



PHASE II ENVIRONMENTAL SITE ASSESSMENT REPORT

1633 SOUTH HANOVER STREET
HASTINGS, MICHIGAN 49058

SME Project Number: 095284.00.003
March 7, 2024





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March 7, 2024

Mr. Chris Nelson
N6 Towing & Recovery
6312 West Clarksville Road
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Via E-mail: n6towingllc@gmail.com

RE: Phase II Environmental Assessment
1633 South Hanover Street
Hastings, Michigan
SME Project No. 095284.00.003

Dear Mr. Nelson:

We have completed the Phase II Environmental Site Assessment (ESA) of the above-referenced property, hereinafter referred to as the Property. The Phase II ESA was conducted consistent with industry standards according to the objectives of the client and our findings, conclusions, and recommendations are based on those objectives.

Thank you for the opportunity to provide these services. If you have any questions concerning this report, or if additional services are required, please call.

Sincerely,

SME

Handwritten signature of Casey E. Smith in blue ink.

Casey E. Smith, CPG
Senior Consultant

Handwritten signature of Sara I. Bals in blue ink.

Sara I. Bals, EIT
Senior Consultant

Enclosures: One Original Phase II ESA Report; Dated March 7, 2024

Distribution: Ms. Jennifer Heinzman, Barry County Chamber and Economic Development Alliance – One Electronic copy via email (jennifer@mibarry.com)

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1. INTRODUCTION

We prepared this report to document the results of a Phase II Environmental Site Assessment (ESA) of 1633 South Hanover Street in the City of Hastings, Barry County, Michigan, herein after referred to as “the Property”. The Property location is shown on Figure 1. The assessment activities were funded using Barry County’s United States Environmental Protection Agency (USEPA) Brownfields Assessment Grant (Cooperative Agreement No. BF-00E03547-0). The Property was determined to be eligible for the use of grant funds on December 19, 2023. The Phase II ESA activities were conducted in accordance with our January 5, 2024, Sampling and Analysis Plan (SAP) that was approved by USEPA on January 11, 2024. SME’s Quality Assurance Project Plan (QAPP) was approved by the USEPA on January 8, 2024.

1.1 SITE DESCRIPTION AND BACKGROUND

The Property consists of 2.41 acres of land that is developed with a single-story commercial building. A concrete slab is located to the south of the building and asphalt paved areas surrounded the building. The interior of the building consisted of 5,068 square feet of floor space divided into an office area in the west portion, a shop/storage area in the west-central portion, a storage area in the east-central portion, and an automotive service area in the east portion.

The Property history and current conditions were obtained from a November 10, 2023, Phase I ESA report completed by SES Environmental (SES). The Phase I ESA included the Property and a south-adjacent parcel.

SES indicated that the Property was developed as agricultural land from at least 1938 through 1955. Between 1955 and 1961, a drive-in restaurant was constructed on the western portion of the Property. The restaurant was converted into an office building occupied by Larry Poll Realty in 1978. A second building was constructed to the east of the office building in 1985. The buildings were later combined into a single building with an addition in 1997. Art Meade Auto Sales was identified as the occupant of the Property from 1983 through 2014. Art Meade Auto Sales’ operations included used car sales and automotive service/maintenance. Subsequent occupants of the building included Great Lakes Pipe & Supply and the current occupant RB Excavating.

SES identified the following recognized environmental condition (REC) in their report:

“The Property was formerly occupied by an automotive service garage from the mid-1980s through the mid-2010s. The historic operations included the use of a floor drain, a recessed hydraulic hoist, two trench drains, and a vaulted used/waste oil tank. In addition, the building was formerly served by a private septic system. Previous sampling completed at the Property was sufficient to dismiss concerns with the trench drains, used/waste oil tank, and septic field; however, in SES’s opinion, the sampling was insufficient to dismiss the floor drain or the recessed hydraulic hoist. The potential exists for the floor drain and the former recessed hydraulic hoist to be a source of subsurface contamination.”

SME collected a soil sample from near the floor drain and hoist during a Phase II ESA of the Property in 2014. However, in SES’ opinion, the soil sample collected for evaluation of the drain and hoist was collected too deep (collected from 8 feet to 8.5 feet below ground surface [bgs]). SES opined that because groundwater at this location was identified at a depth of 6 feet bgs, the soil sample would have been saturated and was not representative of soil conditions. Additionally, they opined that based on the presence of tetrachloroethene (PCE) in groundwater in other areas of the Property, there was the potential for higher concentrations of PCE or other contaminants to be present in the location of the floor drain and hoist.

1.2 PURPOSE

We designed the scope of the assessment to further evaluate soil in the area of the floor drain and in-ground hydraulic hoist for the purpose of supporting environmental due diligence and liability management for the purchaser and their lender.

2. SCOPE OF ASSESSMENT

2.1 GENERAL SCOPE

We completed the following scope of services at the Property:

- Contacted the Michigan Underground Utility Safety Notification System (MISS DIG) to have underground utilities located/cleared.
- Prepared a site-specific safety plan for the field work using SME's Health and Safety Checklist. This included a Job Hazard Analysis for each activity performed on site.
- Advanced two borings (SB101 and SB102) on January 18 and 30, 2024, and installed temporary monitoring wells at both locations.
- Logged and field screened soil samples.
- Collected soil and groundwater samples for chemical analyses.
- Submitted five soil samples, two groundwater samples, and associated quality control (QC) samples to Fibertec Environmental Services, Inc., a Metiri Group company (Fibertec) in Holt, Michigan for the analysis of one or more of the following analytes: volatile organic compounds (VOCs), polynuclear aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), cadmium, total and hexavalent chromium, and lead.
- Prepared this Phase II ESA report to document field activities and analytical results.

2.2 SAMPLING LOCATION AND RATIONALE

The locations of the soil borings are shown on Figure 2. SB101 was advanced near the floor drain, and SB102 was advanced near the former in-ground, hydraulic hoist.

The Phase II ESA was conducted according to the scope outlined in the SAP with two deviations: 1) the borings were advanced using direct-push coring equipment in addition to a hand auger and concrete coring machine and 2) a third soil sample was collected at SB101 for additional vertical characterization of the soil.

3. PROCEDURES

Summaries of our procedures for the soil borings, sampling activities, decontamination, and chemical analyses are summarized in the following subsections. SME's field representative collected soil and groundwater samples according to the methods described in our standard operating procedures (SOPs) that are available in the USEPA-approved QAPP.

3.1 SOIL SAMPLING

We utilized a concrete coring machine to core the concrete floor surface at SB101 and SB102. SB101 and SB102 were then initially advanced using a stainless-steel hand auger to a depth of 5 feet bgs. We were unable to advance the hand augers deeper than 5 feet bgs due to the presence of coarse sand and gravel. We then monitored Fibertec Environmental Services, Inc., a Metiri Group Company (Fibertec), as they advanced SB101 and SB102 beyond 5 feet bgs using hydraulically driven, direct-push coring equipment. Each direct-push soil sample was collected using a 4-foot-long, 2-inch outside-diameter, GeoProbe® MacroCore® Sampler fitted with a single-use, disposable, acetate liner. Each soil sample collected from the hand auger borings was collected directly from the 6-inch, stainless steel hand auger bucket.

