Detected	750	µg/Kg, dry wt.	04/27/22	BD	
n-Butylbenzene	901	50	µg/Kg, dry wt.	04/27/22	BD	
sec-Butylbenzene	1,570	50	µg/Kg, dry wt.	04/27/22	BD	
tert-Butylbenzene	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
Carbon disulfide	Not Detected	250	µg/Kg, dry wt.	04/27/22	BD	
Carbon tetrachloride	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
Chlorobenzene	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
Chloroethane	Not Detected	250	µg/Kg, dry wt.	04/27/22	BD	
Chloroform	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
Chloromethane	Not Detected	250	µg/Kg, dry wt.	04/27/22	BD	
2-Chlorotoluene	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
4-Chlorotoluene	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
Dibromochloromethane	Not Detected	100	µg/Kg, dry wt.	04/27/22	BD	
1,2-Dibromo-3-chloropropane	Not Detected	10	µg/Kg, dry wt.	04/27/22	BD	
Dibromomethane	Not Detected	250	µg/Kg, dry wt.	04/27/22	BD	
1,2-Dichlorobenzene	Not Detected	100	µg/Kg, dry wt.	04/27/22	BD	
1,3-Dichlorobenzene	Not Detected	100	µg/Kg, dry wt.	04/27/22	BD	
1,4-Dichlorobenzene	Not Detected	100	µg/Kg, dry wt.	04/27/22	BD	
Dichlorodifluoromethane	Not Detected	250	µg/Kg, dry wt.	04/27/22	BD	
1,1-Dichloroethane	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
1,2-Dichloroethane	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
1,1-Dichloroethylene	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
cis-1,2-Dichloroethylene	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
trans-1,2-Dichloroethylene	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
1,2-Dichloropropane	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
1,3-Dichloropropane	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
2,2-Dichloropropane	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
1,1-Dichloropropene	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
1,3-Dichloropropene	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
<b>continued</b>						

Data Qualifiers: I Internal Standard results outside of acceptance limits E Reporting limit is elevated M Matrix interference observed  
 S QC spike recovery outside of acceptance limits D Result is from a dilution F Matrix Spike four times rule applied  
 R RPD outside of acceptance limits J Result should be considered estimated C See Case Narrative

Sample Description:		GP/TMW-4, 3-4', 1212, 4/19/22				
Laboratory ID:	12245-11	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>VOC's, Cont'd</b>						
Ethylbenzene	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
Ethylene Dibromide (1,2-Dibromoethane)	Not Detected	20	µg/Kg, dry wt.	04/27/22	BD	
Hexachlorobutadiene	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
2-Hexanone	Not Detected	2,500	µg/Kg, dry wt.	04/27/22	BD	
Isopropyl benzene	Not Detected	250	µg/Kg, dry wt.	04/27/22	BD	
4-Methyl-2-pentanone (MIBK)	Not Detected	2,500	µg/Kg, dry wt.	04/27/22	BD	
Methyl-t-butyl ether (MTBE)	Not Detected	250	µg/Kg, dry wt.	04/27/22	BD	
Methylene chloride	Not Detected	250	µg/Kg, dry wt.	04/27/22	BD	
2-Methylnaphthalene	4,230	250	µg/Kg, dry wt.	04/27/22	BD	
Naphthalene	493	250	µg/Kg, dry wt.	04/27/22	BD	
n-Propylbenzene	403	100	µg/Kg, dry wt.	04/27/22	BD	
Styrene	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
1,1,1,2-Tetrachloroethane	Not Detected	100	µg/Kg, dry wt.	04/27/22	BD	
1,1,2,2-Tetrachloroethane	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
Tetrachloroethylene	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
Tetrahydrofuran	Not Detected	1,000	µg/Kg, dry wt.	04/27/22	BD	
Toluene	Not Detected	100	µg/Kg, dry wt.	04/27/22	BD	
1,2,3-Trichlorobenzene	Not Detected	250	µg/Kg, dry wt.	04/27/22	BD	
1,2,4-Trichlorobenzene	Not Detected	250	µg/Kg, dry wt.	04/27/22	BD	
1,1,1-Trichloroethane	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
1,1,2-Trichloroethane	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
Trichloroethylene	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
Trichlorofluoromethane	Not Detected	100	µg/Kg, dry wt.	04/27/22	BD	
1,2,3-Trichloropropane	Not Detected	100	µg/Kg, dry wt.	04/27/22	BD	
1,2,4-Trimethylbenzene	Not Detected	100	µg/Kg, dry wt.	04/27/22	BD	
1,3,5-Trimethylbenzene	Not Detected	100	µg/Kg, dry wt.	04/27/22	BD	
Vinyl Acetate	Not Detected	5,000	µg/Kg, dry wt.	04/27/22	BD	
Vinyl Chloride	Not Detected	40	µg/Kg, dry wt.	04/27/22	BD	
Xylene (Total)	Not Detected	150	µg/Kg, dry wt.	04/27/22	BD	
<b>Surrogate Standards</b>						
1,2-Dichloroethane-d4	90.3%	-	% Recovery	04/27/22	BD	
Toluene-d8	103%	-	% Recovery	04/27/22	BD	
4-Bromofluorobenzene	126%	-	% Recovery	04/27/22	BD	
<b>continued</b>						

Sample Description:	GP/TMW-4, 3-4', 1212, 4/19/22					
Laboratory ID:	12245-11	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>Semi-Volatile Organic Cmpds</b>						
Acenaphthene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Acenaphthylene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Aniline	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Anthracene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Azobenzene	Not Detected	200	µg/Kg, dry wt.	04/27/22	BD	
Benzidine	Not Detected	1,000	µg/Kg, dry wt.	04/27/22	BD	
Benzo(a)anthracene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Benzo(b)fluoranthene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Benzo(k)fluoranthene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Benzo(g,h,i)perylene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Benzo(a)pyrene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Benzyl alcohol	Not Detected	3,300	µg/Kg, dry wt.	04/27/22	BD	
Bis(2-chloroethyl)ether	Not Detected	100	µg/Kg, dry wt.	04/27/22	BD	
Bis(2-chloroisopropyl)ether	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Bis(2-chloroethoxy)methane	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Bis(2-ethylhexyl)phthalate	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
4-Bromophenyl phenyl ether	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Butyl benzyl phthalate	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Carbazole	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
4-Chloroaniline	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
4-Chloro-3-methylphenol	Not Detected	280	µg/Kg, dry wt.	04/27/22	BD	
2-Chloronaphthalene (beta)	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2-Chlorophenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
4-Chlorophenyl phenyl ether	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Chrysene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Di-n-butylphthalate	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Di-n-octyl phthalate	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Dibenzo(a,h)anthracene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Dibenzofuran	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
3,3'-Dichlorobenzidine	Not Detected	2,000	µg/Kg, dry wt.	04/27/22	BD	
2,4-Dichlorophenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Diethylphthalate	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Dimethyl phthalate	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2,4-Dimethylphenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2,4-Dinitrophenol	Not Detected	830	µg/Kg, dry wt.	04/27/22	BD	
2,4-Dinitrotoluene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2,6-Dinitrotoluene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
<b>continued</b>						

Data Qualifiers: I Internal Standard results outside of acceptance limits E Reporting limit is elevated M Matrix interference observed  
 S QC spike recovery outside of acceptance limits D Result is from a dilution F Matrix Spike four times rule applied  
 R RPD outside of acceptance limits J Result should be considered estimated C See Case Narrative

Sample Description:		GP/TMW-4, 3-4', 1212, 4/19/22				
Laboratory ID:	12245-11	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>SVOC's, Cont'd</b>						
Fluoranthene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Fluorene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Hexachlorobenzene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Hexachlorocyclopentadiene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Hexachloroethane	Not Detected	300	µg/Kg, dry wt.	04/27/22	BD	
Indeno(1,2,3-cd)pyrene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Isophorone	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2-Methyl-4,6-Dinitrophenol	Not Detected	830	µg/Kg, dry wt.	04/27/22	BD	
2-Methylnaphthalene	2,070	330	µg/Kg, dry wt.	04/27/22	BD	
2-Methylphenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
4-Methylphenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Methylphenols (total)	Not Detected	1,000	µg/Kg, dry wt.	04/27/22	BD	
Naphthalene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2-Nitroaniline	Not Detected	830	µg/Kg, dry wt.	04/27/22	BD	
3-Nitroaniline	Not Detected	830	µg/Kg, dry wt.	04/27/22	BD	
4-Nitroaniline	Not Detected	830	µg/Kg, dry wt.	04/27/22	BD	
Nitrobenzene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2-Nitrophenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
4-Nitrophenol	Not Detected	830	µg/Kg, dry wt.	04/27/22	BD	
N-Nitrosodi-n-propylamine	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
N-Nitrosodiphenylamine	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Pentachlorophenol	Not Detected	20	µg/Kg, dry wt.	04/27/22	BD	
Phenanthrene	779	330	µg/Kg, dry wt.	04/27/22	BD	
Phenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Pyrene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Pyridine	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2,4,5-Trichlorophenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2,4,6-Trichlorophenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
<b>Surrogate Standards</b>						
2-Fluorophenol	81.9%	-	% Recovery	04/27/22	BD	
Phenol-d5	83.7%	-	% Recovery	04/27/22	BD	
Nitrobenzene-d5	77.8%	-	% Recovery	04/27/22	BD	
2-Fluorobiphenyl	78.3%	-	% Recovery	04/27/22	BD	
2,4,6-Tribromophenol	97.1%	-	% Recovery	04/27/22	BD	
Terphenyl-d14	91.5%	-	% Recovery	04/27/22	BD	
<b>continued</b>						

Data Qualifiers: I Internal Standard results outside of acceptance limits E Reporting limit is elevated M Matrix interference observed  
 S QC spike recovery outside of acceptance limits D Result is from a dilution F Matrix Spike four times rule applied  
 R RPD outside of acceptance limits J Result should be considered estimated C See Case Narrative

Sample Description:		GP/TMW-4, 3-4', 1212, 4/19/22				
Laboratory ID:	12245-11	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>Total Petroleum Hydrocarbons</b>						
GRO (C <sub>6</sub> -C <sub>10</sub> )	765,000	100,000	µg/Kg, dry wt.	04/26/22	BD	E, D
DRO (C <sub>10</sub> -C <sub>28</sub> )	431,000	10,000	µg/Kg, dry wt.	04/26/22	DS	E, C
ORO (C <sub>28</sub> -C <sub>34</sub> )	427,000	20,000	µg/Kg, dry wt.	04/29/22	DS	
<b>Analysis Information</b>						
Dry Weight Solids	89.3%	-	% by weight	04/22/22	LB	
SVOC Extraction	Completed	-	-	04/22/22	LB	
TPH-DRO/ ORO Extraction	Completed	-	-	04/24/22	LB	

Sample Description:		GP/TMW-5, 4-5', 1316, 4/19/22				
Laboratory ID:	12245-12	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b><i>Volatile Organic Compounds</i></b>						
Acetone	Not Detected	1,000	µg/Kg, dry wt.	04/26/22	BD	
Benzene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Bromobenzene	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
Bromochloromethane	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
Bromodichloromethane	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
Bromoform	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
Bromomethane	Not Detected	200	µg/Kg, dry wt.	04/26/22	BD	
2-Butanone (MEK)	Not Detected	750	µg/Kg, dry wt.	04/26/22	BD	
n-Butylbenzene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
sec-Butylbenzene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
tert-Butylbenzene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Carbon disulfide	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
Carbon tetrachloride	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Chlorobenzene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Chloroethane	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
Chloroform	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Chloromethane	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
2-Chlorotoluene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
4-Chlorotoluene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Dibromochloromethane	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
1,2-Dibromo-3-chloropropane	Not Detected	10	µg/Kg, dry wt.	04/26/22	BD	
Dibromomethane	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
1,2-Dichlorobenzene	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
1,3-Dichlorobenzene	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
1,4-Dichlorobenzene	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
Dichlorodifluoromethane	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
1,1-Dichloroethane	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
1,2-Dichloroethane	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
1,1-Dichloroethylene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
cis-1,2-Dichloroethylene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
trans-1,2-Dichloroethylene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
1,2-Dichloropropane	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
1,3-Dichloropropane	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
2,2-Dichloropropane	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
1,1-Dichloropropene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
1,3-Dichloropropene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
<b>continued</b>						

Sample Description:		GP/TMW-5, 4-5', 1316, 4/19/22				
Laboratory ID:	12245-12	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>VOC's, Cont'd</b>						
Ethylbenzene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Ethylene Dibromide (1,2-Dibromoethane)	Not Detected	20	µg/Kg, dry wt.	04/26/22	BD	
Hexachlorobutadiene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
2-Hexanone	Not Detected	2,500	µg/Kg, dry wt.	04/26/22	BD	
Isopropyl benzene	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
4-Methyl-2-pentanone (MIBK)	Not Detected	2,500	µg/Kg, dry wt.	04/26/22	BD	
Methyl-t-butyl ether (MTBE)	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
Methylene chloride	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
2-Methylnaphthalene	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
Naphthalene	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
n-Propylbenzene	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
Styrene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
1,1,1,2-Tetrachloroethane	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
1,1,2,2-Tetrachloroethane	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Tetrachloroethylene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Tetrahydrofuran	Not Detected	1,000	µg/Kg, dry wt.	04/26/22	BD	
Toluene	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
1,2,3-Trichlorobenzene	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
1,2,4-Trichlorobenzene	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
1,1,1-Trichloroethane	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
1,1,2-Trichloroethane	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Trichloroethylene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Trichlorofluoromethane	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
1,2,3-Trichloropropane	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
1,2,4-Trimethylbenzene	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
1,3,5-Trimethylbenzene	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
Vinyl Acetate	Not Detected	5,000	µg/Kg, dry wt.	04/26/22	BD	
Vinyl Chloride	Not Detected	40	µg/Kg, dry wt.	04/26/22	BD	
Xylene (Total)	Not Detected	150	µg/Kg, dry wt.	04/26/22	BD	
<b>Surrogate Standards</b>						
1,2-Dichloroethane-d4	96.3%	-	% Recovery	04/26/22	BD	
Toluene-d8	105%	-	% Recovery	04/26/22	BD	
4-Bromofluorobenzene	104%	-	% Recovery	04/26/22	BD	
<b>continued</b>						

Sample Description:	GP/TMW-5, 4-5', 1316, 4/19/22					
Laboratory ID:	12245-12	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>Semi-Volatile Organic Cmpds</b>						
Acenaphthene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Acenaphthylene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Aniline	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Anthracene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Azobenzene	Not Detected	200	µg/Kg, dry wt.	04/27/22	BD	
Benzidine	Not Detected	1,000	µg/Kg, dry wt.	04/27/22	BD	
Benzo(a)anthracene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Benzo(b)fluoranthene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Benzo(k)fluoranthene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Benzo(g,h,i)perylene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Benzo(a)pyrene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Benzyl alcohol	Not Detected	3,300	µg/Kg, dry wt.	04/27/22	BD	
Bis(2-chloroethyl)ether	Not Detected	100	µg/Kg, dry wt.	04/27/22	BD	
Bis(2-chloroisopropyl)ether	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Bis(2-chloroethoxy)methane	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Bis(2-ethylhexyl)phthalate	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
4-Bromophenyl phenyl ether	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Butyl benzyl phthalate	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Carbazole	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
4-Chloroaniline	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
4-Chloro-3-methylphenol	Not Detected	280	µg/Kg, dry wt.	04/27/22	BD	
2-Chloronaphthalene (beta)	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2-Chlorophenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
4-Chlorophenyl phenyl ether	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Chrysene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Di-n-butylphthalate	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Di-n-octyl phthalate	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Dibenzo(a,h)anthracene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Dibenzofuran	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
3,3'-Dichlorobenzidine	Not Detected	2,000	µg/Kg, dry wt.	04/27/22	BD	
2,4-Dichlorophenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Diethylphthalate	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Dimethyl phthalate	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2,4-Dimethylphenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2,4-Dinitrophenol	Not Detected	830	µg/Kg, dry wt.	04/27/22	BD	
2,4-Dinitrotoluene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2,6-Dinitrotoluene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
<b>continued</b>						

Data Qualifiers: I Internal Standard results outside of acceptance limits E Reporting limit is elevated M Matrix interference observed  
 S QC spike recovery outside of acceptance limits D Result is from a dilution F Matrix Spike four times rule applied  
 R RPD outside of acceptance limits J Result should be considered estimated C See Case Narrative