The soil in each sample core or hand auger bucket was visually evaluated, and representative samples were collected from each soil unit for visual classification in general accordance with ASTM D2488, *Standard Practice for Description and Identification of Soils* (Visual-Manual Procedure). A portion of each soil sample was used for field screening of ionizable vapors using a calibrated photoionization detector (PID) equipped with a 10.6 eV lamp. Field screening consisted of placing a portion of the sample in a sealed plastic bag for headspace analysis for the emission of ionizable vapors. The tip of the PID was inserted in the headspace of the bag, and PID readings were recorded on our soil boring logs. Detailed information regarding the soil conditions encountered at each boring is documented on the soil boring logs in Appendix A.

The amount of soil collected at each sampling location was dependent on chemical analyses requirements. First, soil samples intended for VOC laboratory analyses were removed from the sample liner and placed in methanol-preserved 40-milliliter (mL) glass vials following U.S. EPA Method 5035A. Soil volumes sufficient for analyses of additional parameters (PAHs, PCBs, and metals) were then removed from the sample liner or auger bucket and homogenized prior to transfer to pre-cleaned, 8-ounce, glass jars provided by the analytical laboratory.

3.2 GROUNDWATER SAMPLING

We installed temporary monitoring wells at the soil borings using new, 5-foot-long, 1-inch-diameter, 0.010-inch slotted (ten-slot) PVC screens with prefabricated silica sand pack. Each well was installed such that the screen at each location intersected the depth groundwater was encountered.

We purged the wells using a variable flow rate, portable peristaltic pump fitted with clean, 0.25-inch inside diameter (ID) silicone and high-density polyethylene tubing at a low flow pumping rate of approximately 200 milliliters/minute (mL/min). During purging, effluent groundwater was monitored periodically for pH, temperature, and specific conductivity using field instrumentation.

After the parameters stabilized, we collected a groundwater sample from the temporary monitoring well using the portable peristaltic pump fitted with 0.25-inch ID polyethylene/silicone tubing and operated at the low flow pumping rate. The groundwater samples were transferred directly into the following laboratory-supplied containers: 40-mL glass vials preserved with hydrochloric acid (VOCs), 1-liter amber colored glass jar (PAHs), and 250-mL plastic bottle preserved with nitric acid (metals).

3.3 SOIL BORING RESTORATION

We returned residual soil cuttings and purged groundwater to their corresponding borehole after soil and groundwater activities were completed, filled the remaining space in the boreholes with bentonite chips, and patched the surface with concrete.

3.4 QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC)

3.4.1 QUALITY ASSURANCE (QA)

SME's field representative wore a new pair of disposable nitrile sampling gloves at each sampling location to minimize the potential for cross-contamination. Direct-push sampling equipment was decontaminated with high-pressure, hot water before use and between sample locations. We decontaminated the stainless-steel hand auger and other soil sampling equipment with a laboratory grade detergent and distilled water wash and rinsed equipment with distilled water before each use. New, pre-cleaned well materials and tubing were used for the collection of the groundwater and soil gas samples.

The analytical laboratory supplied pre-preserved, pre-cleaned, containers for sample collection. After sample collection, the containerized soil and groundwater samples were logged on a chain-of-custody and kept on ice or refrigerated until delivery to the laboratory. Our field staff followed chain-of-custody procedures to document the sample handling sequence. Field instrument calibration, sample handling and custody requirements, and QA/QC procedures were consistent with those described in the project QAPP.

3.4.2 QUALITY CONTROL (QC)

We collected field duplicate samples (one soil and one groundwater) to evaluate matrix homogeneity and the precision of sampling activities. We collected soil and groundwater samples for site-specific matrix spike and matrix spike duplicate (MS/MSD) analyses to evaluate sample matrix recovery and accuracy. We collected one aqueous equipment blank to evaluate the potential for cross-contamination during sample collection. We also included one aqueous trip blank to evaluate the potential for cross-contamination during sample storage and transport to the laboratory, and one methanol blank to evaluate potential contaminants in the laboratory-provided methanol.

3.5 CHEMICAL ANALYSES

We submitted five soil samples, two groundwater samples, and associated QC samples to Fibertec Environment Services, Inc., a Metiri Group Company (Fibertec) for chemical analysis of VOCs, PAHs, PCBs, cadmium, chromium, and/or lead.

We submitted the soil sample from SB101 (4'-5') for analysis of hexavalent chromium because it had the highest total chromium concentration.

Fibertec analyzed the soil and groundwater samples using the reference methods listed below:

- VOCs – USEPA Method 8260 (soil and groundwater),
- PAHs – USEPA Method 8270 (soil and groundwater),
- PCBs – USEPA Method 8082 (soil)
- Cadmium, chromium, and lead – USEPA Method 6020 (soil and groundwater)
- Hexavalent chromium – USEPA Method 7196 (soil)

The laboratory analysis reports, complete list of specific analytical reference methods, reporting limits, and chain of custody documentation for the samples collected on the Property are included in Appendix B.

4. RESULTS

The surface and subsurface conditions encountered during soil boring activities and the results of chemical analyses are described in the following subsections.

4.1 SURFACE AND SUBSURFACE CONDITIONS

Descriptions of the soil conditions encountered at the soil boring locations are documented on the soil boring logs (Appendix A). The surface materials consisted of 6 inches of concrete. The concrete was underlain by sand fill to approximately 5 feet bgs. Native fine to coarse sand was encountered below the fill and extended to the explored depth of the borings (12 feet). No PID measurements greater than 1 part per million (ppm) were noted during field screening of the soil samples. No odors were noted, and no staining was observed during field screening of the soil samples.

Groundwater was encountered at 6.5 feet and 7.5 feet bgs. No sheens or odors were noted in purged groundwater.

4.2 RESULTS OF CHEMICAL ANALYSES

Results from the chemical analyses performed on soil and groundwater samples collected during our assessment are summarized in the following paragraphs and are presented in Tables 1 and 2. We compared the soil and groundwater chemical analyses results to the Part 201¹ Generic Residential Cleanup Criteria (Part 201 criteria) to evaluate if the Property is a “facility” as defined in Part 201, and to evaluate potential due care issues if contamination is found. We also compared the analytical results to the Michigan Department of Environment, Great Lakes, and Energy (EGLE) Nonresidential Volatilization to Indoor Air Pathway (VIAP) screening levels to evaluate the vapor intrusion pathway. Laboratory analysis reports and chain-of-custody documentation are included in Appendix B.

4.2.1 SOIL SAMPLE RESULTS

No VOCs, PAHs, PCBs, cadmium, total or hexavalent chromium, or lead were measured at concentrations exceeding the Part 201 criteria or the Nonresidential VIAP Screening Levels.

4.2.2 GROUNDWATER SAMPLE RESULTS

No VOCs, PAHs, cadmium, chromium, or lead were measured at concentrations exceeding the Part 201 criteria or the Nonresidential VIAP Screening Levels.

4.3 DATA VERIFICATION/VALIDATION AND USABILITY

We evaluated the representativeness of the data collected during our subsurface assessment to determine if the data set was valid and of usable quality. The laboratory QC results are detailed in the Case Narratives included in Appendix C.