Sample Description:		GP/TMW-5, 4-5', 1316, 4/19/22				
Laboratory ID:	12245-12	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>SVOC's, Cont'd</b>						
Fluoranthene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Fluorene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Hexachlorobenzene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Hexachlorocyclopentadiene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Hexachloroethane	Not Detected	300	µg/Kg, dry wt.	04/27/22	BD	
Indeno(1,2,3-cd)pyrene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Isophorone	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2-Methyl-4,6-Dinitrophenol	Not Detected	830	µg/Kg, dry wt.	04/27/22	BD	
2-Methylnaphthalene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2-Methylphenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
4-Methylphenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Methylphenols (total)	Not Detected	1,000	µg/Kg, dry wt.	04/27/22	BD	
Naphthalene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2-Nitroaniline	Not Detected	830	µg/Kg, dry wt.	04/27/22	BD	
3-Nitroaniline	Not Detected	830	µg/Kg, dry wt.	04/27/22	BD	
4-Nitroaniline	Not Detected	830	µg/Kg, dry wt.	04/27/22	BD	
Nitrobenzene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2-Nitrophenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
4-Nitrophenol	Not Detected	830	µg/Kg, dry wt.	04/27/22	BD	
N-Nitrosodi-n-propylamine	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
N-Nitrosodiphenylamine	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Pentachlorophenol	Not Detected	20	µg/Kg, dry wt.	04/27/22	BD	
Phenanthrene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Phenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Pyrene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Pyridine	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2,4,5-Trichlorophenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2,4,6-Trichlorophenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
<b>Surrogate Standards</b>						
2-Fluorophenol	75.3%	-	% Recovery	04/27/22	BD	
Phenol-d5	77.3%	-	% Recovery	04/27/22	BD	
Nitrobenzene-d5	67.1%	-	% Recovery	04/27/22	BD	
2-Fluorobiphenyl	72.8%	-	% Recovery	04/27/22	BD	
2,4,6-Tribromophenol	91.8%	-	% Recovery	04/27/22	BD	
Terphenyl-d14	88.1%	-	% Recovery	04/27/22	BD	
<b>continued</b>						

Sample Description:		GP/TMW-5, 4-5', 1316, 4/19/22				
Laboratory ID:	12245-12	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>Total Petroleum Hydrocarbons</b>						
GRO (C <sub>6</sub> -C <sub>10</sub> )	Not Detected	10,000	µg/Kg, dry wt.	04/26/22	BD	
DRO (C <sub>10</sub> -C <sub>28</sub> )	Not Detected	20,000	µg/Kg, dry wt.	04/26/22	DS	E, C
ORO (C <sub>28</sub> -C <sub>34</sub> )	Not Detected	20,000	µg/Kg, dry wt.	04/29/22	DS	
<b>Analysis Information</b>						
Dry Weight Solids	80.4%	-	% by weight	04/22/22	LB	
SVOC Extraction	Completed	-	-	04/22/22	LB	
TPH-DRO/ ORO Extraction	Completed	-	-	04/24/22	LB	

Data Qualifiers: I Internal Standard results outside of acceptance limits  
 S QC spike recovery outside of acceptance limits  
 R RPD outside of acceptance limits

E Reporting limit is elevated  
 D Result is from a dilution  
 J Result should be considered estimated

M Matrix interference observed  
 F Matrix Spike four times rule applied  
 C See Case Narrative

Sample Description:	HA-1, 2-3', 1352, 4/19/22					
Laboratory ID:	12245-13	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b><i>Volatile Organic Compounds</i></b>						
Acetone	Not Detected	1,000	µg/Kg, dry wt.	04/26/22	BD	
Benzene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Bromobenzene	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
Bromochloromethane	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
Bromodichloromethane	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
Bromoform	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
Bromomethane	Not Detected	200	µg/Kg, dry wt.	04/26/22	BD	
2-Butanone (MEK)	Not Detected	750	µg/Kg, dry wt.	04/26/22	BD	
n-Butylbenzene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
sec-Butylbenzene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
tert-Butylbenzene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Carbon disulfide	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
Carbon tetrachloride	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Chlorobenzene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Chloroethane	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
Chloroform	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Chloromethane	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
2-Chlorotoluene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
4-Chlorotoluene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Dibromochloromethane	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
1,2-Dibromo-3-chloropropane	Not Detected	10	µg/Kg, dry wt.	04/26/22	BD	
Dibromomethane	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
1,2-Dichlorobenzene	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
1,3-Dichlorobenzene	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
1,4-Dichlorobenzene	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
Dichlorodifluoromethane	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
1,1-Dichloroethane	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
1,2-Dichloroethane	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
1,1-Dichloroethylene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
cis-1,2-Dichloroethylene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
trans-1,2-Dichloroethylene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
1,2-Dichloropropane	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
1,3-Dichloropropane	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
2,2-Dichloropropane	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
1,1-Dichloropropene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
<b>continued</b>						

Sample Description:	HA-1, 2-3', 1352, 4/19/22					
Laboratory ID:	12245-13	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>VOC's, Cont'd</b>						
1,3-Dichloropropene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Ethylbenzene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Ethylene Dibromide (1,2-Dibromoethane)	Not Detected	20	µg/Kg, dry wt.	04/26/22	BD	
Hexachlorobutadiene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
2-Hexanone	Not Detected	2,500	µg/Kg, dry wt.	04/26/22	BD	
Isopropyl benzene	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
4-Methyl-2-pentanone (MIBK)	Not Detected	2,500	µg/Kg, dry wt.	04/26/22	BD	
Methyl-t-butyl ether (MTBE)	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
Methylene chloride	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
2-Methylnaphthalene	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
Naphthalene	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
n-Propylbenzene	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
Styrene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
1,1,1,2-Tetrachloroethane	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
1,1,2,2-Tetrachloroethane	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Tetrachloroethylene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Tetrahydrofuran	Not Detected	1,000	µg/Kg, dry wt.	04/26/22	BD	
Toluene	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
1,2,3-Trichlorobenzene	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
1,2,4-Trichlorobenzene	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
1,1,1-Trichloroethane	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
1,1,2-Trichloroethane	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Trichloroethylene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Trichlorofluoromethane	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
1,2,3-Trichloropropane	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
1,2,4-Trimethylbenzene	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
1,3,5-Trimethylbenzene	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
Vinyl Acetate	Not Detected	5,000	µg/Kg, dry wt.	04/26/22	BD	
Vinyl Chloride	Not Detected	40	µg/Kg, dry wt.	04/26/22	BD	
Xylene (Total)	Not Detected	150	µg/Kg, dry wt.	04/26/22	BD	
<b>Surrogate Standards</b>						
1,2-Dichloroethane-d4	93.0%	-	% Recovery	04/26/22	BD	
Toluene-d8	106%	-	% Recovery	04/26/22	BD	
4-Bromofluorobenzene	103%	-	% Recovery	04/26/22	BD	
<b>continued</b>						

Sample Description:	HA-1, 2-3', 1352, 4/19/22					
Laboratory ID:	12245-13	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>Semi-Volatile Organic Cmpds</b>						
Acenaphthene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Acenaphthylene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Aniline	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Anthracene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Azobenzene	Not Detected	200	µg/Kg, dry wt.	04/27/22	BD	
Benzidine	Not Detected	1,000	µg/Kg, dry wt.	04/27/22	BD	
Benzo(a)anthracene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Benzo(b)fluoranthene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Benzo(k)fluoranthene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Benzo(g,h,i)perylene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Benzo(a)pyrene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Benzyl alcohol	Not Detected	3,300	µg/Kg, dry wt.	04/27/22	BD	
Bis(2-chloroethyl)ether	Not Detected	100	µg/Kg, dry wt.	04/27/22	BD	
Bis(2-chloroisopropyl)ether	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Bis(2-chloroethoxy)methane	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Bis(2-ethylhexyl)phthalate	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
4-Bromophenyl phenyl ether	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Butyl benzyl phthalate	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Carbazole	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
4-Chloroaniline	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
4-Chloro-3-methylphenol	Not Detected	280	µg/Kg, dry wt.	04/27/22	BD	
2-Chloronaphthalene (beta)	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2-Chlorophenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
4-Chlorophenyl phenyl ether	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Chrysene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Di-n-butylphthalate	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Di-n-octyl phthalate	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Dibenzo(a,h)anthracene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Dibenzofuran	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
3,3'-Dichlorobenzidine	Not Detected	2,000	µg/Kg, dry wt.	04/27/22	BD	
2,4-Dichlorophenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Diethylphthalate	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Dimethyl phthalate	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2,4-Dimethylphenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2,4-Dinitrophenol	Not Detected	830	µg/Kg, dry wt.	04/27/22	BD	
2,4-Dinitrotoluene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2,6-Dinitrotoluene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
<b>continued</b>						

Data Qualifiers: I Internal Standard results outside of acceptance limits E Reporting limit is elevated M Matrix interference observed  
 S QC spike recovery outside of acceptance limits D Result is from a dilution F Matrix Spike four times rule applied  
 R RPD outside of acceptance limits J Result should be considered estimated C See Case Narrative

Sample Description:	HA-1, 2-3', 1352, 4/19/22					
Laboratory ID:	12245-13	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>SVOC's, Cont'd</b>						
Fluoranthene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Fluorene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Hexachlorobenzene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Hexachlorocyclopentadiene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Hexachloroethane	Not Detected	300	µg/Kg, dry wt.	04/27/22	BD	
Indeno(1,2,3-cd)pyrene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Isophorone	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2-Methyl-4,6-Dinitrophenol	Not Detected	830	µg/Kg, dry wt.	04/27/22	BD	
2-Methylnaphthalene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2-Methylphenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
4-Methylphenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Methylphenols (total)	Not Detected	1,000	µg/Kg, dry wt.	04/27/22	BD	
Naphthalene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2-Nitroaniline	Not Detected	830	µg/Kg, dry wt.	04/27/22	BD	
3-Nitroaniline	Not Detected	830	µg/Kg, dry wt.	04/27/22	BD	
4-Nitroaniline	Not Detected	830	µg/Kg, dry wt.	04/27/22	BD	
Nitrobenzene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2-Nitrophenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
4-Nitrophenol	Not Detected	830	µg/Kg, dry wt.	04/27/22	BD	
N-Nitrosodi-n-propylamine	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
N-Nitrosodiphenylamine	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Pentachlorophenol	Not Detected	20	µg/Kg, dry wt.	04/27/22	BD	
Phenanthrene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Phenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Pyrene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Pyridine	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2,4,5-Trichlorophenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2,4,6-Trichlorophenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
<b>Surrogate Standards</b>						
2-Fluorophenol	75.4%	-	% Recovery	04/27/22	BD	
Phenol-d5	76.7%	-	% Recovery	04/27/22	BD	
Nitrobenzene-d5	66.0%	-	% Recovery	04/27/22	BD	
2-Fluorobiphenyl	70.2%	-	% Recovery	04/27/22	BD	
2,4,6-Tribromophenol	92.1%	-	% Recovery	04/27/22	BD	
Terphenyl-d14	87.1%	-	% Recovery	04/27/22	BD	
<b>Analysis Information</b>						
Dry Weight Solids	79.3%	-	% by weight	04/22/22	LB	
SVOC Extraction	Completed	-	-	04/22/22	LB	

Data Qualifiers: I Internal Standard results outside of acceptance limits E Reporting limit is elevated M Matrix interference observed  
 S QC spike recovery outside of acceptance limits D Result is from a dilution F Matrix Spike four times rule applied  
 R RPD outside of acceptance limits J Result should be considered estimated C See Case Narrative

Sample Description:	Dup, 0000, 4/19/22					
Laboratory ID:	12245-14	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b><i>Volatile Organic Compounds</i></b>						
Acetone	Not Detected	1,000	µg/Kg, dry wt.	04/27/22	BD	
Benzene	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
Bromobenzene	Not Detected	100	µg/Kg, dry wt.	04/27/22	BD	
Bromochloromethane	Not Detected	100	µg/Kg, dry wt.	04/27/22	BD	
Bromodichloromethane	Not Detected	100	µg/Kg, dry wt.	04/27/22	BD	
Bromoform	Not Detected	100	µg/Kg, dry wt.	04/27/22	BD	
Bromomethane	Not Detected	200	µg/Kg, dry wt.	04/27/22	BD	
2-Butanone (MEK)	Not Detected	750	µg/Kg, dry wt.	04/27/22	BD	
n-Butylbenzene	393	50	µg/Kg, dry wt.	04/27/22	BD	
sec-Butylbenzene	737	50	µg/Kg, dry wt.	04/27/22	BD	
tert-Butylbenzene	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
Carbon disulfide	Not Detected	250	µg/Kg, dry wt.	04/27/22	BD	
Carbon tetrachloride	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
Chlorobenzene	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
Chloroethane	Not Detected	250	µg/Kg, dry wt.	04/27/22	BD	
Chloroform	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
Chloromethane	Not Detected	250	µg/Kg, dry wt.	04/27/22	BD	
2-Chlorotoluene	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
4-Chlorotoluene	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
Dibromochloromethane	Not Detected	100	µg/Kg, dry wt.	04/27/22	BD	
1,2-Dibromo-3-chloropropane	Not Detected	10	µg/Kg, dry wt.	04/27/22	BD	
Dibromomethane	Not Detected	250	µg/Kg, dry wt.	04/27/22	BD	
1,2-Dichlorobenzene	Not Detected	100	µg/Kg, dry wt.	04/27/22	BD	
1,3-Dichlorobenzene	Not Detected	100	µg/Kg, dry wt.	04/27/22	BD	
1,4-Dichlorobenzene	Not Detected	100	µg/Kg, dry wt.	04/27/22	BD	
Dichlorodifluoromethane	Not Detected	250	µg/Kg, dry wt.	04/27/22	BD	
1,1-Dichloroethane	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
1,2-Dichloroethane	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
1,1-Dichloroethylene	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
cis-1,2-Dichloroethylene	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
trans-1,2-Dichloroethylene	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
1,2-Dichloropropane	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
1,3-Dichloropropane	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
2,2-Dichloropropane	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
1,1-Dichloropropene	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
1,3-Dichloropropene	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
<b>continued</b>						

Data Qualifiers: I Internal Standard results outside of acceptance limits E Reporting limit is elevated M Matrix interference observed  
 S QC spike recovery outside of acceptance limits D Result is from a dilution F Matrix Spike four times rule applied  
 R RPD outside of acceptance limits J Result should be considered estimated C See Case Narrative

Sample Description:	Dup, 0000, 4/19/22					
Laboratory ID:	12245-14	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>VOC's, Cont'd</b>						
Ethylbenzene	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
Ethylene Dibromide (1,2-Dibromoethane)	Not Detected	20	µg/Kg, dry wt.	04/27/22	BD	
Hexachlorobutadiene	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
2-Hexanone	Not Detected	2,500	µg/Kg, dry wt.	04/27/22	BD	
Isopropyl benzene	Not Detected	250	µg/Kg, dry wt.	04/27/22	BD	
4-Methyl-2-pentanone (MIBK)	Not Detected	2,500	µg/Kg, dry wt.	04/27/22	BD	
Methyl-t-butyl ether (MTBE)	Not Detected	250	µg/Kg, dry wt.	04/27/22	BD	
Methylene chloride	Not Detected	250	µg/Kg, dry wt.	04/27/22	BD	
2-Methylnaphthalene	4,580	250	µg/Kg, dry wt.	04/27/22	BD	
Naphthalene	Not Detected	250	µg/Kg, dry wt.	04/27/22	BD	
n-Propylbenzene	178	100	µg/Kg, dry wt.	04/27/22	BD	
Styrene	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
1,1,1,2-Tetrachloroethane	Not Detected	100	µg/Kg, dry wt.	04/27/22	BD	
1,1,2,2-Tetrachloroethane	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
Tetrachloroethylene	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
Tetrahydrofuran	Not Detected	1,000	µg/Kg, dry wt.	04/27/22	BD	
Toluene	Not Detected	100	µg/Kg, dry wt.	04/27/22	BD	
1,2,3-Trichlorobenzene	Not Detected	250	µg/Kg, dry wt.	04/27/22	BD	
1,2,4-Trichlorobenzene	Not Detected	250	µg/Kg, dry wt.	04/27/22	BD	
1,1,1-Trichloroethane	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
1,1,2-Trichloroethane	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
Trichloroethylene	Not Detected	50	µg/Kg, dry wt.	04/27/22	BD	
Trichlorofluoromethane	Not Detected	100	µg/Kg, dry wt.	04/27/22	BD	
1,2,3-Trichloropropane	Not Detected	100	µg/Kg, dry wt.	04/27/22	BD	
1,2,4-Trimethylbenzene	Not Detected	100	µg/Kg, dry wt.	04/27/22	BD	
1,3,5-Trimethylbenzene	Not Detected	100	µg/Kg, dry wt.	04/27/22	BD	
Vinyl Acetate	Not Detected	5,000	µg/Kg, dry wt.	04/27/22	BD	
Vinyl Chloride	Not Detected	40	µg/Kg, dry wt.	04/27/22	BD	
Xylene (Total)	Not Detected	150	µg/Kg, dry wt.	04/27/22	BD	
<b>Surrogate Standards</b>						
1,2-Dichloroethane-d4	89.9%	-	% Recovery	04/27/22	BD	
Toluene-d8	103%	-	% Recovery	04/27/22	BD	
4-Bromofluorobenzene	114%	-	% Recovery	04/27/22	BD	
<b>continued</b>						

Sample Description:	Dup, 0000, 4/19/22					
Laboratory ID:	12245-14	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>Semi-Volatile Organic Cmpds</b>						
Acenaphthene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Acenaphthylene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Aniline	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Anthracene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Azobenzene	Not Detected	200	µg/Kg, dry wt.	04/27/22	BD	
Benzidine	Not Detected	1,000	µg/Kg, dry wt.	04/27/22	BD	
Benzo(a)anthracene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Benzo(b)fluoranthene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Benzo(k)fluoranthene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Benzo(g,h,i)perylene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Benzo(a)pyrene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Benzyl alcohol	Not Detected	3,300	µg/Kg, dry wt.	04/27/22	BD	
Bis(2-chloroethyl)ether	Not Detected	100	µg/Kg, dry wt.	04/27/22	BD	
Bis(2-chloroisopropyl)ether	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Bis(2-chloroethoxy)methane	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Bis(2-ethylhexyl)phthalate	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
4-Bromophenyl phenyl ether	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Butyl benzyl phthalate	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Carbazole	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
4-Chloroaniline	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
4-Chloro-3-methylphenol	Not Detected	280	µg/Kg, dry wt.	04/27/22	BD	
2-Chloronaphthalene (beta)	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2-Chlorophenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
4-Chlorophenyl phenyl ether	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Chrysene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Di-n-butylphthalate	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Di-n-octyl phthalate	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Dibenzo(a,h)anthracene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Dibenzofuran	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
3,3'-Dichlorobenzidine	Not Detected	2,000	µg/Kg, dry wt.	04/27/22	BD	
2,4-Dichlorophenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Diethylphthalate	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Dimethyl phthalate	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2,4-Dimethylphenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2,4-Dinitrophenol	Not Detected	830	µg/Kg, dry wt.	04/27/22	BD	
2,4-Dinitrotoluene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2,6-Dinitrotoluene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
<b>continued</b>						

Data Qualifiers: I Internal Standard results outside of acceptance limits E Reporting limit is elevated M Matrix interference observed  
 S QC spike recovery outside of acceptance limits D Result is from a dilution F Matrix Spike four times rule applied  
 R RPD outside of acceptance limits J Result should be considered estimated C See Case Narrative

Sample Description:	Dup, 0000, 4/19/22					
Laboratory ID:	12245-14	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>SVOC's, Cont'd</b>						
Fluoranthene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Fluorene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Hexachlorobenzene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Hexachlorocyclopentadiene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Hexachloroethane	Not Detected	300	µg/Kg, dry wt.	04/27/22	BD	
Indeno(1,2,3-cd)pyrene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Isophorone	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2-Methyl-4,6-Dinitrophenol	Not Detected	830	µg/Kg, dry wt.	04/27/22	BD	
2-Methylnaphthalene	793	330	µg/Kg, dry wt.	04/27/22	BD	
2-Methylphenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
4-Methylphenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Methylphenols (total)	Not Detected	1,000	µg/Kg, dry wt.	04/27/22	BD	
Naphthalene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2-Nitroaniline	Not Detected	830	µg/Kg, dry wt.	04/27/22	BD	
3-Nitroaniline	Not Detected	830	µg/Kg, dry wt.	04/27/22	BD	
4-Nitroaniline	Not Detected	830	µg/Kg, dry wt.	04/27/22	BD	
Nitrobenzene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2-Nitrophenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
4-Nitrophenol	Not Detected	830	µg/Kg, dry wt.	04/27/22	BD	
N-Nitrosodi-n-propylamine	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
N-Nitrosodiphenylamine	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Pentachlorophenol	Not Detected	20	µg/Kg, dry wt.	04/27/22	BD	
Phenanthrene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Phenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Pyrene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Pyridine	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2,4,5-Trichlorophenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2,4,6-Trichlorophenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
<b>Surrogate Standards</b>						
2-Fluorophenol	58.5%	-	% Recovery	04/27/22	BD	
Phenol-d5	63.0%	-	% Recovery	04/27/22	BD	
Nitrobenzene-d5	53.5%	-	% Recovery	04/27/22	BD	
2-Fluorobiphenyl	63.3%	-	% Recovery	04/27/22	BD	
2,4,6-Tribromophenol	77.6%	-	% Recovery	04/27/22	BD	
Terphenyl-d14	75.7%	-	% Recovery	04/27/22	BD	
<b>continued</b>						

Data Qualifiers: I Internal Standard results outside of acceptance limits E Reporting limit is elevated M Matrix interference observed  
 S QC spike recovery outside of acceptance limits D Result is from a dilution F Matrix Spike four times rule applied  
 R RPD outside of acceptance limits J Result should be considered estimated C See Case Narrative

Sample Description:	Dup, 0000, 4/19/22					
Laboratory ID:	12245-14	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>Total Petroleum Hydrocarbons</b>						
GRO (C <sub>6</sub> -C <sub>10</sub> )	634,000	100,000	µg/Kg, dry wt.	04/26/22	BD	E, D
DRO (C <sub>10</sub> -C <sub>28</sub> )	1,410,000	20,000	µg/Kg, dry wt.	04/26/22	DS	E, C
ORO (C <sub>28</sub> -C <sub>34</sub> )	1,110,000	20,000	µg/Kg, dry wt.	04/29/22	DS	
<b>Analysis Information</b>						
Dry Weight Solids	89.7%	-	% by weight	04/22/22	LB	
SVOC Extraction	Completed	-	-	04/22/22	LB	
TPH-DRO/ ORO Extraction	Completed	-	-	04/24/22	LB	

Sample Description:	ST Sewer Sediment, 1205, 4/19/22					
Laboratory ID:	12245-15	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b><i>Volatile Organic Compounds</i></b>						
Acetone	Not Detected	1,000	µg/Kg, dry wt.	04/26/22	BD	
Benzene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Bromobenzene	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
Bromochloromethane	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
Bromodichloromethane	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
Bromoform	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
Bromomethane	Not Detected	200	µg/Kg, dry wt.	04/26/22	BD	
2-Butanone (MEK)	Not Detected	750	µg/Kg, dry wt.	04/26/22	BD	
n-Butylbenzene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
sec-Butylbenzene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
tert-Butylbenzene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Carbon disulfide	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
Carbon tetrachloride	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Chlorobenzene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Chloroethane	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
Chloroform	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Chloromethane	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
2-Chlorotoluene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
4-Chlorotoluene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Dibromochloromethane	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
1,2-Dibromo-3-chloropropane	Not Detected	10	µg/Kg, dry wt.	04/26/22	BD	
Dibromomethane	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
1,2-Dichlorobenzene	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
1,3-Dichlorobenzene	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
1,4-Dichlorobenzene	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
Dichlorodifluoromethane	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
1,1-Dichloroethane	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
1,2-Dichloroethane	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
1,1-Dichloroethylene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
cis-1,2-Dichloroethylene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
trans-1,2-Dichloroethylene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
1,2-Dichloropropane	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
1,3-Dichloropropane	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
2,2-Dichloropropane	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
1,1-Dichloropropene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
1,3-Dichloropropene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
<b>continued</b>						

Data Qualifiers: I Internal Standard results outside of acceptance limits  
 S QC spike recovery outside of acceptance limits  
 R RPD outside of acceptance limits  
 E Reporting limit is elevated  
 D Result is from a dilution  
 J Result should be considered estimated  
 M Matrix interference observed  
 F Matrix Spike four times rule applied  
 C See Case Narrative

Sample Description:	ST Sewer Sediment, 1205, 4/19/22					
Laboratory ID:	12245-15	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>VOC's, Cont'd</b>						
Ethylbenzene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Ethylene Dibromide (1,2-Dibromoethane)	Not Detected	20	µg/Kg, dry wt.	04/26/22	BD	
Hexachlorobutadiene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
2-Hexanone	Not Detected	2,500	µg/Kg, dry wt.	04/26/22	BD	
Isopropyl benzene	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
4-Methyl-2-pentanone (MIBK)	Not Detected	2,500	µg/Kg, dry wt.	04/26/22	BD	
Methyl-t-butyl ether (MTBE)	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
Methylene chloride	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
2-Methylnaphthalene	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
Naphthalene	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
n-Propylbenzene	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
Styrene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
1,1,1,2-Tetrachloroethane	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
1,1,2,2-Tetrachloroethane	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Tetrachloroethylene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Tetrahydrofuran	Not Detected	1,000	µg/Kg, dry wt.	04/26/22	BD	
Toluene	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
1,2,3-Trichlorobenzene	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
1,2,4-Trichlorobenzene	Not Detected	250	µg/Kg, dry wt.	04/26/22	BD	
1,1,1-Trichloroethane	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
1,1,2-Trichloroethane	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Trichloroethylene	Not Detected	50	µg/Kg, dry wt.	04/26/22	BD	
Trichlorofluoromethane	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
1,2,3-Trichloropropane	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
1,2,4-Trimethylbenzene	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
1,3,5-Trimethylbenzene	Not Detected	100	µg/Kg, dry wt.	04/26/22	BD	
Vinyl Acetate	Not Detected	5,000	µg/Kg, dry wt.	04/26/22	BD	
Vinyl Chloride	Not Detected	40	µg/Kg, dry wt.	04/26/22	BD	
Xylene (Total)	Not Detected	150	µg/Kg, dry wt.	04/26/22	BD	
<b>Surrogate Standards</b>						
1,2-Dichloroethane-d4	97.1%	-	% Recovery	04/26/22	BD	
Toluene-d8	107%	-	% Recovery	04/26/22	BD	
4-Bromofluorobenzene	101%	-	% Recovery	04/26/22	BD	
<b>continued</b>						

Sample Description:	ST Sewer Sediment, 1205, 4/19/22					
Laboratory ID:	12245-15	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>Semi-Volatile Organic Cmpds</b>						
Acenaphthene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Acenaphthylene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Aniline	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Anthracene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Azobenzene	Not Detected	200	µg/Kg, dry wt.	04/27/22	BD	
Benzidine	Not Detected	1,000	µg/Kg, dry wt.	04/27/22	BD	
Benzo(a)anthracene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Benzo(b)fluoranthene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Benzo(k)fluoranthene	346	330	µg/Kg, dry wt.	04/27/22	BD	
Benzo(g,h,i)perylene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Benzo(a)pyrene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Benzyl alcohol	Not Detected	3,300	µg/Kg, dry wt.	04/27/22	BD	
Bis(2-chloroethyl)ether	Not Detected	100	µg/Kg, dry wt.	04/27/22	BD	
Bis(2-chloroisopropyl)ether	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Bis(2-chloroethoxy)methane	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Bis(2-ethylhexyl)phthalate	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
4-Bromophenyl phenyl ether	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Butyl benzyl phthalate	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Carbazole	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
4-Chloroaniline	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
4-Chloro-3-methylphenol	Not Detected	280	µg/Kg, dry wt.	04/27/22	BD	
2-Chloronaphthalene (beta)	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2-Chlorophenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
4-Chlorophenyl phenyl ether	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Chrysene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Di-n-butylphthalate	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Di-n-octyl phthalate	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Dibenzo(a,h)anthracene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Dibenzofuran	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
3,3'-Dichlorobenzidine	Not Detected	2,000	µg/Kg, dry wt.	04/27/22	BD	
2,4-Dichlorophenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Diethylphthalate	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Dimethyl phthalate	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2,4-Dimethylphenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2,4-Dinitrophenol	Not Detected	830	µg/Kg, dry wt.	04/27/22	BD	
2,4-Dinitrotoluene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2,6-Dinitrotoluene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
<b>continued</b>						

Sample Description:	ST Sewer Sediment, 1205, 4/19/22					
Laboratory ID:	12245-15	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>SVOC's, Cont'd</b>						
Fluoranthene	349	330	µg/Kg, dry wt.	04/27/22	BD	
Fluorene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Hexachlorobenzene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Hexachlorocyclopentadiene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Hexachloroethane	Not Detected	300	µg/Kg, dry wt.	04/27/22	BD	
Indeno(1,2,3-cd)pyrene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Isophorone	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2-Methyl-4,6-Dinitrophenol	Not Detected	830	µg/Kg, dry wt.	04/27/22	BD	
2-Methylnaphthalene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2-Methylphenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
4-Methylphenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Methylphenols (total)	Not Detected	1,000	µg/Kg, dry wt.	04/27/22	BD	
Naphthalene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2-Nitroaniline	Not Detected	830	µg/Kg, dry wt.	04/27/22	BD	
3-Nitroaniline	Not Detected	830	µg/Kg, dry wt.	04/27/22	BD	
4-Nitroaniline	Not Detected	830	µg/Kg, dry wt.	04/27/22	BD	
Nitrobenzene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2-Nitrophenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
4-Nitrophenol	Not Detected	830	µg/Kg, dry wt.	04/27/22	BD	
N-Nitrosodi-n-propylamine	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
N-Nitrosodiphenylamine	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Pentachlorophenol	Not Detected	20	µg/Kg, dry wt.	04/27/22	BD	
Phenanthrene	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Phenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
Pyrene	378	330	µg/Kg, dry wt.	04/27/22	BD	
Pyridine	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2,4,5-Trichlorophenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
2,4,6-Trichlorophenol	Not Detected	330	µg/Kg, dry wt.	04/27/22	BD	
<b>Surrogate Standards</b>						
2-Fluorophenol	93.8%	-	% Recovery	04/27/22	BD	
Phenol-d5	93.8%	-	% Recovery	04/27/22	BD	
Nitrobenzene-d5	87.4%	-	% Recovery	04/27/22	BD	
2-Fluorobiphenyl	90.2%	-	% Recovery	04/27/22	BD	
2,4,6-Tribromophenol	106%	-	% Recovery	04/27/22	BD	
Terphenyl-d14	98.6%	-	% Recovery	04/27/22	BD	
<b>continued</b>						

Data Qualifiers: I Internal Standard results outside of acceptance limits E Reporting limit is elevated M Matrix interference observed  
 S QC spike recovery outside of acceptance limits D Result is from a dilution F Matrix Spike four times rule applied  
 R RPD outside of acceptance limits J Result should be considered estimated C See Case Narrative

Sample Description:		ST Sewer Sediment, 1205, 4/19/22				
Laboratory ID:	12245-15	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>Michigan Metals</b>						
Arsenic	1,750	100	µg/Kg, dry wt.	04/26/22	DS	
Barium	149,000	1,000	µg/Kg, dry wt.	04/26/22	DS	
Cadmium	Not Detected	200	µg/Kg, dry wt.	04/26/22	DS	
Chromium	5,700	2,000	µg/Kg, dry wt.	04/26/22	DS	
Copper	8,240	1,000	µg/Kg, dry wt.	04/26/22	DS	
Lead	2,990	1,000	µg/Kg, dry wt.	04/26/22	DS	
Mercury	Not Detected	50	µg/Kg, dry wt.	04/27/22	DS	
Selenium	Not Detected	200	µg/Kg, dry wt.	04/26/22	DS	
Silver	Not Detected	100	µg/Kg, dry wt.	04/26/22	DS	
Zinc	64,000	1,000	µg/Kg, dry wt.	04/26/22	DS	
<b>Total Petroleum Hydrocarbons</b>						
GRO (C <sub>6</sub> -C <sub>10</sub> )	Not Detected	10,000	µg/Kg, dry wt.	04/26/22	BD	
DRO (C <sub>10</sub> -C <sub>28</sub> )	36,500	20,000	µg/Kg, dry wt.	04/26/22	DS	E, C
ORO (C <sub>28</sub> -C <sub>34</sub> )	236,000	20,000	µg/Kg, dry wt.	04/29/22	DS	
<b>Analysis Information</b>						
Dry Weight Solids	89.7%	-	% by weight	04/22/22	LB	
SVOC Extraction	Completed	-	-	04/22/22	LB	
TPH-DRO/ ORO Extraction	Completed	-	-	04/24/22	LB	
Mercury Digestion	Completed	-	-	04/26/22	LB	
Metals Digestion	Completed	-	-	04/26/22	LB	

Sample Description:	Trip Blank					
Laboratory ID:	12245-16	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b><i>Volatile Organic Compounds</i></b>						
Acetone	Not Detected	50	µg/L	04/26/22	BD	
Benzene	Not Detected	1	µg/L	04/26/22	BD	
Bromobenzene	Not Detected	1	µg/L	04/26/22	BD	
Bromochloromethane	Not Detected	1	µg/L	04/26/22	BD	
Bromodichloromethane	Not Detected	1	µg/L	04/26/22	BD	
Bromoform	Not Detected	1	µg/L	04/26/22	BD	
Bromomethane	Not Detected	5	µg/L	04/26/22	BD	
2-Butanone (MEK)	Not Detected	25	µg/L	04/26/22	BD	
n-Butylbenzene	Not Detected	1	µg/L	04/26/22	BD	
sec-Butylbenzene	Not Detected	1	µg/L	04/26/22	BD	
tert-Butylbenzene	Not Detected	1	µg/L	04/26/22	BD	
Carbon disulfide	Not Detected	5	µg/L	04/26/22	BD	
Carbon tetrachloride	Not Detected	1	µg/L	04/26/22	BD	
Chlorobenzene	Not Detected	1	µg/L	04/26/22	BD	
Chloroethane	Not Detected	5	µg/L	04/26/22	BD	
Chloroform	Not Detected	1	µg/L	04/26/22	BD	
Chloromethane	Not Detected	5	µg/L	04/26/22	BD	
2-Chlorotoluene	Not Detected	5	µg/L	04/26/22	BD	
4-Chlorotoluene	Not Detected	5	µg/L	04/26/22	BD	
Dibromochloromethane	Not Detected	5	µg/L	04/26/22	BD	
1,2-Dibromo-3-chloropropane	Not Detected	0.2	µg/L	04/26/22	BD	
Dibromomethane	Not Detected	5	µg/L	04/26/22	BD	
1,2-Dichlorobenzene	Not Detected	1	µg/L	04/26/22	BD	
1,3-Dichlorobenzene	Not Detected	1	µg/L	04/26/22	BD	
1,4-Dichlorobenzene	Not Detected	1	µg/L	04/26/22	BD	
Dichlorodifluoromethane	Not Detected	5	µg/L	04/26/22	BD	
1,1-Dichloroethane	Not Detected	1	µg/L	04/26/22	BD	
1,2-Dichloroethane	Not Detected	1	µg/L	04/26/22	BD	
1,1-Dichloroethylene	Not Detected	1	µg/L	04/26/22	BD	
cis-1,2-Dichloroethylene	Not Detected	1	µg/L	04/26/22	BD	
trans-1,2-Dichloroethylene	Not Detected	1	µg/L	04/26/22	BD	
1,2-Dichloropropane	Not Detected	1	µg/L	04/26/22	BD	
1,3-Dichloropropane	Not Detected	1	µg/L	04/26/22	BD	
2,2-Dichloropropane	Not Detected	1	µg/L	04/26/22	BD	
1,1-Dichloropropene	Not Detected	1	µg/L	04/26/22	BD	
1,3-Dichloropropene	Not Detected	1	µg/L	04/26/22	BD	
<b>continued</b>						