4.3.1 FIELD QC

No VOCs were detected above laboratory RLs in the trip blank or methanol blank, which indicates that cross-contamination did not occur during sample storage and transport to the laboratory and that the laboratory-provided methanol was not contaminated. No analyzed constituents were detected above

¹ Part 201, Environmental Remediation, of the Michigan Natural Resources and Environmental Protection Act (NREPA), PA 451 of 1994, as amended.

laboratory reporting limits in the aqueous equipment blank, which indicates that the equipment used for groundwater sampling was not contaminated.

4.3.2 LABORATORY QC

Fibertec reported that the laboratory control samples/laboratory control samples duplicate (LCS/LCSD), surrogate recoveries, and results from analyses of the continuing calibration verification (CCV) samples and method blanks were within acceptance limits except as discussed in the following bullets.

- The 2-hexanone concentrations in the shallow soil samples were qualified due to a high MSD recovery. The results could be biased high. The potential high bias did not affect the overall conclusions because 2-hexanone was not measured above the laboratory reporting limit (RL).
- The acenaphthene and naphthalene concentrations in the shallow soil samples were qualified because the MS/MSD pair exhibited a high relative percent difference (RPD). This indicates increased variability in the reported results for these compounds. These compounds were not measured at concentrations above RLs and the RLs are at least an order of magnitude lower than the applicable Part 201 criteria. Therefore, even if the reported results are biased low, it is unlikely that the actual concentrations exceed Part 201 criteria, and this variability did not materially affect our conclusions.
- The chloroethane and vinyl chloride concentrations in the groundwater samples were qualified because the MS and/or MSD recoveries were high. The results may be biased high. The potential high bias did not affect the overall conclusions because chloroethane and vinyl chloride were not measured above the RLs.
- The chloromethane concentrations in the shallow soil sample were qualified due to a low CCV. Results may be biased low. Chloromethane was not measured in the samples at concentrations above the RL and the reporting limit is two orders of magnitude lower than lowest Part 201 criterion. Therefore, this potential low bias did not materially affect our conclusions.
- Multiple VOCs, PAHs, and/or PCBs in soil and/or groundwater samples were qualified as estimated due to high CCV, LCS, and/or LCSD. Results may be biased high; however, the potential high bias did not affect the overall conclusions because VOCs, PAHs, and PCBs were not measured at concentrations above the RLs.
- Zinc was detected in the method blank associated with the soil sample from SB101 (6.5'-7.5'). The zinc result may be biased high; however, zinc was not a constituent of concern associated with the Property and this potential bias did not affect our overall conclusions.
- The LCS/LCSD pair exhibited an elevated RPD for acetone, 2-butanone, and 2-hexanone associated with the soil sample from SB101 (6.5'-7.5'). This indicates increased variability with the results. The RLs for these compounds are at least an order of magnitude below their respective Part 201 criteria; therefore, even if the reported results are biased low, it is unlikely that the actual concentrations exceed Part 201 criteria, and this did not affect the overall conclusions.
- The pH of the groundwater sample analyzed for metals from SB102 was above the allowable pH limit (pH was 4 and the limit was less than or equal to 2) when the sample arrived at the laboratory. The laboratory adjusted the pH upon arrival. The elevated pH may cause a low bias for metals in the groundwater sample from SB102 and may have caused a false negative Part 201 criteria exceedance for metals in that sample. No metals were found in exceedance of the Part 201 criteria in other groundwater samples, or in soil samples collected from the Property; therefore, in our opinion, the potential low bias for metals in this sample did not affect our overall conclusions.

It is our opinion that the data set generated is of usable quality and meets the Project-specific objectives.

5. CONCLUSIONS

We conducted a Phase II ESA at 1633 South Hanover Street in Hastings, Barry County, Michigan to further evaluate the soil in area of the floor drain and hoist.

VOCs, PAHs, PCBs, cadmium, total or hexavalent chromium, and/or lead were not measured in soil or groundwater at concentrations above the Part 201 criteria. Based on these results as well as the results of SME's 2014 sampling, the Property is not a "facility" as defined by Part 201.

The conclusions in this report are based on visual observations and chemical results from samples collected from the area of investigation only. If additional surface, subsurface, or chemical data become available after the date of issue of this report, the conclusions contained in this report may require modification after SME has reviewed the additional information. This review by SME of additional information would be conducted upon receipt of a request from the client.

In the process of obtaining information in preparation of this report, procedures were followed that represent reasonable practices and principles in a manner consistent with that level of care and skill ordinarily exercised by members of this profession currently practicing under similar conditions.

PREPARED BY:



Casey E. Smith, CPG
Senior Consultant

REVIEWED BY:



Sara I. Bals, EIT
Senior Consultant

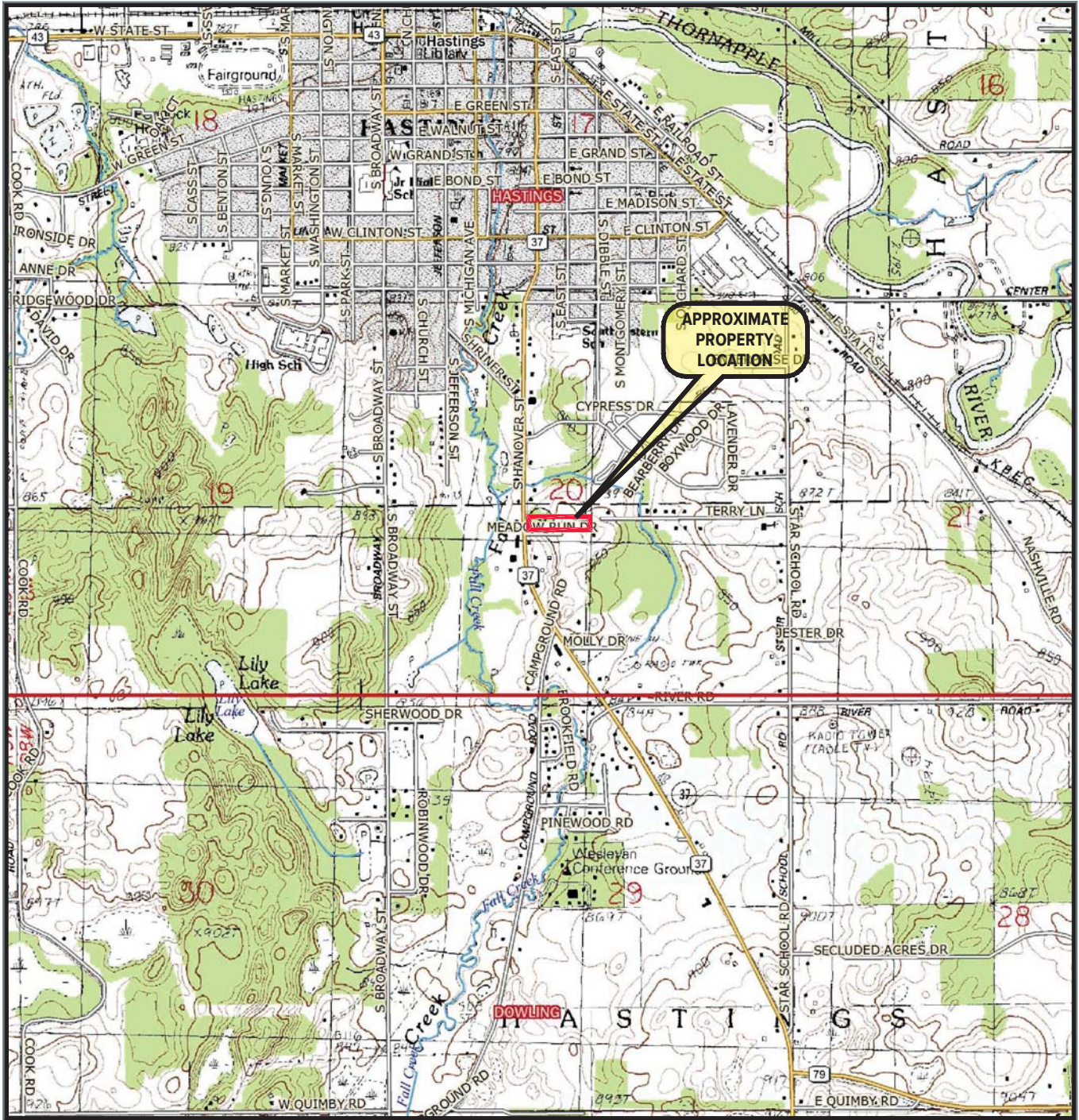
6. REFERENCES

1. SES Environmental, Phase I Environmental Site Assessment Report, RB Excavating LLC Property, 1633 & 1745 South Hanover Street, Hastings, Barry County, Michigan 49058, November 10, 2023.

FIGURES

FIGURE 1: PROPERTY LOCATION MAP

FIGURE 2: PROPERTY FEATURES AND SAMPLE LOCATION DIAGRAM



Base map obtained from ERIS®

USGS QUADRANGLE(S) REFERENCED

HASTINGS (MI) 1982
DOWLING (MI) 1982



SCALE: 1" = 2000'

No.	Revision Date	Date	12/21/2023
	Drawn By	JGR	
	Designed By	CES	
	Scale	1" = 2000'	
	Project	095284.00.003	

PROPERTY LOCATION MAP
1633 SOUTH HANOVER STREET
HASTINGS, MICHIGAN



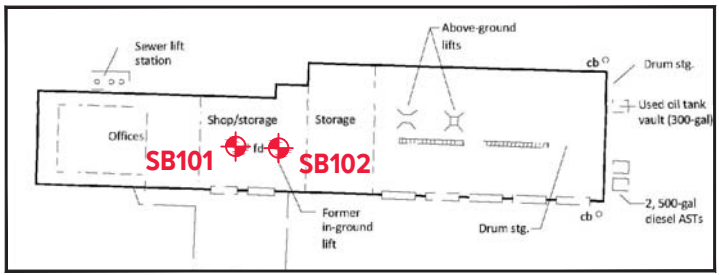
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Figure No. 1



LEGEND

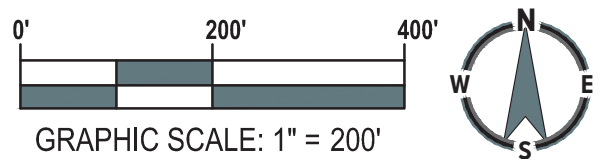
- APPROXIMATE PROPERTY BOUNDARY
- SOIL BORING LOCATION WITH GROUNDWATER SAMPLE



BORINGS IN BUILDING

Scale: 1" = 60'

- NOTE:
1. BASE DRAWING INFORMATION PROVIDED FROM A PDF/DRAWING TITLED SITE BUILDING DETAIL, PREPARED BY SES, DATED 11/01/23.
 2. AERIAL IMAGE TAKEN FROM GOOGLE EARTH PRO AND BARRY COUNTY PARCEL MAP.



No.	Revision Date	Date	12/21/2023
	Drawn By	JGR/JAB	
	Designed By	CES	
	Scale	AS NOTED	
	Project	095284.00.003	

**PROPERTY FEATURES AND
SAMPLE LOCATION DIAGRAM
1633 SOUTH HANOVER STREET
HASTINGS, MICHIGAN**

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Figure No. 2

TABLES

TABLE 1: SUMMARY OF SOIL ANALYTICAL RESULTS

TABLE 2: SUMMARY OF GROUNDWATER ANALYTICAL RESULTS



TABLE 1
SUMMARY OF SOIL ANALYTICAL RESULTS
1633 SOUTH HANOVER STREET
HASTINGS, MICHIGAN
SME PROJECT NO.: 095284.00.003

Constituent	Part 201 Generic Cleanup Criteria						Volatilization to Indoor Air Pathway (VIAP) Screening Levels	Chemical Analysis Results								
	CAS #	Residential Drinking Water Protection Criteria	Nonresidential Drinking Water Protection Criteria	Groundwater Surface Water Interface Protection Criteria	Residential Direct Contact Criteria	Nonresidential Direct Contact Criteria		Sample Identification								
								SB101	SB101	Duplicate	SB101	SB102	SB102	Methanol Blank		
															Depth (Feet)	Date Collected
Volatile Organic Compounds (VOCs)																
Analyzed VOCs	CS	CS	CS	CS	CS	CS	CS	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL
Polynuclear Aromatic Hydrocarbons (PAHs)																
Analyzed PAHs	CS	CS	CS	CS	CS	CS	CS	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	NE
Polychlorinated Biphenyls (PCBs)																
Total PCBs	1336-36-3	NLL	NLL	NLL	4,000	16,000	NA	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	NE
Metals																
Cadmium	7440-43-9	6,000	6,000	3,600*	550,000	2,100,000	NA	63	52	65	60	NE	NE	NE	NE	NE
Chromium, Total**	7440-47-3	1,000,000,000	1,000,000,000	1,000,000,000*	790,000,000	1,000,000,000	NA	9,100	13,000	8,100	9,600	NE	NE	NE	NE	NE
Chromium VI**	18540-29-9	30,000	30,000	3,300	2,500,000	9,200,000	NA	NE	<440	NE	NE	NE	NE	NE	NE	NE
Lead	7439-92-1	700,000	700,000	6,000,000*	400,000	900,000	NA	5,200	5,200	4,900	3,900	NE	NE	NE	NE	NE



TABLE 1
SUMMARY OF SOIL ANALYTICAL RESULTS
1633 SOUTH HANOVER STREET
HASTINGS, MICHIGAN
SME PROJECT NO.: 095284.00.003

Notes:

- Concentrations reported in micrograms per kilogram ($\mu\text{g}/\text{kg}$).
- Analytical results were compared to the October 12, 2023 Promulgated Cleanup Criteria, Residential and/or Nonresidential Part 201 Generic Cleanup Criteria and Screening Levels.
- Analytical results were also compared to the EGLE September 4, 2020 Residential and/or Nonresidential Volatilization to Indoor Air Pathway (VIAP) Screening Levels.
- Results exceeding one or more criteria are shaded, as are the criteria exceeded.
- Refer to the analytical report for the full list of analytes.
- CS - Criterion is specific to individual constituent.
- <RL - Analytical result was below laboratory reporting limit.
- ID - Insufficient data to develop criteria.
- NA - Not applicable.
- NE - Not evaluated.
- NLV - Not likely to volatilize.
- NLL - Not likely to leach.
- * = GSI Protection was calculated for the indicated metals using the EGLE spreadsheet for calculating GSI. A default water hardness value of 150 mg/kg as CaCO₃ was used to calculate GSI. Results are presented for surface water receiving bodies not protected as a drinking water source.
- *Italicized* - the respective criterion was below the Statewide Default Background Level (SDBL) and therefore the value defaulted to the SDBL value.
- ** - Total chromium results compared to trivalent chromium criteria because hexavalent chromium was analyzed and not measured above the laboratory reporting limit in the soil sample that had the highest total chromium concentration.
- Concentrations were also compared to, and found to be below, the ambient and indoor air criteria and the soil saturation concentration screening levels.



TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
 1633 SOUTH HANOVER STREET
 HASTINGS, MICHIGAN
 SME PROJECT NO.: 095284.00.003

Constituent	CAS #	Part 201 Generic Cleanup Criteria				Volatilization to Indoor Air Pathway (VIAP) Screening Levels	Chemical Analysis Results				
		Residential Drinking Water Criteria	Nonresidential Drinking Water Criteria	Groundwater Surface Water Interface Criteria	Nonresidential Shallow Groundwater		Sample Identification	Depth (Feet)	Date Collected	Environmental Concern	
							SB101-GW	SB102-GW	Duplicate	Equipment Blank	Trip Blank
						(5'-10')	(4'-9')	SB102-GW	QC Sample	QC Sample	
						1/30/2024	1/30/2024	1/30/2024	1/30/2024	---	
Volatile Organic Compounds (VOCs)	CAS #										
Toluene	108-88-3	790	790	270	6,600	2.4	1.0	2.9	<1.0	<1.0	
1,2,3-Trimethylbenzene	526-73-8	NA	NA	NA	150	<1.0	2.8	<1.0	<1.0	<1.0	
1,2,4-Trimethylbenzene	95-63-6	63	63	17	120	<1.0	<1.0	1.1	<1.0	<1.0	
Xylenes	1330-20-7	280	280	49	410	<3.0	<3.0	3.1	<3.0	<3.0	
Other Analyzed VOCs	CS	CS	CS	CS	CS	<RL	<RL	<RL	<RL	<RL	
Polynuclear Aromatic Hydrocarbons (PAHs)											
Analyzed PAHs	CS	CS	CS	CS	CS	<RL	<RL	<RL	<RL	NE	
Metals											



TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
1633 SOUTH HANOVER STREET
HASTINGS, MICHIGAN
SME PROJECT NO.: 095284.00.003

Notes:

- Concentrations reported in micrograms per liter ($\mu\text{g/L}$).
- Analytical results were compared to October 12, 2023 Promulgated Cleanup Criteria, Residential and Nonresidential Part 201 Generic Cleanup Criteria and Screening Levels.
- Analytical results were also compared to the EGLE September 4, 2020 Residential and/or Nonresidential Volatilization to Indoor Air Pathway (VIAP) Screening Levels.
- Results exceeding one or more criteria are shaded, as are the criteria exceeded.
- Refer to the analytical report for the full list of analytes.
- CS - Criterion is specific to individual constituent.
- <RL - Analytical result was below laboratory reporting limit.
- NE - Not evaluated.
- NA - Not available.
- ID - Insufficient data to develop criterion.
- NLV - Not likely to volatilize under most soil conditions.
- * = GSI Protection was calculated for the indicated metals using the EGLE spreadsheet for calculating GSI. A default water hardness value of 150 mg/kg as CaCO_3 was used to calculate GSI. Results are presented for surface water receiving bodies not protected as a drinking water source.
- **Total chromium concentrations were compared to the more restrictive hexavalent chromium criteria because chromium was not speciated.
- Concentrations were also compared to, and found to be below, the groundwater volatilization to indoor air inhalation criteria and the flammability and explosivity screening levels.

APPENDIX A

SOIL BORING LOGS

3/7/24 8:36:03 AM



BORING SB101

PAGE 1 OF 1

BORING DEPTH: 12 FEET

PROJECT NAME: 1633 South Hanover Street

PROJECT NUMBER: 095284.00.003

CLIENT: Barry County

PROJECT LOCATION: Hastings, Michigan

DATE STARTED: 1/30/24

COMPLETED: 1/30/24

BORING METHOD: Direct Push/Hand Auger

OPERATOR: RB (Fibertec)

RIG NO.: Geoprobe/Hand Auger

LOGGED BY: SS/JL

CHECKED BY: CES

DEPTH (FEET)	SYMBOLIC PROFILE	ELEVATION: (Not Surveyed) PROFILE DESCRIPTION	SAMPLE TYPE/NO. INTERVAL	RECOVERY (inches)	PID (ppm)	SOIL ANALYTICAL SAMPLE ANALYZED	TEMPORARY WELL SCREEN	REMARKS
0.0								
0.5		CONCRETE						
1.5		FILL- Fine to Medium SAND with Gravel- Brown- Moist (SP)	AS1	6	<1			
2.5		FILL- Fine SAND- Brown- Moist (SP)	AS2	12	<1			
3.5	AS3		12	<1				
4.5	AS4		12	<1				
5.0	AS5		12	<1				
7.5		Fine to Coarse SAND- Brown- Moist to Wet (SP)	LS6	36	<1			A groundwater sample was collected from a temporary monitoring well. The well screen was set between 5 and 10 feet below ground surface.
10.0	LS7		43	<1				
12.0								

END OF BORING AT 12.0 FEET.

<p>GROUNDWATER & BACKFILL INFORMATION</p> <p>DEPTH (FT)</p> <p>▽ DURING BORING: 7.5</p> <p>▽ AT END OF BORING: 7.5</p> <p>BACKFILL METHOD: Soil Cuttings</p>		<p>NOTES:</p> <ol style="list-style-type: none"> Soil samples were classified according to ASTM D2488, Standard Practice for Description and Identification of Soils (Visual-Manual Procedure) for environmental purposes only. Therefore, the boring logs and associated report(s) should not be used for geotechnical evaluation or design. The indicated stratification lines are approximate. The in-situ transitions between materials may be gradual. Listed depths under the profile description are rounded to the nearest tenth of a foot (e.g. 5.75 = 5.8). Refer to the report and attachments for actual sample depths and/or intervals (where applicable). The colors depicted on the symbolic profile are solely for visualization purposes and do not necessarily represent the in-situ colors encountered. No odors noted and no staining observed.
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3/7/24 8:36:04 AM



BORING SB102

PAGE 1 OF 1

BORING DEPTH: 12 FEET

PROJECT NAME: 1633 South Hanover Street

PROJECT NUMBER: 095284.00.003

CLIENT: Barry County

PROJECT LOCATION: Hastings, Michigan

DATE STARTED: 1/30/24

COMPLETED: 1/30/24

BORING METHOD: Direct Push/Hand Auger

OPERATOR: RB (Fibertec)

RIG NO.: Geoprobe/Hand Auger

LOGGED BY: SS/JL

CHECKED BY: CES

DEPTH (FEET)	SYMBOLIC PROFILE	ELEVATION: (Not Surveyed) PROFILE DESCRIPTION	SAMPLE TYPE/NO. INTERVAL	RECOVERY (inches)	PID (ppm)	SOIL ANALYTICAL SAMPLE ANALYZED	TEMPORARY WELL SCREEN	REMARKS
0.0								
0.5		CONCRETE						
1.5		FILL- Fine to Medium SAND with Gravel- Brown- Moist (SP)	AS1	6	<1			
2.5		FILL- Fine SAND- Brown- Moist (SP)	AS2	12	<1			
3.5			AS3	12	<1			
4.5			AS4	12	<1			
5.0			AS5	12	<1			A groundwater sample was collected from a temporary monitoring well. The well screen was set between 4 and 9 feet below ground surface.
6.5					<1			
7.5			LS6	36	<1			
8.5		Fine to Coarse SAND- Brown- Moist to Wet (SP)			<1			
10.0			LS7	38	<1			
12.0					<1			

END OF BORING AT 12.0 FEET.