Data Qualifiers: I Internal Standard results outside of acceptance limits E Reporting limit is elevated M Matrix interference observed  
 S QC spike recovery outside of acceptance limits D Result is from a dilution F Matrix Spike four times rule applied  
 R RPD outside of acceptance limits J Result should be considered estimated C See Case Narrative

Sample Description:	Trip Blank					
Laboratory ID:	12245-16	Reporting Limit	Units of Measure	Date of Analysis	Analyst	Data Qualifiers
<b>VOC's, Cont'd</b>						
Ethylbenzene	Not Detected	1	µg/L	04/26/22	BD	
Ethylene Dibromide (1,2-Dibromoethane)	Not Detected	0.2	µg/L	04/26/22	BD	
Hexachlorobutadiene	Not Detected	0.2	µg/L	04/26/22	BD	
2-Hexanone	Not Detected	50	µg/L	04/26/22	BD	
Isopropyl benzene	Not Detected	5	µg/L	04/26/22	BD	
4-Methyl-2-pentanone (MIBK)	Not Detected	50	µg/L	04/26/22	BD	
Methyl-t-butyl ether (MTBE)	Not Detected	5	µg/L	04/26/22	BD	
Methylene chloride	Not Detected	5	µg/L	04/26/22	BD	
2-Methylnaphthalene	Not Detected	5	µg/L	04/26/22	BD	
Naphthalene	Not Detected	5	µg/L	04/26/22	BD	
n-Propyl benzene	Not Detected	1	µg/L	04/26/22	BD	
Styrene	Not Detected	1	µg/L	04/26/22	BD	
1,1,1,2-Tetrachloroethane	Not Detected	1	µg/L	04/26/22	BD	
1,1,2,2-Tetrachloroethane	Not Detected	1	µg/L	04/26/22	BD	
Tetrachloroethylene	Not Detected	1	µg/L	04/26/22	BD	
Tetrahydrofuran	Not Detected	90	µg/L	04/26/22	BD	
Toluene	Not Detected	1	µg/L	04/26/22	BD	
1,2,3-Trichlorobenzene	Not Detected	5	µg/L	04/26/22	BD	
1,2,4-Trichlorobenzene	Not Detected	5	µg/L	04/26/22	BD	
1,1,1-Trichloroethane	Not Detected	1	µg/L	04/26/22	BD	
1,1,2-Trichloroethane	Not Detected	1	µg/L	04/26/22	BD	
Trichloroethylene	Not Detected	1	µg/L	04/26/22	BD	
Trichlorofluoromethane	Not Detected	1	µg/L	04/26/22	BD	
1,2,3-Trichloropropane	Not Detected	1	µg/L	04/26/22	BD	
1,2,4-Trimethylbenzene	Not Detected	1	µg/L	04/26/22	BD	
1,3,5-Trimethylbenzene	Not Detected	1	µg/L	04/26/22	BD	
Vinyl Acetate	Not Detected	100	µg/L	04/26/22	BD	
Vinyl chloride	Not Detected	1	µg/L	04/26/22	BD	
Xylene (Total)	Not Detected	3	µg/L	04/26/22	BD	
<b>Surrogate Standards</b>						
1,2-Dichloroethane-d4	96.5%	-	% Recovery	04/26/22	BD	
Toluene-d8	103%	-	% Recovery	04/26/22	BD	
4-Bromofluorobenzene	101%	-	% Recovery	04/26/22	BD	

Data Qualifiers: I Internal Standard results outside of acceptance limits E Reporting limit is elevated M Matrix interference observed  
 S QC spike recovery outside of acceptance limits D Result is from a dilution F Matrix Spike four times rule applied  
 R RPD outside of acceptance limits J Result should be considered estimated C See Case Narrative

## Quality Control

### VOC Matrix Spike Data

Spiked Sample: 12245-8		Matrix: Soil		Units: ppb in extract					
Parameter	Sample Result	Spike Added	MS Result	MSD Result	MS % Rec.	MSD % Rec.	RPD	Data Qualifiers	
1,1-Dichloroethene	0.0	25	30	26	120	104	14.3		
Benzene	0.0	25	24	25	96	100	4.1		
Trichloroethene	0.0	25	22	24	88	96	8.7		
Toluene	0.0	25	22	22	88	88	0.0		
Chlorobenzene	0.0	25	21	23	84	92	9.1		

Spiked Sample: 12250 LCS		Matrix: Water		Units: ppb in solution					
Parameter	Sample Result	Spike Added	MS Result	MSD Result	MS % Rec.	MSD % Rec.	RPD	Data Qualifiers	
1,1-Dichloroethene	0.0	25	26	24	104	96	8.0		
Benzene	0.0	25	26	28	104	112	7.4		
Trichloroethene	0.0	25	25	26	100	104	3.9		
Toluene	0.0	25	23	25	92	100	8.3		
Chlorobenzene	0.0	25	23	25	92	100	8.3		

### SVOC Matrix Spike Data

Spiked Sample: 12245-8		Matrix: Soil		Units: ppm in extract					
Parameter	Sample Result	Spike Added	MS Result	MSD Result	MS % Rec.	MSD % Rec.	RPD	Data Qualifiers	
2-Chlorophenol	0.0	100	77	82	77	82	6.3		
1,4-Dichlorobenzene	0.0	50	32	33	64	66	3.1		
1,2,4-Trichlorobenzene	0.0	50	31	31	62	62	0.0		
4-Chloro-3-methylphenol	0.0	100	86	89	86	89	3.4		
Acenaphthene	0.0	50	35	36	70	72	2.8		
Pentachlorophenol	0.0	100	90	92	90	92	2.2		

Spiked Sample: 12245 LCS		Matrix: Water		Units: ppm in extract					
Parameter	Sample Result	Spike Added	MS Result	MSD Result	MS % Rec.	MSD % Rec.	RPD	Data Qualifiers	
2-Chlorophenol	0.0	100	38	45	38	45	16.9		
1,4-Dichlorobenzene	0.0	50	16	20	32	40	22.2		
1,2,4-Trichlorobenzene	0.0	50	14	17	28	34	19.4		
4-Chloro-3-methylphenol	0.0	100	46	54	46	54	16.0		
Acenaphthene	0.0	50	18	21	36	42	15.4		
Pentachlorophenol	0.0	100	44	49	44	49	10.8		

## Quality Control, Cont'd

### **TPH-DRO / GRO / ORO Matrix Spike Data**

Spiked Sample: 12245-9		Matrix: Soil		Units: ppb in extract				
Parameter	Sample Result	Spike Added	MS Result	MSD Result	MS % Rec.	MSD % Rec.	RPD	Data Qualifiers
GRO (C <sub>6</sub> -C <sub>10</sub> )	0	1000	1100	1170	110	117	6.2	

Spiked Sample: 12245 LCS		Matrix: Water		Units: ppb in extract				
Parameter	Sample Result	Spike Added	MS Result	MSD Result	MS % Rec.	MSD % Rec.	RPD	Data Qualifiers
GRO (C <sub>6</sub> -C <sub>10</sub> )	0	1000	820	980	82	98	17.8	

Spiked Sample: 12245-8 (12243-7 for DRO)		Matrix: Soil		Units: ppb in extract				
Parameter	Sample Result	Spike Added	MS Result	MSD Result	MS % Rec.	MSD % Rec.	RPD	Data Qualifiers
DRO (C <sub>10</sub> -C <sub>28</sub> )	95	1000	784	708	69	61	10.2	
ORO (C <sub>28</sub> -C <sub>34</sub> )	0	1000	930	874	93	87	6.2	

Spiked Sample: 12245 LCS		Matrix: Water		Units: ppb in extract				
Parameter	Sample Result	Spike Added	MS Result	MSD Result	MS % Rec.	MSD % Rec.	RPD	Data Qualifiers
DRO (C <sub>10</sub> -C <sub>28</sub> )	0	1000	776	877	78	88	12.2	
ORO (C <sub>28</sub> -C <sub>34</sub> )	82	1000	945	974	86	89	3.0	

## Quality Control, Cont'd

### **Metals Matrix Spike Data**

Spiked Sample: 12245-8 (LCS for Ba, 12249-7 for Hg)					Matrix: Soil		Units: ppb in solution	
Parameter	Sample Result	Spike Added	MS Result	MSD Result	MS % Rec.	MSD % Rec.	RPD	Data Qualifiers
Arsenic	3.1	12.5	14.6	15.6	92	100	6.7	
Barium	0	100	105	104	105	104	1.0	
Cadmium	0.5	1.3	1.5	1.5	86	82	3.1	
Chromium	9.0	10	23.0	24.6	141	157	6.8	
Copper	15.3	25	36.3	40.6	84	101	11.2	
Lead	10.3	25	30.6	28.7	81	74	6.4	
Mercury	0.0	5.0	5.0	5.1	99	101	2.0	
Selenium	0.0	25	6.9	6.8	28	27	1.7	
Silver	0.0	5.0	3.9	4.1	79	81	3.0	
Zinc	53	500	487	505	87	90	3.6	

Spiked Sample: 12245-1 (LCS for Hg)					Matrix: Water		Units: ppb in solution	
Parameter	Sample Result	Spike Added	MS Result	MSD Result	MS % Rec.	MSD % Rec.	RPD	Data Qualifiers
Arsenic	2.2	12.5	12.9	13.9	85	94	7.9	
Barium	440	100	487	462	NC	NC	5.3	
Cadmium	0.0	1.3	0.7	0.7	59	57	2.7	S, M
Chromium	0.0	10	10.9	11.1	109	111	1.9	
Copper	4.8	25	28.3	36.6	94	127	25.6	
Lead	0.0	25	15.8	17.8	63	71	11.9	
Mercury	0.0	5.0	5.3	5.2	105	104	0.8	
Selenium	0.0	25	8.2	1.6	33	6	135	R, M
Silver	0.0	5.0	2.0	2.1	41	41	1.5	
Zinc	0	500	104	146	21	29	33.6	S, R, M

## Case Narrative

Samples 12245-1 and 6 were filtered with a 0.45µm filter prior to digestion and analysis of metals per client's request.

The reporting limit for TPH-DRO on samples 12245-8, 9, 10, 11, 12, 14 and 15 were elevated due to the presence of the analyte in the associated method blank.

All method protocols and quality control requirements were satisfied for all samples.

## Notes

- (1) Quality Control Limits available upon request.
- (2) Results are applicable only to the sample tested.
- (3) All samples will be discarded after 30 days unless the laboratory receives other instructions.
- (4) Chain of Custody document attached.

QUANTUM LABORATORIES, INC.



David W. Starr  
Analytical Chemistry Manager

**QUANTUM LABORATORIES, INC.**  
 28221 Beck Road | Suite A-11  
 Wixom, MI 48393  
 248-348-TEST or 248-348-8378

Women's Business Enterprise  
 National Council  
**WBENC**  
 Cert. No. 2005111505

**Quantum Laboratories, Inc.**

**CHAIN OF CUSTODY RECORD**

COMPANY	Atlas Technical Consultants LLC
ADDRESS	46555 Humboldt Dr., #100
CITY, STATE, ZIP	Novi, MI 48377
TELEPHONE	248-669-5140
FAX	
CONTACT	Gerald DeBusschere
ADDITIONAL PHONE	810-287-1679
EMAIL ADDRESS	gerald.debuschere@atlas.com

REPORT NO. (LAB USE)	12245	Page 1 of 2
P.O. NUMBER		
PROJECT NUMBER	188EM22001	
PROJECT NAME	Ann Arbor Housing	
SAMPLING LOCATION	2050 S. Industrial Hwy, Ann Arbor, MI	
SAMPLES COLLECTED BY	R. Scott	
TURN AROUND TIME	<input checked="" type="checkbox"/> Standard <input type="checkbox"/> Rush <input type="checkbox"/> By Date:	
SPECIAL INSTRUCTIONS		

\* SAMPLE TYPE: S=Soil, W=Water, D=Drinking Water, O=Oil/Organic, M=Mixed, V=Vapor, A=Air  
 U=Unknown or Other

\*\* GRAB/COMP: G=Grab Sample, C=Composite Sample

LINE NO.	LAB USE	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	TIME SAMPLED	DATE SAMPLED	SAMPLE TYPE *	GRAB / COMP **	ANALYSIS REQUESTED	REMARKS / PRESERVATIVES
1		GP/TMW-1	5	0945	4/19/22	W	G	VCS	
2		GP/TMW-2	5	1040		W	G	DEPTRO	Hold MI-10
3		GP/TMW-3	5	1135		W	G	GRO	Hold MI-10
4		GP/TMW-4	5	1243		W	G	GRO	Hold MI-10
5		GP/TMW-5	5	1350		W	G	VCS	
6		ST sensor	5	1202		W	G		
7		DWP	4	0000		W	G		
8		GP/TMN-1 (3-4')	2	0915		S	G		Hold MI-10
9		GP/TMW-2 (3.5-4.5')	2	1011		S	G		Hold MI-10
10		GP/TMW-3 (4.5')	2	1105		S	G		Hold MI-10

RELINQUISHED BY	1525 / 4/21/22	ACCEPTED BY	
TIME / DATE			
SAMPLE RECEIVED			

Distribution: White - Lab Copy Yellow - Client Report Pink - Sampler

Data Qualifiers: I Internal Standard results outside of acceptance limits  
 S QC spike recovery outside of acceptance limits  
 R RPD outside of acceptance limits  
 E Reporting limit is elevated  
 D Result is from a dilution  
 J Result should be considered estimated  
 M Matrix interference observed  
 F Matrix Spike four times rule applied  
 C See Case Narrative



May 27, 2022

Gerard Debusschere  
Atlas  
46555 Humboldt Dr.  
Novi, MI 48377

RE: Project: City of Ann Arbor  
Pace Project No.: 10606801

Dear Gerard Debusschere:

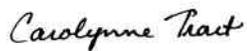
Enclosed are the analytical results for sample(s) received by the laboratory on May 03, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Minneapolis

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

Sincerely,



Carolynne Trout  
carolynne.trout@pacelabs.com  
1(612)607-6351  
Project Manager

Enclosures



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: City of Ann Arbor

Pace Project No.: 10606801

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### **Pace Analytical Services, LLC - Minneapolis MN**

1700 Elm Street SE, Minneapolis, MN 55414  
1800 Elm Street SE, Minneapolis, MN 55414--Satellite Air Lab

A2LA Certification #: 2926.01\*  
Alabama Certification #: 40770  
Alaska Contaminated Sites Certification #: 17-009\*  
Alaska DW Certification #: MN00064  
Arizona Certification #: AZ0014\*  
Arkansas DW Certification #: MN00064  
Arkansas WW Certification #: 88-0680  
California Certification #: 2929  
Colorado Certification #: MN00064  
Connecticut Certification #: PH-0256  
EPA Region 8 Tribal Water Systems+Wyoming DW Certification #: via MN 027-053-137  
Florida Certification #: E87605\*  
Georgia Certification #: 959  
Hawaii Certification #: MN00064  
Idaho Certification #: MN00064  
Illinois Certification #: 200011  
Indiana Certification #: C-MN-01  
Iowa Certification #: 368  
Kansas Certification #: E-10167  
Kentucky DW Certification #: 90062  
Kentucky WW Certification #: 90062  
Louisiana DEQ Certification #: AI-03086\*  
Louisiana DW Certification #: MN00064  
Maine Certification #: MN00064\*  
Maryland Certification #: 322  
Michigan Certification #: 9909  
Minnesota Certification #: 027-053-137\*  
Minnesota Dept of Ag Approval: via MN 027-053-137  
Minnesota Petrofund Registration #: 1240\*  
Mississippi Certification #: MN00064

Missouri Certification #: 10100  
Montana Certification #: CERT0092  
Nebraska Certification #: NE-OS-18-06  
Nevada Certification #: MN00064  
New Hampshire Certification #: 2081\*  
New Jersey Certification #: MN002  
New York Certification #: 11647\*  
North Carolina DW Certification #: 27700  
North Carolina WW Certification #: 530  
North Dakota Certification (A2LA) #: R-036  
North Dakota Certification (MN) #: R-036  
Ohio DW Certification #: 41244  
Ohio VAP Certification (1700) #: CL101  
Ohio VAP Certification (1800) #: CL110\*  
Oklahoma Certification #: 9507\*  
Oregon Primary Certification #: MN300001  
Oregon Secondary Certification #: MN200001\*  
Pennsylvania Certification #: 68-00563\*  
Puerto Rico Certification #: MN00064  
South Carolina Certification #: 74003001  
Tennessee Certification #: TN02818  
Texas Certification #: T104704192\*  
Utah Certification #: MN00064\*  
Vermont Certification #: VT-027053137  
Virginia Certification #: 460163\*  
Washington Certification #: C486\*  
West Virginia DEP Certification #: 382  
West Virginia DW Certification #: 9952 C  
Wisconsin Certification #: 999407970  
Wyoming UST Certification #: via A2LA 2926.01  
USDA Permit #: P330-19-00208  
\*Please Note: Applicable air certifications are denoted with an asterisk (\*).