GROUNDWATER & BACKFILL INFORMATION		NOTES: 1. Soil samples were classified according to ASTM D2488, Standard Practice for Description and Identification of Soils (Visual-Manual Procedure) for environmental purposes only. Therefore, the boring logs and associated report(s) should not be used for geotechnical evaluation or design. 2. The indicated stratification lines are approximate. The in-situ transitions between materials may be gradual. 3. Listed depths under the profile description are rounded to the nearest tenth of a foot (e.g. 5.75 = 5.8). Refer to the report and attachments for actual sample depths and/or intervals (where applicable). 4. The colors depicted on the symbolic profile are solely for visualization purposes and do not necessarily represent the in-situ colors encountered. 5. No odors noted and no staining observed.
	DEPTH (FT)	
▽ DURING BORING:	6.5	
▽ AT END OF BORING:	6.5	
BACKFILL METHOD: Soil Cuttings		

APPENDIX B

LABORATORY DATA REPORTS



Case Narrative

Client: Soil and Materials Engineers, Inc.
Project Name: 095284.00.003

Eight soil samples, including blank, were collected on January 18, 2024 and received by Fibertec, Inc. on January 19, 2024. The shipping cooler temperature was within specifications (0 – 6°C), and the samples arrived without any visible signs of tampering or breakage. The samples were prepared and analyzed within the required hold times.

Exceptions are noted below.

Cross Reference

Lab ID #	Client ID #	Matrix	Requested Tests
A19326-001	SB101 (1-2)	Soil	%Moisture, Trace Metals, PCBs, VOCs, PNAs
A19326-002	SB101 (4-5)	Soil	%Moisture, Trace Metals, PCBs, VOCs, PNAs
A19326-003	MS (SB101 (4-5))	Soil	%Moisture, Trace Metals, PCBs, VOCs, PNAs
A19326-004	MSD (SB101 (4-5))	Soil	%Moisture, Trace Metals, PCBs, VOCs, PNAs
A19326-005	SB102 (1-2)	Soil	%Moisture, Trace Metals, PCBs, VOCs, PNAs
A19326-006	SB102 (3.5-4.5))	Soil	%Moisture, PCBs, VOCs, PNAs
A19326-007	DUP Soil	Soil	%Moisture, PCBs, VOCs, PNAs
A19326-008	Methanol Blank	Soil	VOCs

Exceptions

Volatile Organic Compounds Method: EPA 5035A/EPA 8260D

Samples -001 through -008 were qualified as estimated for Chloromethane due to low Continuing Calibration Verification (76% recovery with criteria being 80-120%). Results may be biased low.

Sample -002 was qualified for 2-Hexanone as the spiked sample recovery was high for the Matrix Spike Duplicate (131% recovery) with criteria being 70-130%. The Laboratory Control Sample was acceptable at 91% recovery. Results may be biased high, but were non-detect.

Polynuclear Aromatic Hydrocarbons Method: EPA 3546/EPA 8270E

The Matrix Spike/Matrix Spike Duplicate (MS/MSD) pair exhibited an RPD for the listed compounds associated with sample -002. This indicates increased variability with the results.

Acenaphthene (SIM) (31%) exceeding criteria (RPD \leq 30%)

Naphthalene (SIM) (34%) exceeding criteria (RPD \leq 30%)

No further exceptions were observed.

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8660 S. Mackinaw Trail	Cadillac, Michigan 49601	Telephone: (231) 775-8368	Facsimile: (231) 775-8584



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Monday, January 29, 2024

Fibertec Project Number: A19326
Project Identification: 095284.00.003 /095284.00.003
Submittal Date: 01/19/2024

Mr. Casey Smith
Soil and Materials Engineers, Inc. - Grand Rapids
882 40th Street SE
Grand Rapids, MI 49508

Dear Mr. Smith,

Thank you for selecting Fibertec Environmental Services as your analytical laboratory. The samples you submitted have been analyzed in accordance with NELAC standards and the results compiled in the attached report. Any exceptions to NELAC compliance are noted in the report. These results apply only to those samples submitted. Please note TO-15 samples will be disposed of 7 calendar days after the reporting date. All other samples will be disposed of 30 days after the reporting date.

If you have any questions regarding these results or if we may be of further assistance to you, please contact me at (517) 699-0345.

Sincerely,

A handwritten signature in black ink that reads "Sue Ricketts".

By Sue Ricketts at 10:33 AM, Jan 29, 2024

For Heather L. Smith
Director of Laboratory Operations

Enclosures

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Analytical Laboratory Report
Laboratory Project Number: A19326
Laboratory Sample Number: A19326-001

Order: A19326
 Date: 01/29/24

Client Identification: Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description: SB101 (1-2)	Chain of Custody: 219247
Client Project Name: 095284.00.003	Sample No:	Collect Date: 01/18/24
Client Project No: 095284.00.003	Sample Matrix: Soil/Solid	Collect Time: 13:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **A19326-001** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB101 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	8		%	1	1.0	01/24/24	MC240124	01/25/24	MC240124	LJK

Trace Elements by ICP/MS Aliquot ID: **A19326-001** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **SB101 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Cadmium	63		µg/kg	50	20	01/26/24	PT24A26B	01/26/24	T424A26A	JJS
2. Chromium	9100		µg/kg	500	20	01/26/24	PT24A26B	01/26/24	T424A26A	JJS
3. Lead	5200		µg/kg	1000	20	01/26/24	PT24A26B	01/26/24	T424A26A	JJS

Polychlorinated Biphenyls (PCBs) Aliquot ID: **A19326-001** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB101 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 21:32	SO24A22A	BRC
2. Aroclor-1221	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 21:32	SO24A22A	BRC
3. Aroclor-1232	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 21:32	SO24A22A	BRC
4. Aroclor-1242	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 21:32	SO24A22A	BRC
5. Aroclor-1248	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 21:32	SO24A22A	BRC
6. Aroclor-1254	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 21:32	SO24A22A	BRC
7. Aroclor-1260	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 21:32	SO24A22A	BRC
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 21:32	SO24A22A	BRC
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 21:32	SO24A22A	BRC

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **A19326-001A** Matrix: **Soil/Solid**
 Method: **EPA 5035A/EPA 8260D** Description: **SB101 (1-2)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
‡ 2. Acrylonitrile	U		µg/kg	110	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
3. Benzene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
4. Bromobenzene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
5. Bromochloromethane	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
6. Bromodichloromethane	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC

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A METIRI GROUP COMPANY

Analytical Laboratory Report
Laboratory Project Number: A19326
Laboratory Sample Number: A19326-001

Order: A19326
 Date: 01/29/24

Client Identification: Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description: SB101 (1-2)	Chain of Custody: 219247
Client Project Name: 095284.00.003	Sample No:	Collect Date: 01/18/24
Client Project No: 095284.00.003	Sample Matrix: Soil/Solid	Collect Time: 13:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A19326-001A **Matrix: Soil/Solid**
Description: SB101 (1-2)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Bromoform	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
8. Bromomethane	U		µg/kg	200	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
9. 2-Butanone	U		µg/kg	750	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
10. n-Butylbenzene	U		µg/kg	57	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
11. sec-Butylbenzene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
12. tert-Butylbenzene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
13. Carbon Disulfide	U		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
14. Carbon Tetrachloride	U		µg/kg	57	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
15. Chlorobenzene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
16. Chloroethane	U		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
17. Chloroform	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
18. Chloromethane	U	V-	µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
19. 2-Chlorotoluene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
21. Dibromochloromethane	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
22. Dibromomethane	U		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
28. 1,2-Dichloroethane	U		µg/kg	57	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
32. 1,2-Dichloropropane	U		µg/kg	57	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
33. cis-1,3-Dichloropropene	U		µg/kg	57	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
34. trans-1,3-Dichloropropene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
35. Ethylbenzene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
36. Ethylene Dibromide	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
37. 2-Hexanone	U		µg/kg	2500	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
38. Isopropylbenzene	U		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
40. Methylene Chloride	U		µg/kg	120	1.0	01/23/24	VJ24A23A	01/23/24 12:45	VJ24A23A	SNC
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
42. MTBE	U		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC

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Analytical Laboratory Report
Laboratory Project Number: A19326
Laboratory Sample Number: A19326-001

Order: A19326
 Date: 01/29/24

Client Identification: Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description: SB101 (1-2)	Chain of Custody: 219247
Client Project Name: 095284.00.003	Sample No:	Collect Date: 01/18/24
Client Project No: 095284.00.003	Sample Matrix: Soil/Solid	Collect Time: 13:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A19326-001A **Matrix: Soil/Solid**
Description: SB101 (1-2)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
43. Naphthalene	U		µg/kg	330	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
44. n-Propylbenzene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
45. Styrene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	57	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
48. Tetrachloroethene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
49. Toluene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
52. 1,1,2-Trichloroethane	U		µg/kg	57	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
53. Trichloroethene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
54. Trichlorofluoromethane	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
59. Vinyl Chloride	U		µg/kg	40	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
60. m&p-Xylene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
61. o-Xylene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC
‡ 62. Xylenes	U		µg/kg	150	1.0	01/22/24	VP24A22A	01/22/24 14:07	VP24A22A	SNC

Polynuclear Aromatic Hydrocarbons (PNAs)
Method: EPA 3546/EPA 8270E

Aliquot ID: A19326-001 **Matrix: Soil/Solid**
Description: SB101 (1-2)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 18:26	S524A22A	KDG
2. Acenaphthylene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 18:26	S524A22A	KDG
3. Anthracene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 18:26	S524A22A	KDG
4. Benzo(a)anthracene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 18:26	S524A22A	KDG
5. Benzo(a)pyrene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 18:26	S524A22A	KDG
6. Benzo(b)fluoranthene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 18:26	S524A22A	KDG
7. Benzo(ghi)perylene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 18:26	S524A22A	KDG
8. Benzo(k)fluoranthene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 18:26	S524A22A	KDG
9. Chrysene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 18:26	S524A22A	KDG
10. Dibenzo(a,h)anthracene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 18:26	S524A22A	KDG
11. Fluoranthene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 18:26	S524A22A	KDG

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Analytical Laboratory Report
Laboratory Project Number: A19326
Laboratory Sample Number: A19326-001

Order: A19326
 Date: 01/29/24

Client Identification: Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description: SB101 (1-2)	Chain of Custody: 219247
Client Project Name: 095284.00.003	Sample No:	Collect Date: 01/18/24
Client Project No: 095284.00.003	Sample Matrix: Soil/Solid	Collect Time: 13:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable †: Parameter not included in NELAC Scope of Analysis.

Polynuclear Aromatic Hydrocarbons (PNAs)
Method: EPA 3546/EPA 8270E

Aliquot ID: A19326-001 **Matrix: Soil/Solid**
Description: SB101 (1-2)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis			
						P. Date	P. Batch	A. Date	A. Batch	Init.	
12. Fluorene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24	18:26	S524A22A	KDG
13. Indeno(1,2,3-cd)pyrene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24	18:26	S524A22A	KDG
14. 2-Methylnaphthalene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24	18:26	S524A22A	KDG
15. Naphthalene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24	18:26	S524A22A	KDG
16. Phenanthrene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24	18:26	S524A22A	KDG
17. Pyrene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24	18:26	S524A22A	KDG

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Analytical Laboratory Report
Laboratory Project Number: A19326
Laboratory Sample Number: A19326-002

Order: A19326
 Date: 01/29/24

Client Identification: Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description: SB101 (4-5)	Chain of Custody: 219247
Client Project Name: 095284.00.003	Sample No:	Collect Date: 01/18/24
Client Project No: 095284.00.003	Sample Matrix: Soil/Solid	Collect Time: 14:05

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **A19326-002** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB101 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	10		%	1	1.0	01/24/24	MC240124	01/25/24	MC240124	LJK

Trace Elements by ICP/MS Aliquot ID: **A19326-002** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **SB101 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Cadmium	52		µg/kg	50	20	01/26/24	PT24A26B	01/26/24	T424A26A	JJS
2. Chromium	13000		µg/kg	500	20	01/26/24	PT24A26B	01/26/24	T424A26A	JJS
3. Lead	5200		µg/kg	1000	20	01/26/24	PT24A26B	01/26/24	T424A26A	JJS

Polychlorinated Biphenyls (PCBs) Aliquot ID: **A19326-002** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB101 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 21:44	SO24A22A	BRC
2. Aroclor-1221	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 21:44	SO24A22A	BRC
3. Aroclor-1232	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 21:44	SO24A22A	BRC
4. Aroclor-1242	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 21:44	SO24A22A	BRC
5. Aroclor-1248	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 21:44	SO24A22A	BRC
6. Aroclor-1254	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 21:44	SO24A22A	BRC
7. Aroclor-1260	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 21:44	SO24A22A	BRC
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 21:44	SO24A22A	BRC
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 21:44	SO24A22A	BRC

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **A19326-002A** Matrix: **Soil/Solid**
 Method: **EPA 5035A/EPA 8260D** Description: **SB101 (4-5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
‡ 2. Acrylonitrile	U		µg/kg	120	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
3. Benzene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
4. Bromobenzene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
5. Bromochloromethane	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
6. Bromodichloromethane	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC

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Analytical Laboratory Report
Laboratory Project Number: A19326
Laboratory Sample Number: A19326-002