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: City of Ann Arbor  
Pace Project No.: 10606801

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10606801001	SG-1	Air	04/29/22 10:06	05/03/22 12:12
10606801002	SG-2	Air	04/29/22 10:30	05/03/22 12:12
10606801003	SG-3	Air	04/29/22 09:44	05/03/22 12:12
10606801004	SG-4	Air	04/29/22 10:47	05/03/22 12:12
10606801005	SG-5	Air	04/29/22 11:09	05/03/22 12:12
10606801006	SG-6	Air	04/29/22 11:49	05/03/22 12:12

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### SAMPLE ANALYTE COUNT

Project: City of Ann Arbor

Pace Project No.: 10606801

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10606801001	SG-1	TO-15	HMH	62
10606801002	SG-2	TO-15	HMH	62
10606801003	SG-3	TO-15	HMH	62
10606801004	SG-4	TO-15	HMH	62
10606801005	SG-5	TO-15	HMH	62
10606801006	SG-6	TO-15	HMH	62

PASI-M = Pace Analytical Services - Minneapolis

### REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: City of Ann Arbor

Pace Project No.: 10606801

---

**Method:** TO-15

**Description:** TO15 MSV AIR

**Client:** One Atlas MI Air

**Date:** May 27, 2022

**General Information:**

6 samples were analyzed for TO-15 by Pace Analytical Services Minneapolis. 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.

**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.

**Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

**Additional Comments:**

Analyte Comments:

QC Batch: 817109

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- SG-1 (Lab ID: 10606801001)
  - Ethanol
  - Acetone
- SG-2 (Lab ID: 10606801002)
  - Dichlorodifluoromethane
- SG-4 (Lab ID: 10606801004)
  - Acetone

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: City of Ann Arbor

Pace Project No.: 10606801

Sample: <b>SG-1</b>	Lab ID: <b>10606801001</b>	Collected: 04/29/22 10:06	Received: 05/03/22 12:12	Matrix: Air				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>		Analytical Method: TO-15 Pace Analytical Services - Minneapolis						
Acetone	<b>323</b>	ug/m3	11.3	1.87		05/26/22 00:27	67-64-1	E
Benzene	<b>1.8</b>	ug/m3	0.61	1.87		05/26/22 00:27	71-43-2	
Benzyl chloride	ND	ug/m3	4.9	1.87		05/26/22 00:27	100-44-7	
Bromodichloromethane	ND	ug/m3	2.5	1.87		05/26/22 00:27	75-27-4	
Bromoform	ND	ug/m3	9.8	1.87		05/26/22 00:27	75-25-2	
Bromomethane	ND	ug/m3	1.5	1.87		05/26/22 00:27	74-83-9	
1,3-Butadiene	ND	ug/m3	2.1	1.87		05/26/22 00:27	106-99-0	
2-Butanone (MEK)	<b>20.3</b>	ug/m3	5.6	1.87		05/26/22 00:27	78-93-3	
Carbon disulfide	ND	ug/m3	1.2	1.87		05/26/22 00:27	75-15-0	
Carbon tetrachloride	ND	ug/m3	2.4	1.87		05/26/22 00:27	56-23-5	
Chlorobenzene	ND	ug/m3	1.8	1.87		05/26/22 00:27	108-90-7	
Chloroethane	ND	ug/m3	2.5	1.87		05/26/22 00:27	75-00-3	
Chloroform	<b>7.6</b>	ug/m3	0.93	1.87		05/26/22 00:27	67-66-3	
Chloromethane	ND	ug/m3	0.79	1.87		05/26/22 00:27	74-87-3	
Cyclohexane	<b>4.6</b>	ug/m3	3.3	1.87		05/26/22 00:27	110-82-7	
Dibromochloromethane	ND	ug/m3	3.2	1.87		05/26/22 00:27	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/m3	1.5	1.87		05/26/22 00:27	106-93-4	
1,2-Dichlorobenzene	ND	ug/m3	5.7	1.87		05/26/22 00:27	95-50-1	
1,3-Dichlorobenzene	ND	ug/m3	5.7	1.87		05/26/22 00:27	541-73-1	
1,4-Dichlorobenzene	ND	ug/m3	5.7	1.87		05/26/22 00:27	106-46-7	
Dichlorodifluoromethane	<b>62.0</b>	ug/m3	1.9	1.87		05/26/22 00:27	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.5	1.87		05/26/22 00:27	75-34-3	
1,2-Dichloroethane	ND	ug/m3	1.5	1.87		05/26/22 00:27	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.5	1.87		05/26/22 00:27	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.5	1.87		05/26/22 00:27	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.5	1.87		05/26/22 00:27	156-60-5	
1,2-Dichloropropane	ND	ug/m3	1.8	1.87		05/26/22 00:27	78-87-5	
cis-1,3-Dichloropropene	ND	ug/m3	4.3	1.87		05/26/22 00:27	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/m3	4.3	1.87		05/26/22 00:27	10061-02-6	
Dichlorotetrafluoroethane	ND	ug/m3	2.7	1.87		05/26/22 00:27	76-14-2	
Ethanol	<b>301</b>	ug/m3	3.6	1.87		05/26/22 00:27	64-17-5	E
Ethyl acetate	ND	ug/m3	1.4	1.87		05/26/22 00:27	141-78-6	
Ethylbenzene	<b>7.7</b>	ug/m3	1.7	1.87		05/26/22 00:27	100-41-4	
4-Ethyltoluene	<b>8.0</b>	ug/m3	4.7	1.87		05/26/22 00:27	622-96-8	
n-Heptane	<b>5.5</b>	ug/m3	3.9	1.87		05/26/22 00:27	142-82-5	
Hexachloro-1,3-butadiene	ND	ug/m3	10.1	1.87		05/26/22 00:27	87-68-3	
n-Hexane	<b>4.6</b>	ug/m3	1.3	1.87		05/26/22 00:27	110-54-3	
2-Hexanone	ND	ug/m3	7.8	1.87		05/26/22 00:27	591-78-6	
Methylene Chloride	ND	ug/m3	6.6	1.87		05/26/22 00:27	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/m3	7.8	1.87		05/26/22 00:27	108-10-1	
Methyl-tert-butyl ether	ND	ug/m3	6.8	1.87		05/26/22 00:27	1634-04-4	
Naphthalene	ND	ug/m3	5.0	1.87		05/26/22 00:27	91-20-3	
2-Propanol	ND	ug/m3	4.7	1.87		05/26/22 00:27	67-63-0	
Propylene	ND	ug/m3	1.6	1.87		05/26/22 00:27	115-07-1	
Styrene	<b>2.3</b>	ug/m3	1.6	1.87		05/26/22 00:27	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/m3	2.6	1.87		05/26/22 00:27	79-34-5	

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### ANALYTICAL RESULTS

Project: City of Ann Arbor

Pace Project No.: 10606801

Sample: SG-1		Lab ID: 10606801001	Collected: 04/29/22 10:06	Received: 05/03/22 12:12	Matrix: Air			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>		Analytical Method: TO-15 Pace Analytical Services - Minneapolis						
Tetrachloroethene	3.8	ug/m3	1.3	1.87		05/26/22 00:27	127-18-4	
Tetrahydrofuran	ND	ug/m3	2.8	1.87		05/26/22 00:27	109-99-9	
Toluene	36.1	ug/m3	3.6	1.87		05/26/22 00:27	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	14.1	1.87		05/26/22 00:27	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	2.1	1.87		05/26/22 00:27	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	1.0	1.87		05/26/22 00:27	79-00-5	
Trichloroethene	ND	ug/m3	1.0	1.87		05/26/22 00:27	79-01-6	
Trichlorofluoromethane	ND	ug/m3	5.3	1.87		05/26/22 00:27	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/m3	7.3	1.87		05/26/22 00:27	76-13-1	
1,2,3-Trimethylbenzene	7.9	ug/m3	1.9	1.87		05/26/22 00:27	526-73-8	
1,2,4-Trimethylbenzene	23.2	ug/m3	1.9	1.87		05/26/22 00:27	95-63-6	
1,3,5-Trimethylbenzene	10.2	ug/m3	1.9	1.87		05/26/22 00:27	108-67-8	
Vinyl acetate	ND	ug/m3	1.3	1.87		05/26/22 00:27	108-05-4	
Vinyl chloride	ND	ug/m3	0.97	1.87		05/26/22 00:27	75-01-4	
m&p-Xylene	28.7	ug/m3	3.3	1.87		05/26/22 00:27	179601-23-1	
o-Xylene	12.7	ug/m3	1.7	1.87		05/26/22 00:27	95-47-6	

Sample: SG-2		Lab ID: 10606801002	Collected: 04/29/22 10:30	Received: 05/03/22 12:12	Matrix: Air			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>		Analytical Method: TO-15 Pace Analytical Services - Minneapolis						
Acetone	32.2	ug/m3	11.1	1.83		05/26/22 04:49	67-64-1	
Benzene	ND	ug/m3	0.59	1.83		05/26/22 04:49	71-43-2	
Benzyl chloride	ND	ug/m3	4.8	1.83		05/26/22 04:49	100-44-7	
Bromodichloromethane	ND	ug/m3	2.5	1.83		05/26/22 04:49	75-27-4	
Bromoform	ND	ug/m3	9.6	1.83		05/26/22 04:49	75-25-2	
Bromomethane	ND	ug/m3	1.4	1.83		05/26/22 04:49	74-83-9	
1,3-Butadiene	ND	ug/m3	2.1	1.83		05/26/22 04:49	106-99-0	
2-Butanone (MEK)	ND	ug/m3	5.5	1.83		05/26/22 04:49	78-93-3	
Carbon disulfide	2.2	ug/m3	1.2	1.83		05/26/22 04:49	75-15-0	
Carbon tetrachloride	ND	ug/m3	2.3	1.83		05/26/22 04:49	56-23-5	
Chlorobenzene	ND	ug/m3	1.7	1.83		05/26/22 04:49	108-90-7	
Chloroethane	ND	ug/m3	2.5	1.83		05/26/22 04:49	75-00-3	
Chloroform	ND	ug/m3	0.91	1.83		05/26/22 04:49	67-66-3	
Chloromethane	ND	ug/m3	0.77	1.83		05/26/22 04:49	74-87-3	
Cyclohexane	357	ug/m3	16.0	9.15		05/26/22 15:21	110-82-7	
Dibromochloromethane	ND	ug/m3	3.2	1.83		05/26/22 04:49	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/m3	1.4	1.83		05/26/22 04:49	106-93-4	
1,2-Dichlorobenzene	ND	ug/m3	5.6	1.83		05/26/22 04:49	95-50-1	
1,3-Dichlorobenzene	ND	ug/m3	5.6	1.83		05/26/22 04:49	541-73-1	
1,4-Dichlorobenzene	ND	ug/m3	5.6	1.83		05/26/22 04:49	106-46-7	
Dichlorodifluoromethane	5400	ug/m3	9.2	9.15		05/26/22 15:21	75-71-8	E
1,1-Dichloroethane	ND	ug/m3	1.5	1.83		05/26/22 04:49	75-34-3	

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## ANALYTICAL RESULTS

Project: City of Ann Arbor

Pace Project No.: 10606801

Sample: <b>SG-2</b>	Lab ID: <b>10606801002</b>	Collected: 04/29/22 10:30	Received: 05/03/22 12:12	Matrix: Air				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>		Analytical Method: TO-15						
		Pace Analytical Services - Minneapolis						
1,2-Dichloroethane	ND	ug/m3	1.5	1.83		05/26/22 04:49	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.5	1.83		05/26/22 04:49	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.5	1.83		05/26/22 04:49	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.5	1.83		05/26/22 04:49	156-60-5	
1,2-Dichloropropane	ND	ug/m3	1.7	1.83		05/26/22 04:49	78-87-5	
cis-1,3-Dichloropropene	ND	ug/m3	4.2	1.83		05/26/22 04:49	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/m3	4.2	1.83		05/26/22 04:49	10061-02-6	
Dichlorotetrafluoroethane	ND	ug/m3	2.6	1.83		05/26/22 04:49	76-14-2	
Ethanol	<b>15.3</b>	ug/m3	3.5	1.83		05/26/22 04:49	64-17-5	
Ethyl acetate	ND	ug/m3	1.3	1.83		05/26/22 04:49	141-78-6	
Ethylbenzene	<b>4.3</b>	ug/m3	1.6	1.83		05/26/22 04:49	100-41-4	
4-Ethyltoluene	ND	ug/m3	4.6	1.83		05/26/22 04:49	622-96-8	
n-Heptane	<b>67.1</b>	ug/m3	3.8	1.83		05/26/22 04:49	142-82-5	
Hexachloro-1,3-butadiene	ND	ug/m3	9.9	1.83		05/26/22 04:49	87-68-3	
n-Hexane	<b>131</b>	ug/m3	1.3	1.83		05/26/22 04:49	110-54-3	
2-Hexanone	ND	ug/m3	7.6	1.83		05/26/22 04:49	591-78-6	
Methylene Chloride	ND	ug/m3	6.5	1.83		05/26/22 04:49	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/m3	7.6	1.83		05/26/22 04:49	108-10-1	
Methyl-tert-butyl ether	ND	ug/m3	6.7	1.83		05/26/22 04:49	1634-04-4	
Naphthalene	ND	ug/m3	4.9	1.83		05/26/22 04:49	91-20-3	
2-Propanol	ND	ug/m3	4.6	1.83		05/26/22 04:49	67-63-0	
Propylene	ND	ug/m3	1.6	1.83		05/26/22 04:49	115-07-1	
Styrene	ND	ug/m3	1.6	1.83		05/26/22 04:49	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/m3	2.6	1.83		05/26/22 04:49	79-34-5	
Tetrachloroethene	<b>25.0</b>	ug/m3	1.3	1.83		05/26/22 04:49	127-18-4	
Tetrahydrofuran	ND	ug/m3	2.7	1.83		05/26/22 04:49	109-99-9	
Toluene	<b>27.5</b>	ug/m3	3.5	1.83		05/26/22 04:49	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	13.8	1.83		05/26/22 04:49	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	2.0	1.83		05/26/22 04:49	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	1.0	1.83		05/26/22 04:49	79-00-5	
Trichloroethene	ND	ug/m3	1.0	1.83		05/26/22 04:49	79-01-6	
Trichlorofluoromethane	ND	ug/m3	5.2	1.83		05/26/22 04:49	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/m3	7.1	1.83		05/26/22 04:49	76-13-1	
1,2,3-Trimethylbenzene	<b>2.1</b>	ug/m3	1.8	1.83		05/26/22 04:49	526-73-8	
1,2,4-Trimethylbenzene	<b>4.5</b>	ug/m3	1.8	1.83		05/26/22 04:49	95-63-6	
1,3,5-Trimethylbenzene	<b>2.2</b>	ug/m3	1.8	1.83		05/26/22 04:49	108-67-8	
Vinyl acetate	ND	ug/m3	1.3	1.83		05/26/22 04:49	108-05-4	
Vinyl chloride	ND	ug/m3	0.95	1.83		05/26/22 04:49	75-01-4	
m&p-Xylene	<b>16.3</b>	ug/m3	3.2	1.83		05/26/22 04:49	179601-23-1	
o-Xylene	<b>6.3</b>	ug/m3	1.6	1.83		05/26/22 04:49	95-47-6	

### REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: City of Ann Arbor

Pace Project No.: 10606801

Sample: SG-3	Lab ID: 10606801003	Collected: 04/29/22 09:44	Received: 05/03/22 12:12	Matrix: Air				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>		Analytical Method: TO-15 Pace Analytical Services - Minneapolis						
Acetone	83.5	ug/m3	10.7	1.77		05/26/22 02:39	67-64-1	
Benzene	1.4	ug/m3	0.58	1.77		05/26/22 02:39	71-43-2	
Benzyl chloride	ND	ug/m3	4.7	1.77		05/26/22 02:39	100-44-7	
Bromodichloromethane	ND	ug/m3	2.4	1.77		05/26/22 02:39	75-27-4	
Bromoform	ND	ug/m3	9.3	1.77		05/26/22 02:39	75-25-2	
Bromomethane	ND	ug/m3	1.4	1.77		05/26/22 02:39	74-83-9	
1,3-Butadiene	ND	ug/m3	2.0	1.77		05/26/22 02:39	106-99-0	
2-Butanone (MEK)	9.5	ug/m3	5.3	1.77		05/26/22 02:39	78-93-3	
Carbon disulfide	ND	ug/m3	1.1	1.77		05/26/22 02:39	75-15-0	
Carbon tetrachloride	ND	ug/m3	2.3	1.77		05/26/22 02:39	56-23-5	
Chlorobenzene	ND	ug/m3	1.7	1.77		05/26/22 02:39	108-90-7	
Chloroethane	ND	ug/m3	2.4	1.77		05/26/22 02:39	75-00-3	
Chloroform	ND	ug/m3	0.88	1.77		05/26/22 02:39	67-66-3	
Chloromethane	ND	ug/m3	0.74	1.77		05/26/22 02:39	74-87-3	
Cyclohexane	ND	ug/m3	3.1	1.77		05/26/22 02:39	110-82-7	
Dibromochloromethane	ND	ug/m3	3.1	1.77		05/26/22 02:39	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/m3	1.4	1.77		05/26/22 02:39	106-93-4	
1,2-Dichlorobenzene	ND	ug/m3	5.4	1.77		05/26/22 02:39	95-50-1	
1,3-Dichlorobenzene	ND	ug/m3	5.4	1.77		05/26/22 02:39	541-73-1	
1,4-Dichlorobenzene	ND	ug/m3	5.4	1.77		05/26/22 02:39	106-46-7	
Dichlorodifluoromethane	3.1	ug/m3	1.8	1.77		05/26/22 02:39	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.5	1.77		05/26/22 02:39	75-34-3	
1,2-Dichloroethane	ND	ug/m3	1.5	1.77		05/26/22 02:39	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.4	1.77		05/26/22 02:39	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.4	1.77		05/26/22 02:39	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.4	1.77		05/26/22 02:39	156-60-5	
1,2-Dichloropropane	ND	ug/m3	1.7	1.77		05/26/22 02:39	78-87-5	
cis-1,3-Dichloropropene	ND	ug/m3	4.1	1.77		05/26/22 02:39	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/m3	4.1	1.77		05/26/22 02:39	10061-02-6	
Dichlorotetrafluoroethane	ND	ug/m3	2.5	1.77		05/26/22 02:39	76-14-2	
Ethanol	150	ug/m3	3.4	1.77		05/26/22 02:39	64-17-5	
Ethyl acetate	ND	ug/m3	1.3	1.77		05/26/22 02:39	141-78-6	
Ethylbenzene	4.1	ug/m3	1.6	1.77		05/26/22 02:39	100-41-4	
4-Ethyltoluene	ND	ug/m3	4.4	1.77		05/26/22 02:39	622-96-8	
n-Heptane	ND	ug/m3	3.7	1.77		05/26/22 02:39	142-82-5	
Hexachloro-1,3-butadiene	ND	ug/m3	9.6	1.77		05/26/22 02:39	87-68-3	
n-Hexane	4.5	ug/m3	1.3	1.77		05/26/22 02:39	110-54-3	
2-Hexanone	ND	ug/m3	7.4	1.77		05/26/22 02:39	591-78-6	
Methylene Chloride	ND	ug/m3	6.2	1.77		05/26/22 02:39	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/m3	7.4	1.77		05/26/22 02:39	108-10-1	
Methyl-tert-butyl ether	ND	ug/m3	6.5	1.77		05/26/22 02:39	1634-04-4	
Naphthalene	ND	ug/m3	4.7	1.77		05/26/22 02:39	91-20-3	
2-Propanol	8.4	ug/m3	4.4	1.77		05/26/22 02:39	67-63-0	
Propylene	ND	ug/m3	1.5	1.77		05/26/22 02:39	115-07-1	
Styrene	ND	ug/m3	1.5	1.77		05/26/22 02:39	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/m3	2.5	1.77		05/26/22 02:39	79-34-5	

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### ANALYTICAL RESULTS

Project: City of Ann Arbor

Pace Project No.: 10606801

Sample: <b>SG-3</b>		Lab ID: <b>10606801003</b>	Collected: 04/29/22 09:44	Received: 05/03/22 12:12	Matrix: Air			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>		Analytical Method: TO-15 Pace Analytical Services - Minneapolis						
Tetrachloroethene	11.1	ug/m3	1.2	1.77		05/26/22 02:39	127-18-4	
Tetrahydrofuran	ND	ug/m3	2.7	1.77		05/26/22 02:39	109-99-9	
Toluene	30.3	ug/m3	3.4	1.77		05/26/22 02:39	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	13.3	1.77		05/26/22 02:39	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	2.0	1.77		05/26/22 02:39	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	0.98	1.77		05/26/22 02:39	79-00-5	
Trichloroethene	ND	ug/m3	0.97	1.77		05/26/22 02:39	79-01-6	
Trichlorofluoromethane	ND	ug/m3	5.1	1.77		05/26/22 02:39	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/m3	6.9	1.77		05/26/22 02:39	76-13-1	
1,2,3-Trimethylbenzene	2.1	ug/m3	1.8	1.77		05/26/22 02:39	526-73-8	
1,2,4-Trimethylbenzene	5.3	ug/m3	1.8	1.77		05/26/22 02:39	95-63-6	
1,3,5-Trimethylbenzene	1.9	ug/m3	1.8	1.77		05/26/22 02:39	108-67-8	
Vinyl acetate	ND	ug/m3	1.3	1.77		05/26/22 02:39	108-05-4	
Vinyl chloride	ND	ug/m3	0.92	1.77		05/26/22 02:39	75-01-4	
m&p-Xylene	17.6	ug/m3	3.1	1.77		05/26/22 02:39	179601-23-1	
o-Xylene	6.3	ug/m3	1.6	1.77		05/26/22 02:39	95-47-6	

Sample: <b>SG-4</b>		Lab ID: <b>10606801004</b>	Collected: 04/29/22 10:47	Received: 05/03/22 12:12	Matrix: Air			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>		Analytical Method: TO-15 Pace Analytical Services - Minneapolis						
Acetone	361	ug/m3	11.1	1.83		05/26/22 03:12	67-64-1	E
Benzene	1.9	ug/m3	0.59	1.83		05/26/22 03:12	71-43-2	
Benzyl chloride	ND	ug/m3	4.8	1.83		05/26/22 03:12	100-44-7	
Bromodichloromethane	ND	ug/m3	2.5	1.83		05/26/22 03:12	75-27-4	
Bromoform	ND	ug/m3	9.6	1.83		05/26/22 03:12	75-25-2	
Bromomethane	ND	ug/m3	1.4	1.83		05/26/22 03:12	74-83-9	
1,3-Butadiene	ND	ug/m3	2.1	1.83		05/26/22 03:12	106-99-0	
2-Butanone (MEK)	60.0	ug/m3	5.5	1.83		05/26/22 03:12	78-93-3	
Carbon disulfide	1.8	ug/m3	1.2	1.83		05/26/22 03:12	75-15-0	
Carbon tetrachloride	ND	ug/m3	2.3	1.83		05/26/22 03:12	56-23-5	
Chlorobenzene	ND	ug/m3	1.7	1.83		05/26/22 03:12	108-90-7	
Chloroethane	ND	ug/m3	2.5	1.83		05/26/22 03:12	75-00-3	
Chloroform	3.7	ug/m3	0.91	1.83		05/26/22 03:12	67-66-3	
Chloromethane	ND	ug/m3	0.77	1.83		05/26/22 03:12	74-87-3	
Cyclohexane	6.1	ug/m3	3.2	1.83		05/26/22 03:12	110-82-7	
Dibromochloromethane	ND	ug/m3	3.2	1.83		05/26/22 03:12	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/m3	1.4	1.83		05/26/22 03:12	106-93-4	
1,2-Dichlorobenzene	ND	ug/m3	5.6	1.83		05/26/22 03:12	95-50-1	
1,3-Dichlorobenzene	ND	ug/m3	5.6	1.83		05/26/22 03:12	541-73-1	
1,4-Dichlorobenzene	ND	ug/m3	5.6	1.83		05/26/22 03:12	106-46-7	
Dichlorodifluoromethane	2.5	ug/m3	1.8	1.83		05/26/22 03:12	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.5	1.83		05/26/22 03:12	75-34-3	

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## ANALYTICAL RESULTS

Project: City of Ann Arbor

Pace Project No.: 10606801

Sample: <b>SG-4</b>	Lab ID: <b>10606801004</b>	Collected: 04/29/22 10:47	Received: 05/03/22 12:12	Matrix: Air				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>		Analytical Method: TO-15 Pace Analytical Services - Minneapolis						
1,2-Dichloroethane	ND	ug/m3	1.5	1.83		05/26/22 03:12	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.5	1.83		05/26/22 03:12	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.5	1.83		05/26/22 03:12	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.5	1.83		05/26/22 03:12	156-60-5	
1,2-Dichloropropane	ND	ug/m3	1.7	1.83		05/26/22 03:12	78-87-5	
cis-1,3-Dichloropropene	ND	ug/m3	4.2	1.83		05/26/22 03:12	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/m3	4.2	1.83		05/26/22 03:12	10061-02-6	
Dichlorotetrafluoroethane	ND	ug/m3	2.6	1.83		05/26/22 03:12	76-14-2	
Ethanol	<b>88.9</b>	ug/m3	3.5	1.83		05/26/22 03:12	64-17-5	
Ethyl acetate	ND	ug/m3	1.3	1.83		05/26/22 03:12	141-78-6	
Ethylbenzene	<b>4.8</b>	ug/m3	1.6	1.83		05/26/22 03:12	100-41-4	
4-Ethyltoluene	ND	ug/m3	4.6	1.83		05/26/22 03:12	622-96-8	
n-Heptane	<b>5.6</b>	ug/m3	3.8	1.83		05/26/22 03:12	142-82-5	
Hexachloro-1,3-butadiene	ND	ug/m3	9.9	1.83		05/26/22 03:12	87-68-3	
n-Hexane	<b>5.4</b>	ug/m3	1.3	1.83		05/26/22 03:12	110-54-3	
2-Hexanone	ND	ug/m3	7.6	1.83		05/26/22 03:12	591-78-6	
Methylene Chloride	ND	ug/m3	6.5	1.83		05/26/22 03:12	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/m3	7.6	1.83		05/26/22 03:12	108-10-1	
Methyl-tert-butyl ether	ND	ug/m3	6.7	1.83		05/26/22 03:12	1634-04-4	
Naphthalene	ND	ug/m3	4.9	1.83		05/26/22 03:12	91-20-3	
2-Propanol	ND	ug/m3	4.6	1.83		05/26/22 03:12	67-63-0	
Propylene	<b>6.9</b>	ug/m3	1.6	1.83		05/26/22 03:12	115-07-1	
Styrene	<b>1.7</b>	ug/m3	1.6	1.83		05/26/22 03:12	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/m3	2.6	1.83		05/26/22 03:12	79-34-5	
Tetrachloroethene	<b>3.1</b>	ug/m3	1.3	1.83		05/26/22 03:12	127-18-4	
Tetrahydrofuran	ND	ug/m3	2.7	1.83		05/26/22 03:12	109-99-9	
Toluene	<b>42.4</b>	ug/m3	3.5	1.83		05/26/22 03:12	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	13.8	1.83		05/26/22 03:12	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	2.0	1.83		05/26/22 03:12	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	1.0	1.83		05/26/22 03:12	79-00-5	
Trichloroethene	ND	ug/m3	1.0	1.83		05/26/22 03:12	79-01-6	
Trichlorofluoromethane	ND	ug/m3	5.2	1.83		05/26/22 03:12	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/m3	7.1	1.83		05/26/22 03:12	76-13-1	
1,2,3-Trimethylbenzene	<b>2.2</b>	ug/m3	1.8	1.83		05/26/22 03:12	526-73-8	
1,2,4-Trimethylbenzene	<b>6.2</b>	ug/m3	1.8	1.83		05/26/22 03:12	95-63-6	
1,3,5-Trimethylbenzene	<b>1.9</b>	ug/m3	1.8	1.83		05/26/22 03:12	108-67-8	
Vinyl acetate	ND	ug/m3	1.3	1.83		05/26/22 03:12	108-05-4	
Vinyl chloride	ND	ug/m3	0.95	1.83		05/26/22 03:12	75-01-4	
m&p-Xylene	<b>19.6</b>	ug/m3	3.2	1.83		05/26/22 03:12	179601-23-1	
o-Xylene	<b>8.2</b>	ug/m3	1.6	1.83		05/26/22 03:12	95-47-6	

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### ANALYTICAL RESULTS

Project: City of Ann Arbor

Pace Project No.: 10606801

Sample: SG-5	Lab ID: 10606801005	Collected: 04/29/22 11:09	Received: 05/03/22 12:12	Matrix: Air				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>		Analytical Method: TO-15 Pace Analytical Services - Minneapolis						
Acetone	17.9	ug/m3	10.9	1.8		05/26/22 03:45	67-64-1	
Benzene	0.78	ug/m3	0.58	1.8		05/26/22 03:45	71-43-2	
Benzyl chloride	ND	ug/m3	4.7	1.8		05/26/22 03:45	100-44-7	
Bromodichloromethane	ND	ug/m3	2.4	1.8		05/26/22 03:45	75-27-4	
Bromoform	ND	ug/m3	9.4	1.8		05/26/22 03:45	75-25-2	
Bromomethane	ND	ug/m3	1.4	1.8		05/26/22 03:45	74-83-9	
1,3-Butadiene	ND	ug/m3	2.0	1.8		05/26/22 03:45	106-99-0	
2-Butanone (MEK)	ND	ug/m3	5.4	1.8		05/26/22 03:45	78-93-3	
Carbon disulfide	1.9	ug/m3	1.1	1.8		05/26/22 03:45	75-15-0	
Carbon tetrachloride	ND	ug/m3	2.3	1.8		05/26/22 03:45	56-23-5	
Chlorobenzene	ND	ug/m3	1.7	1.8		05/26/22 03:45	108-90-7	
Chloroethane	ND	ug/m3	2.4	1.8		05/26/22 03:45	75-00-3	
Chloroform	ND	ug/m3	0.89	1.8		05/26/22 03:45	67-66-3	
Chloromethane	ND	ug/m3	0.76	1.8		05/26/22 03:45	74-87-3	
Cyclohexane	ND	ug/m3	3.2	1.8		05/26/22 03:45	110-82-7	
Dibromochloromethane	ND	ug/m3	3.1	1.8		05/26/22 03:45	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/m3	1.4	1.8		05/26/22 03:45	106-93-4	
1,2-Dichlorobenzene	ND	ug/m3	5.5	1.8		05/26/22 03:45	95-50-1	
1,3-Dichlorobenzene	ND	ug/m3	5.5	1.8		05/26/22 03:45	541-73-1	
1,4-Dichlorobenzene	ND	ug/m3	5.5	1.8		05/26/22 03:45	106-46-7	
Dichlorodifluoromethane	2.1	ug/m3	1.8	1.8		05/26/22 03:45	75-71-8	
1,1-Dichloroethane	ND	ug/m3	1.5	1.8		05/26/22 03:45	75-34-3	
1,2-Dichloroethane	ND	ug/m3	1.5	1.8		05/26/22 03:45	107-06-2	
1,1-Dichloroethene	ND	ug/m3	1.5	1.8		05/26/22 03:45	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.5	1.8		05/26/22 03:45	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.5	1.8		05/26/22 03:45	156-60-5	
1,2-Dichloropropane	ND	ug/m3	1.7	1.8		05/26/22 03:45	78-87-5	
cis-1,3-Dichloropropene	ND	ug/m3	4.2	1.8		05/26/22 03:45	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/m3	4.2	1.8		05/26/22 03:45	10061-02-6	
Dichlorotetrafluoroethane	ND	ug/m3	2.6	1.8		05/26/22 03:45	76-14-2	
Ethanol	3.5	ug/m3	3.5	1.8		05/26/22 03:45	64-17-5	
Ethyl acetate	ND	ug/m3	1.3	1.8		05/26/22 03:45	141-78-6	
Ethylbenzene	3.8	ug/m3	1.6	1.8		05/26/22 03:45	100-41-4	
4-Ethyltoluene	ND	ug/m3	4.5	1.8		05/26/22 03:45	622-96-8	
n-Heptane	4.4	ug/m3	3.7	1.8		05/26/22 03:45	142-82-5	
Hexachloro-1,3-butadiene	ND	ug/m3	9.8	1.8		05/26/22 03:45	87-68-3	
n-Hexane	3.0	ug/m3	1.3	1.8		05/26/22 03:45	110-54-3	
2-Hexanone	ND	ug/m3	7.5	1.8		05/26/22 03:45	591-78-6	
Methylene Chloride	ND	ug/m3	6.4	1.8		05/26/22 03:45	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/m3	7.5	1.8		05/26/22 03:45	108-10-1	
Methyl-tert-butyl ether	ND	ug/m3	6.6	1.8		05/26/22 03:45	1634-04-4	
Naphthalene	ND	ug/m3	4.8	1.8		05/26/22 03:45	91-20-3	
2-Propanol	ND	ug/m3	4.5	1.8		05/26/22 03:45	67-63-0	
Propylene	1.6	ug/m3	1.6	1.8		05/26/22 03:45	115-07-1	
Styrene	ND	ug/m3	1.6	1.8		05/26/22 03:45	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/m3	2.5	1.8		05/26/22 03:45	79-34-5	

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### ANALYTICAL RESULTS

Project: City of Ann Arbor

Pace Project No.: 10606801

Sample: <b>SG-5</b>		Lab ID: <b>10606801005</b>	Collected: 04/29/22 11:09	Received: 05/03/22 12:12	Matrix: Air			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>		Analytical Method: TO-15 Pace Analytical Services - Minneapolis						
Tetrachloroethene	9.8	ug/m3	1.2	1.8		05/26/22 03:45	127-18-4	
Tetrahydrofuran	ND	ug/m3	2.7	1.8		05/26/22 03:45	109-99-9	
Toluene	22.0	ug/m3	3.4	1.8		05/26/22 03:45	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	13.6	1.8		05/26/22 03:45	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	2.0	1.8		05/26/22 03:45	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	1.0	1.8		05/26/22 03:45	79-00-5	
Trichloroethene	ND	ug/m3	0.98	1.8		05/26/22 03:45	79-01-6	
Trichlorofluoromethane	ND	ug/m3	5.1	1.8		05/26/22 03:45	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/m3	7.0	1.8		05/26/22 03:45	76-13-1	
1,2,3-Trimethylbenzene	2.0	ug/m3	1.8	1.8		05/26/22 03:45	526-73-8	
1,2,4-Trimethylbenzene	5.0	ug/m3	1.8	1.8		05/26/22 03:45	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	1.8	1.8		05/26/22 03:45	108-67-8	
Vinyl acetate	ND	ug/m3	1.3	1.8		05/26/22 03:45	108-05-4	
Vinyl chloride	ND	ug/m3	0.94	1.8		05/26/22 03:45	75-01-4	
m&p-Xylene	14.7	ug/m3	3.2	1.8		05/26/22 03:45	179601-23-1	
o-Xylene	6.2	ug/m3	1.6	1.8		05/26/22 03:45	95-47-6	

Sample: <b>SG-6</b>		Lab ID: <b>10606801006</b>	Collected: 04/29/22 11:49	Received: 05/03/22 12:12	Matrix: Air			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>		Analytical Method: TO-15 Pace Analytical Services - Minneapolis						
Acetone	ND	ug/m3	663	109.8		05/26/22 05:19	67-64-1	
Benzene	ND	ug/m3	35.7	109.8		05/26/22 05:19	71-43-2	
Benzyl chloride	ND	ug/m3	289	109.8		05/26/22 05:19	100-44-7	
Bromodichloromethane	ND	ug/m3	149	109.8		05/26/22 05:19	75-27-4	
Bromoform	ND	ug/m3	576	109.8		05/26/22 05:19	75-25-2	
Bromomethane	ND	ug/m3	86.6	109.8		05/26/22 05:19	74-83-9	
1,3-Butadiene	ND	ug/m3	123	109.8		05/26/22 05:19	106-99-0	
2-Butanone (MEK)	ND	ug/m3	329	109.8		05/26/22 05:19	78-93-3	
Carbon disulfide	ND	ug/m3	69.5	109.8		05/26/22 05:19	75-15-0	
Carbon tetrachloride	ND	ug/m3	141	109.8		05/26/22 05:19	56-23-5	
Chlorobenzene	ND	ug/m3	103	109.8		05/26/22 05:19	108-90-7	
Chloroethane	ND	ug/m3	147	109.8		05/26/22 05:19	75-00-3	
Chloroform	ND	ug/m3	54.5	109.8		05/26/22 05:19	67-66-3	
Chloromethane	ND	ug/m3	46.1	109.8		05/26/22 05:19	74-87-3	
Cyclohexane	7520	ug/m3	192	109.8		05/26/22 05:19	110-82-7	
Dibromochloromethane	ND	ug/m3	190	109.8		05/26/22 05:19	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/m3	85.8	109.8		05/26/22 05:19	106-93-4	
1,2-Dichlorobenzene	ND	ug/m3	336	109.8		05/26/22 05:19	95-50-1	
1,3-Dichlorobenzene	ND	ug/m3	336	109.8		05/26/22 05:19	541-73-1	
1,4-Dichlorobenzene	ND	ug/m3	336	109.8		05/26/22 05:19	106-46-7	
Dichlorodifluoromethane	ND	ug/m3	111	109.8		05/26/22 05:19	75-71-8	
1,1-Dichloroethane	ND	ug/m3	90.4	109.8		05/26/22 05:19	75-34-3	

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## ANALYTICAL RESULTS

Project: City of Ann Arbor

Pace Project No.: 10606801

Sample: <b>SG-6</b>	Lab ID: <b>10606801006</b>	Collected: 04/29/22 11:49	Received: 05/03/22 12:12	Matrix: Air				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>		Analytical Method: TO-15 Pace Analytical Services - Minneapolis						
1,2-Dichloroethane	ND	ug/m3	90.4	109.8		05/26/22 05:19	107-06-2	
1,1-Dichloroethene	ND	ug/m3	88.5	109.8		05/26/22 05:19	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	88.5	109.8		05/26/22 05:19	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	88.5	109.8		05/26/22 05:19	156-60-5	
1,2-Dichloropropane	ND	ug/m3	103	109.8		05/26/22 05:19	78-87-5	
cis-1,3-Dichloropropene	ND	ug/m3	254	109.8		05/26/22 05:19	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/m3	254	109.8		05/26/22 05:19	10061-02-6	
Dichlorotetrafluoroethane	ND	ug/m3	156	109.8		05/26/22 05:19	76-14-2	
Ethanol	ND	ug/m3	211	109.8		05/26/22 05:19	64-17-5	
Ethyl acetate	ND	ug/m3	80.5	109.8		05/26/22 05:19	141-78-6	
Ethylbenzene	ND	ug/m3	97.0	109.8		05/26/22 05:19	100-41-4	
4-Ethyltoluene	ND	ug/m3	274	109.8		05/26/22 05:19	622-96-8	
n-Heptane	<b>1690</b>	ug/m3	229	109.8		05/26/22 05:19	142-82-5	
Hexachloro-1,3-butadiene	ND	ug/m3	595	109.8		05/26/22 05:19	87-68-3	
n-Hexane	<b>3250</b>	ug/m3	78.6	109.8		05/26/22 05:19	110-54-3	
2-Hexanone	ND	ug/m3	457	109.8		05/26/22 05:19	591-78-6	
Methylene Chloride	ND	ug/m3	388	109.8		05/26/22 05:19	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/m3	457	109.8		05/26/22 05:19	108-10-1	
Methyl-tert-butyl ether	ND	ug/m3	402	109.8		05/26/22 05:19	1634-04-4	
Naphthalene	ND	ug/m3	292	109.8		05/26/22 05:19	91-20-3	
2-Propanol	ND	ug/m3	274	109.8		05/26/22 05:19	67-63-0	
Propylene	ND	ug/m3	96.1	109.8		05/26/22 05:19	115-07-1	
Styrene	ND	ug/m3	95.1	109.8		05/26/22 05:19	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/m3	154	109.8		05/26/22 05:19	79-34-5	
Tetrachloroethene	<b>138</b>	ug/m3	75.7	109.8		05/26/22 05:19	127-18-4	
Tetrahydrofuran	ND	ug/m3	165	109.8		05/26/22 05:19	109-99-9	
Toluene	ND	ug/m3	210	109.8		05/26/22 05:19	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	828	109.8		05/26/22 05:19	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	122	109.8		05/26/22 05:19	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	60.9	109.8		05/26/22 05:19	79-00-5	
Trichloroethene	ND	ug/m3	60.0	109.8		05/26/22 05:19	79-01-6	
Trichlorofluoromethane	ND	ug/m3	313	109.8		05/26/22 05:19	75-69-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/m3	428	109.8		05/26/22 05:19	76-13-1	
1,2,3-Trimethylbenzene	ND	ug/m3	110	109.8		05/26/22 05:19	526-73-8	
1,2,4-Trimethylbenzene	ND	ug/m3	110	109.8		05/26/22 05:19	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	110	109.8		05/26/22 05:19	108-67-8	
Vinyl acetate	ND	ug/m3	78.6	109.8		05/26/22 05:19	108-05-4	
Vinyl chloride	ND	ug/m3	57.1	109.8		05/26/22 05:19	75-01-4	
m&p-Xylene	ND	ug/m3	194	109.8		05/26/22 05:19	179601-23-1	
o-Xylene	ND	ug/m3	97.0	109.8		05/26/22 05:19	95-47-6	

### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: City of Ann Arbor  
Pace Project No.: 10606801

QC Batch: 817109 Analysis Method: TO-15  
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level  
Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10606801001, 10606801002, 10606801003, 10606801004, 10606801005, 10606801006

METHOD BLANK: 4330783 Matrix: Air  
Associated Lab Samples: 10606801001, 10606801002, 10606801003, 10606801004, 10606801005, 10606801006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	1.1	05/25/22 16:49	
1,1,2,2-Tetrachloroethane	ug/m3	ND	1.4	05/25/22 16:49	
1,1,2-Trichloroethane	ug/m3	ND	0.56	05/25/22 16:49	
1,1,2-Trichlorotrifluoroethane	ug/m3	ND	3.9	05/25/22 16:49	MN
1,1-Dichloroethane	ug/m3	ND	0.82	05/25/22 16:49	
1,1-Dichloroethene	ug/m3	ND	0.81	05/25/22 16:49	
1,2,3-Trimethylbenzene	ug/m3	ND	1.0	05/25/22 16:49	
1,2,4-Trichlorobenzene	ug/m3	ND	7.5	05/25/22 16:49	
1,2,4-Trimethylbenzene	ug/m3	ND	1.0	05/25/22 16:49	
1,2-Dibromoethane (EDB)	ug/m3	ND	0.78	05/25/22 16:49	
1,2-Dichlorobenzene	ug/m3	ND	3.1	05/25/22 16:49	
1,2-Dichloroethane	ug/m3	ND	0.82	05/25/22 16:49	
1,2-Dichloropropane	ug/m3	ND	0.94	05/25/22 16:49	
1,3,5-Trimethylbenzene	ug/m3	ND	1.0	05/25/22 16:49	
1,3-Butadiene	ug/m3	ND	1.1	05/25/22 16:49	MN
1,3-Dichlorobenzene	ug/m3	ND	3.1	05/25/22 16:49	
1,4-Dichlorobenzene	ug/m3	ND	3.1	05/25/22 16:49	
2-Butanone (MEK)	ug/m3	ND	3.0	05/25/22 16:49	
2-Hexanone	ug/m3	ND	4.2	05/25/22 16:49	
2-Propanol	ug/m3	ND	2.5	05/25/22 16:49	
4-Ethyltoluene	ug/m3	ND	2.5	05/25/22 16:49	
4-Methyl-2-pentanone (MIBK)	ug/m3	ND	4.2	05/25/22 16:49	
Acetone	ug/m3	ND	6.0	05/25/22 16:49	
Benzene	ug/m3	ND	0.32	05/25/22 16:49	
Benzyl chloride	ug/m3	ND	2.6	05/25/22 16:49	
Bromodichloromethane	ug/m3	ND	1.4	05/25/22 16:49	
Bromoform	ug/m3	ND	5.2	05/25/22 16:49	
Bromomethane	ug/m3	ND	0.79	05/25/22 16:49	
Carbon disulfide	ug/m3	ND	0.63	05/25/22 16:49	
Carbon tetrachloride	ug/m3	ND	1.3	05/25/22 16:49	
Chlorobenzene	ug/m3	ND	0.94	05/25/22 16:49	
Chloroethane	ug/m3	ND	1.3	05/25/22 16:49	MN
Chloroform	ug/m3	ND	0.50	05/25/22 16:49	
Chloromethane	ug/m3	ND	0.42	05/25/22 16:49	
cis-1,2-Dichloroethene	ug/m3	ND	0.81	05/25/22 16:49	
cis-1,3-Dichloropropene	ug/m3	ND	2.3	05/25/22 16:49	
Cyclohexane	ug/m3	ND	1.8	05/25/22 16:49	
Dibromochloromethane	ug/m3	ND	1.7	05/25/22 16:49	
Dichlorodifluoromethane	ug/m3	ND	1.0	05/25/22 16:49	
Dichlorotetrafluoroethane	ug/m3	ND	1.4	05/25/22 16:49	

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### QUALITY CONTROL DATA

Project: City of Ann Arbor

Pace Project No.: 10606801

METHOD BLANK: 4330783

Matrix: Air

Associated Lab Samples: 10606801001, 10606801002, 10606801003, 10606801004, 10606801005, 10606801006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethanol	ug/m3	ND	1.9	05/25/22 16:49	
Ethyl acetate	ug/m3	ND	0.73	05/25/22 16:49	
Ethylbenzene	ug/m3	ND	0.88	05/25/22 16:49	
Hexachloro-1,3-butadiene	ug/m3	ND	5.4	05/25/22 16:49	
m&p-Xylene	ug/m3	ND	1.8	05/25/22 16:49	
Methyl-tert-butyl ether	ug/m3	ND	3.7	05/25/22 16:49	
Methylene Chloride	ug/m3	ND	3.5	05/25/22 16:49	
n-Heptane	ug/m3	ND	2.1	05/25/22 16:49	MN
n-Hexane	ug/m3	ND	0.72	05/25/22 16:49	
Naphthalene	ug/m3	ND	2.7	05/25/22 16:49	
o-Xylene	ug/m3	ND	0.88	05/25/22 16:49	
Propylene	ug/m3	ND	0.88	05/25/22 16:49	
Styrene	ug/m3	ND	0.87	05/25/22 16:49	
Tetrachloroethene	ug/m3	ND	0.69	05/25/22 16:49	
Tetrahydrofuran	ug/m3	ND	1.5	05/25/22 16:49	MN
Toluene	ug/m3	ND	1.9	05/25/22 16:49	MN
trans-1,2-Dichloroethene	ug/m3	ND	0.81	05/25/22 16:49	
trans-1,3-Dichloropropene	ug/m3	ND	2.3	05/25/22 16:49	
Trichloroethene	ug/m3	ND	0.55	05/25/22 16:49	
Trichlorofluoromethane	ug/m3	ND	2.9	05/25/22 16:49	MN
Vinyl acetate	ug/m3	ND	0.72	05/25/22 16:49	
Vinyl chloride	ug/m3	ND	0.52	05/25/22 16:49	MN

LABORATORY CONTROL SAMPLE: 4330784

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.2	50.1	91	70-130	
1,1,2,2-Tetrachloroethane	ug/m3	72.5	68.4	94	70-132	
1,1,2-Trichloroethane	ug/m3	56.3	60.2	107	70-131	
1,1,2-Trichlorotrifluoroethane	ug/m3	77.9	65.7	84	70-130	
1,1-Dichloroethane	ug/m3	42.1	38.1	90	70-130	
1,1-Dichloroethene	ug/m3	41.5	40.5	98	70-130	
1,2,3-Trimethylbenzene	ug/m3	54.6	47.8	88	70-140	
1,2,4-Trichlorobenzene	ug/m3	82	66.8	82	70-130	
1,2,4-Trimethylbenzene	ug/m3	51.9	50.5	97	70-137	
1,2-Dibromoethane (EDB)	ug/m3	80.4	78.3	97	70-137	
1,2-Dichlorobenzene	ug/m3	66	64.3	97	70-131	
1,2-Dichloroethane	ug/m3	42.1	38.9	92	70-134	
1,2-Dichloropropane	ug/m3	47.1	51.7	110	70-130	
1,3,5-Trimethylbenzene	ug/m3	51.4	52.3	102	70-131	
1,3-Butadiene	ug/m3	23	20.9	91	70-139	
1,3-Dichlorobenzene	ug/m3	63	62.0	98	70-134	
1,4-Dichlorobenzene	ug/m3	65.5	58.0	89	70-131	
2-Butanone (MEK)	ug/m3	32.4	32.4	100	70-133	

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: City of Ann Arbor

Pace Project No.: 10606801

LABORATORY CONTROL SAMPLE: 4330784

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Hexanone	ug/m3	41.4	42.3	102	70-136	
2-Propanol	ug/m3	27.4	25.1	92	65-133	
4-Ethyltoluene	ug/m3	51.7	50.4	98	70-130	
4-Methyl-2-pentanone (MIBK)	ug/m3	42.4	42.4	100	70-130	
Acetone	ug/m3	24.6	21.5	87	60-134	
Benzene	ug/m3	32.9	34.2	104	70-130	
Benzyl chloride	ug/m3	57.3	54.2	95	70-130	
Bromodichloromethane	ug/m3	69.7	67.5	97	70-130	
Bromoform	ug/m3	110	108	98	70-138	
Bromomethane	ug/m3	39.9	37.7	94	68-131	
Carbon disulfide	ug/m3	33.4	33.8	101	70-130	
Carbon tetrachloride	ug/m3	65	63.3	97	70-132	
Chlorobenzene	ug/m3	48.3	48.1	100	70-130	
Chloroethane	ug/m3	26.9	27.7	103	70-134	
Chloroform	ug/m3	48.5	43.6	90	70-130	
Chloromethane	ug/m3	21.1	21.5	102	68-131	
cis-1,2-Dichloroethene	ug/m3	41	44.8	109	70-136	
cis-1,3-Dichloropropene	ug/m3	46.9	52.3	111	70-130	
Cyclohexane	ug/m3	35.2	36.1	102	70-131	
Dibromochloromethane	ug/m3	87.3	83.2	95	70-134	
Dichlorodifluoromethane	ug/m3	51.3	44.7	87	70-130	
Dichlorotetrafluoroethane	ug/m3	65.1	59.1	91	70-130	
Ethanol	ug/m3	19.2	20.4	107	55-145	
Ethyl acetate	ug/m3	35.9	41.6	116	70-135	
Ethylbenzene	ug/m3	45.6	47.6	104	70-133	
Hexachloro-1,3-butadiene	ug/m3	117	119	102	70-132	
m&p-Xylene	ug/m3	45.9	43.1	94	70-134	
Methyl-tert-butyl ether	ug/m3	36.9	40.4	110	70-131	
Methylene Chloride	ug/m3	37.8	31.0	82	65-132	
n-Heptane	ug/m3	41.7	43.9	105	70-130	
n-Hexane	ug/m3	35.1	40.6	116	70-132	
Naphthalene	ug/m3	58.1	58.9	101	70-130	
o-Xylene	ug/m3	46	45.3	99	70-134	
Propylene	ug/m3	17.9	18.8	105	69-133	
Styrene	ug/m3	45.3	44.5	98	70-135	
Tetrachloroethene	ug/m3	69.9	69.5	100	70-134	
Tetrahydrofuran	ug/m3	30.1	30.5	101	70-140	
Toluene	ug/m3	39.4	40.9	104	70-136	
trans-1,2-Dichloroethene	ug/m3	40.8	37.7	92	70-134	
trans-1,3-Dichloropropene	ug/m3	48.2	47.2	98	70-131	
Trichloroethene	ug/m3	55.7	59.2	106	70-134	
Trichlorofluoromethane	ug/m3	56.5	49.3	87	63-130	
Vinyl acetate	ug/m3	38.1	49.6	130	70-139	
Vinyl chloride	ug/m3	26.6	26.1	98	70-132	

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: City of Ann Arbor

Pace Project No.: 10606801

SAMPLE DUPLICATE: 4335814

Parameter	Units	10607164006 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	<5.9	ND		25	
1,1,2,2-Tetrachloroethane	ug/m3	<11.8	ND		25	
1,1,2-Trichloroethane	ug/m3	<6.2	ND		25	
1,1,2-Trichlorotrifluoroethane	ug/m3	<9.1	ND		25	
1,1-Dichloroethane	ug/m3	<5.2	ND		25	
1,1-Dichloroethene	ug/m3	<4.4	ND		25	
1,2,3-Trimethylbenzene	ug/m3	<9.2	ND		25	
1,2,4-Trichlorobenzene	ug/m3	<154	ND		25	
1,2,4-Trimethylbenzene	ug/m3	<11.2	ND		25	
1,2-Dibromoethane (EDB)	ug/m3	<9.5	ND		25	
1,2-Dichlorobenzene	ug/m3	<12.8	ND		25	
1,2-Dichloroethane	ug/m3	<6.1	ND		25	
1,2-Dichloropropane	ug/m3	<8.5	ND		25	
1,3,5-Trimethylbenzene	ug/m3	<9.2	ND		25	
1,3-Butadiene	ug/m3	<3.8	ND		25	
1,3-Dichlorobenzene	ug/m3	<16.1	ND		25	
1,4-Dichlorobenzene	ug/m3	<27.7	ND		25	
2-Butanone (MEK)	ug/m3	<14.7	ND		25	
2-Hexanone	ug/m3	<14.0	ND		25	
2-Propanol	ug/m3	<16.1	ND		25	
4-Ethyltoluene	ug/m3	<14.9	ND		25	
4-Methyl-2-pentanone (MIBK)	ug/m3	<10.1	ND		25	
Acetone	ug/m3	<57.2	ND		25	
Benzene	ug/m3	<3.6	ND		25	
Benzyl chloride	ug/m3	<28.1	ND		25	
Bromodichloromethane	ug/m3	<7.5	ND		25	
Bromoform	ug/m3	<51.2	ND		25	
Bromomethane	ug/m3	<4.7	ND		25	
Carbon disulfide	ug/m3	<4.1	ND		25	
Carbon tetrachloride	ug/m3	<8.8	ND		25	
Chlorobenzene	ug/m3	<4.9	ND		25	
Chloroethane	ug/m3	<7.1	ND		25	
Chloroform	ug/m3	<5.8	ND		25	
Chloromethane	ug/m3	<2.7	ND		25	
cis-1,2-Dichloroethene	ug/m3	<6.2	ND		25	
cis-1,3-Dichloropropene	ug/m3	<8.1	ND		25	
Cyclohexane	ug/m3	<7.0	ND		25	
Dibromochloromethane	ug/m3	<16.3	ND		25	
Dichlorodifluoromethane	ug/m3	1820	1780	2	25	
Dichlorotetrafluoroethane	ug/m3	<6.4	ND		25	
Ethanol	ug/m3	<18.7	ND		25	
Ethyl acetate	ug/m3	<4.1	ND		25	
Ethylbenzene	ug/m3	<9.8	ND		25	
Hexachloro-1,3-butadiene	ug/m3	<38.9	ND		25	
m&p-Xylene	ug/m3	<20.3	ND		25	
Methyl-tert-butyl ether	ug/m3	<4.0	ND		25	
Methylene Chloride	ug/m3	<18.7	ND		25	

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### QUALITY CONTROL DATA

Project: City of Ann Arbor

Pace Project No.: 10606801

SAMPLE DUPLICATE: 4335814

Parameter	Units	10607164006 Result	Dup Result	RPD	Max RPD	Qualifiers
n-Heptane	ug/m3	<5.7	ND		25	
n-Hexane	ug/m3	<6.0	ND		25	
Naphthalene	ug/m3	<68.6	ND		25	
o-Xylene	ug/m3	<8.6	ND		25	
Propylene	ug/m3	<4.1	ND		25	
Styrene	ug/m3	<12.2	ND		25	
Tetrachloroethene	ug/m3	<9.2	ND		25	
Tetrahydrofuran	ug/m3	<5.7	ND		25	
Toluene	ug/m3	<7.7	ND		25	
trans-1,2-Dichloroethene	ug/m3	<5.3	ND		25	
trans-1,3-Dichloropropene	ug/m3	<17.2	ND		25	
Trichloroethene	ug/m3	<6.2	ND		25	
Trichlorofluoromethane	ug/m3	<7.4	ND		25	
Vinyl acetate	ug/m3	<6.6	ND		25	
Vinyl chloride	ug/m3	<2.7	ND		25	

SAMPLE DUPLICATE: 4335815

Parameter	Units	10607164007 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	<5.7	ND		25	
1,1,2,2-Tetrachloroethane	ug/m3	<11.3	ND		25	
1,1,2-Trichloroethane	ug/m3	<6.0	ND		25	
1,1,2-Trichlorotrifluoroethane	ug/m3	<8.8	ND		25	
1,1-Dichloroethane	ug/m3	<5.0	ND		25	
1,1-Dichloroethene	ug/m3	<4.2	ND		25	
1,2,3-Trimethylbenzene	ug/m3	<8.9	ND		25	
1,2,4-Trichlorobenzene	ug/m3	<148	ND		25	
1,2,4-Trimethylbenzene	ug/m3	<10.8	ND		25	
1,2-Dibromoethane (EDB)	ug/m3	<9.1	ND		25	
1,2-Dichlorobenzene	ug/m3	<12.3	ND		25	
1,2-Dichloroethane	ug/m3	<5.9	ND		25	
1,2-Dichloropropane	ug/m3	<8.2	ND		25	
1,3,5-Trimethylbenzene	ug/m3	<8.8	ND		25	
1,3-Butadiene	ug/m3	<3.6	ND		25	
1,3-Dichlorobenzene	ug/m3	<15.5	ND		25	
1,4-Dichlorobenzene	ug/m3	<26.7	ND		25	
2-Butanone (MEK)	ug/m3	<14.1	ND		25	
2-Hexanone	ug/m3	<13.4	ND		25	
2-Propanol	ug/m3	<15.5	ND		25	
4-Ethyltoluene	ug/m3	<14.3	ND		25	
4-Methyl-2-pentanone (MIBK)	ug/m3	<9.8	ND		25	
Acetone	ug/m3	<55.0	ND		25	
Benzene	ug/m3	<3.5	ND		25	
Benzyl chloride	ug/m3	<27.1	ND		25	
Bromodichloromethane	ug/m3	<7.2	ND		25	

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### QUALITY CONTROL DATA

Project: City of Ann Arbor

Pace Project No.: 10606801

SAMPLE DUPLICATE: 4335815

Parameter	Units	10607164007 Result	Dup Result	RPD	Max RPD	Qualifiers
Bromoform	ug/m3	<49.2	ND		25	
Bromomethane	ug/m3	<4.6	ND		25	
Carbon disulfide	ug/m3	<3.9	ND		25	
Carbon tetrachloride	ug/m3	<8.5	ND		25	
Chlorobenzene	ug/m3	<4.7	ND		25	
Chloroethane	ug/m3	<6.8	ND		25	
Chloroform	ug/m3	<5.6	ND		25	
Chloromethane	ug/m3	<2.6	ND		25	
cis-1,2-Dichloroethene	ug/m3	<5.9	ND		25	
cis-1,3-Dichloropropene	ug/m3	<7.8	ND		25	
Cyclohexane	ug/m3	<6.7	ND		25	
Dibromochloromethane	ug/m3	<15.7	ND		25	
Dichlorodifluoromethane	ug/m3	2580	2640	2	25	
Dichlorotetrafluoroethane	ug/m3	<6.1	ND		25	
Ethanol	ug/m3	<18.0	ND		25	
Ethyl acetate	ug/m3	<4.0	ND		25	
Ethylbenzene	ug/m3	<9.4	ND		25	
Hexachloro-1,3-butadiene	ug/m3	<37.4	ND		25	
m&p-Xylene	ug/m3	<19.5	ND		25	
Methyl-tert-butyl ether	ug/m3	<3.8	ND		25	
Methylene Chloride	ug/m3	<18.0	ND		25	
n-Heptane	ug/m3	<5.5	ND		25	
n-Hexane	ug/m3	<5.8	ND		25	
Naphthalene	ug/m3	<66.0	ND		25	
o-Xylene	ug/m3	<8.2	ND		25	
Propylene	ug/m3	<4.0	ND		25	
Styrene	ug/m3	<11.7	ND		25	
Tetrachloroethene	ug/m3	78.8	83.2	5	25	
Tetrahydrofuran	ug/m3	<5.5	ND		25	
Toluene	ug/m3	<7.4	ND		25	
trans-1,2-Dichloroethene	ug/m3	<5.1	ND		25	
trans-1,3-Dichloropropene	ug/m3	<16.5	ND		25	
Trichloroethene	ug/m3	<6.0	ND		25	
Trichlorofluoromethane	ug/m3	<7.1	ND		25	
Vinyl acetate	ug/m3	<6.3	ND		25	
Vinyl chloride	ug/m3	<2.6	ND		25	

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

### REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: City of Ann Arbor

Pace Project No.: 10606801

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### DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

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

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

E Analyte concentration exceeded the calibration range. The reported result is estimated.

MN The reporting limit has been raised in accordance with Minnesota Statutes 4740.2100 Subpart 8. C, D. Reporting Limit Evaluation Rule.

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: City of Ann Arbor

Pace Project No.: 10606801

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10606801001	SG-1	TO-15	817109		
10606801002	SG-2	TO-15	817109		
10606801003	SG-3	TO-15	817109		
10606801004	SG-4	TO-15	817109		
10606801005	SG-5	TO-15	817109		
10606801006	SG-6	TO-15	817109		

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# AIR: CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: **54601** of

<b>Section A</b> Required Client Information: Company: <b>Atlas Technical</b> Address: <b>46555 Humboldt</b> <b>Ste 100 Novi, MI</b> Email To: <b>gerard.debuschere@conecta.com</b> Phone: _____ Fax: _____ Requested Due Date/TAT: _____		<b>Section B</b> Required Project Information: Report To: <b>SAME</b> Copy To: _____ Purchase Order No.: _____ Project Name: <b>City of Ann Arbor</b> Project Number: _____		<b>Section C</b> Invoice Information: Attention: _____ Company Name: _____ Address: _____ Pace Quote Reference: _____ Pace Project Manager/Sales Rep. _____ Pace Profile #: <b>42685 #1</b>	
Program <input type="checkbox"/> UST <input type="checkbox"/> Superfund <input type="checkbox"/> Emissions <input type="checkbox"/> Clean Air Act <input type="checkbox"/> Voluntary Clean Up <input type="checkbox"/> Dry Clean <input type="checkbox"/> RCRA <input type="checkbox"/> Other		Reporting Units Location of Sampling by State _____ mg/m <sup>3</sup> _____ PPBV _____ PPMV _____ Other _____		Report Level II. _____ III. _____ IV. _____ Other _____	

ITEM #	Section D Required Client Information		COLLECTED		Canister Pressure (Initial Field - in Hg)	Canister Pressure (Final Field - in Hg)	Summa Can Number	Flow Control Number	Method	Pace Lab ID
	AIR SAMPLE ID	Sample IDs MUST BE UNIQUE	DATE	TIME						
1	SG-1		4/29/22	1000	-30	-3	02363123		PM10	001
2	SG-2		1023	1030	-30	-3	31473063		TO-3 BTEX	002
3	SG-3		0930	0944	-28	-3	06013198		TO-3M (Methane)	003
4	SG-4		1040	1047	-30	-3	29413122		TO-15 Full List VOCs	004
5	SG-5		1103	1109	-28	-3	31493228		TO-15 Short List BTEX	005
6	SG-6		1140	1149	-30	-3	31353117		TO-15 Short List Chlorinated	006

RELIQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS								
Madeleine Haas	4/29/22	1340	Madeleine Haas	5/3/22	12:12	Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact	Y/N	Y/N	Y/N	Y/N	Y/N

**WO# : 10606801**

10606801

SAMPLER NAME AND SIGNATURE  
 PRINT Name of SAMPLER: **Madeleine Haas**  
 SIGNATURE of SAMPLER: *Madeleine Haas*  
 DATE Signed (MM/DD/YYYY): **04/29/22**



Document Name: **Sample Condition Upon Receipt (SCUR) - Air**  
 Document No.: **ENV-FRM-MIN4-0113 Rev.01**

Document Revised: 13Oct2021  
 Page 1 of 1  
 Pace Analytical Services - Minneapolis

**Air Sample Condition Upon Receipt**

Client Name: **ATC**

Project #:

**WO#: 10606801**  
**PM: CT1** Due Date: **05/10/22**  
**CLIENT: Cardno-MI**

Courier:  FedEx  UPS  USPS  Client  
 Pace  SpeeDee  Commercial  
 Tracking Number: **975384508421**  See Exception  
 Custody Seal on Cooler/Box Present?  Yes  No  
 Seals Intact?  Yes  No  
 Packing Material:  Bubble Wrap  Bubble Bags  Foam  
 None  Tin Can  Other:

Date & Initials of Person Examining Contents: **5-3-22 MI**

**Comments:**

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		3.
Sampler Name and/or Signature on COC?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		8.
Correct Containers Used? (Tedlar bags not acceptable container for TO-15 or APH)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
Containers Intact? (visual inspection/no leaks when pressurized)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		10.
Media: <u>Air Can</u>   Airbag				11. Individually Certified Cans? Y <input checked="" type="checkbox"/> N (list which samples)
Is sufficient information available to reconcile samples to the COC?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		12.
Do cans need to be pressurized? (DO NOT PRESSURIZE 3C or ASTM 1946!!!)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		13.

Gauge #:  10AIR26  10AIR34  10AIR35  10AIR17  10AIR47  10AIR48

**Canisters**

**Canisters**

Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure	Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure
SG-1	2236	3123	-3	+10					
"-2	3147	3063	-2.5	↓					
"-3	2602	3198	-1.5						
"-4	2941	3122	-2.5						
"-5	3149	3228	-2						
"-6	3135	3117	-2.5						

**CLIENT NOTIFICATION/RESOLUTION**

Field Data Required?  Yes  No

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/Resolution: \_\_\_\_\_

Project Manager Review: Carolynne Trait

Date: 5/5/22

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e., out of hold, incorrect preservative, out of temp, incorrect containers).