Order: A19326
Date: 01/29/24

Client Identification: Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description: SB101 (4-5)	Chain of Custody: 219247
Client Project Name: 095284.00.003	Sample No:	Collect Date: 01/18/24
Client Project No: 095284.00.003	Sample Matrix: Soil/Solid	Collect Time: 14:05

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A19326-002A **Matrix: Soil/Solid**
Description: SB101 (4-5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Bromoform	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
8. Bromomethane	U		µg/kg	200	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
9. 2-Butanone	U		µg/kg	750	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
10. n-Butylbenzene	U		µg/kg	61	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
11. sec-Butylbenzene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
12. tert-Butylbenzene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
13. Carbon Disulfide	U		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
14. Carbon Tetrachloride	U		µg/kg	61	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
15. Chlorobenzene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
16. Chloroethane	U		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
17. Chloroform	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
18. Chloromethane	U	V-	µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
19. 2-Chlorotoluene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
21. Dibromochloromethane	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
22. Dibromomethane	U		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
28. 1,2-Dichloroethane	U		µg/kg	61	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
32. 1,2-Dichloropropane	U		µg/kg	61	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
33. cis-1,3-Dichloropropene	U		µg/kg	61	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
34. trans-1,3-Dichloropropene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
35. Ethylbenzene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
36. Ethylene Dibromide	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
37. 2-Hexanone	U	F+	µg/kg	2500	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
38. Isopropylbenzene	U		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
40. Methylene Chloride	U		µg/kg	130	1.0	01/23/24	VJ24A23A	01/23/24 11:09	VJ24A23A	SNC
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
42. MTBE	U		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC

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Analytical Laboratory Report
Laboratory Project Number: A19326
Laboratory Sample Number: A19326-002

Order: A19326
 Date: 01/29/24

Client Identification: Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description: SB101 (4-5)	Chain of Custody: 219247
Client Project Name: 095284.00.003	Sample No:	Collect Date: 01/18/24
Client Project No: 095284.00.003	Sample Matrix: Soil/Solid	Collect Time: 14:05

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A19326-002A **Matrix: Soil/Solid**
Description: SB101 (4-5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
43. Naphthalene	U		µg/kg	330	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
44. n-Propylbenzene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
45. Styrene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	61	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
48. Tetrachloroethene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
49. Toluene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
52. 1,1,2-Trichloroethane	U		µg/kg	61	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
53. Trichloroethene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
54. Trichlorofluoromethane	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
59. Vinyl Chloride	U		µg/kg	40	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
60. m&p-Xylene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
61. o-Xylene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC
‡ 62. Xylenes	U		µg/kg	150	1.0	01/22/24	VP24A22A	01/22/24 12:24	VP24A22A	SNC

Polynuclear Aromatic Hydrocarbons (PNAs)
Method: EPA 3546/EPA 8270E

Aliquot ID: A19326-002 **Matrix: Soil/Solid**
Description: SB101 (4-5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene (SIM)	U	*	µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 19:00	S524A22A	KDG
2. Acenaphthylene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 19:00	S524A22A	KDG
3. Anthracene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 19:00	S524A22A	KDG
4. Benzo(a)anthracene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 19:00	S524A22A	KDG
5. Benzo(a)pyrene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 19:00	S524A22A	KDG
6. Benzo(b)fluoranthene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 19:00	S524A22A	KDG
7. Benzo(ghi)perylene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 19:00	S524A22A	KDG
8. Benzo(k)fluoranthene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 19:00	S524A22A	KDG
9. Chrysene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 19:00	S524A22A	KDG
10. Dibenzo(a,h)anthracene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 19:00	S524A22A	KDG
11. Fluoranthene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 19:00	S524A22A	KDG

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Analytical Laboratory Report
Laboratory Project Number: A19326
Laboratory Sample Number: A19326-002

Order: A19326
 Date: 01/29/24

Client Identification: Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description: SB101 (4-5)	Chain of Custody: 219247
Client Project Name: 095284.00.003	Sample No:	Collect Date: 01/18/24
Client Project No: 095284.00.003	Sample Matrix: Soil/Solid	Collect Time: 14:05

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable †: Parameter not included in NELAC Scope of Analysis.

Polynuclear Aromatic Hydrocarbons (PNAs)
Method: EPA 3546/EPA 8270E

Aliquot ID: A19326-002 **Matrix: Soil/Solid**
Description: SB101 (4-5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis			
						P. Date	P. Batch	A. Date	A. Batch	Init.	
12. Fluorene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24	19:00	S524A22A	KDG
13. Indeno(1,2,3-cd)pyrene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24	19:00	S524A22A	KDG
14. 2-Methylnaphthalene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24	19:00	S524A22A	KDG
15. Naphthalene (SIM)	U	*	µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24	19:00	S524A22A	KDG
16. Phenanthrene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24	19:00	S524A22A	KDG
17. Pyrene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24	19:00	S524A22A	KDG

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Analytical Laboratory Report
Laboratory Project Number: A19326
Laboratory Sample Number: A19326-003

Order: A19326
 Date: 01/29/24

Client Identification: Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description: MS (SB101 (4-5))	Chain of Custody: 219247
Client Project Name: 095284.00.003	Sample No:	Collect Date: 01/18/24
Client Project No: 095284.00.003	Sample Matrix: Soil/Solid	Collect Time: 14:05

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **A19326-003** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **MS (SB101 (4-5))**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	12		%	1	1.0	01/24/24	MC240124	01/25/24	MC240124	LJK

Trace Elements by ICP/MS Aliquot ID: **A19326-003** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **MS (SB101 (4-5))**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Cadmium	11000		µg/kg	50	20	01/26/24	PT24A26B	01/26/24	T424A26A	JJS
2. Chromium	32000		µg/kg	500	20	01/26/24	PT24A26B	01/26/24	T424A26A	JJS
3. Lead	26000		µg/kg	1000	20	01/26/24	PT24A26B	01/26/24	T424A26A	JJS

Polychlorinated Biphenyls (PCBs) Aliquot ID: **A19326-003** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **MS (SB101 (4-5))**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	660		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 21:09	SO24A22A	BRC
2. Aroclor-1221	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 21:09	SO24A22A	BRC
3. Aroclor-1232	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 21:09	SO24A22A	BRC
4. Aroclor-1242	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 21:09	SO24A22A	BRC
5. Aroclor-1248	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 21:09	SO24A22A	BRC
6. Aroclor-1254	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 21:09	SO24A22A	BRC
7. Aroclor-1260	690		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 21:09	SO24A22A	BRC
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 21:09	SO24A22A	BRC
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 21:09	SO24A22A	BRC

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **A19326-003A** Matrix: **Soil/Solid**
 Method: **EPA 5035A/EPA 8260D** Description: **MS (SB101 (4-5))**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	3800		µg/kg	1000	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
‡ 2. Acrylonitrile	2900		µg/kg	130	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
3. Benzene	2900		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
4. Bromobenzene	3000		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
5. Bromochloromethane	2800		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
6. Bromodichloromethane	3100		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC

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Analytical Laboratory Report
Laboratory Project Number: A19326
Laboratory Sample Number: A19326-003

Order: A19326
 Date: 01/29/24

Client Identification: Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description: MS (SB101 (4-5))	Chain of Custody: 219247
Client Project Name: 095284.00.003	Sample No:	Collect Date: 01/18/24
Client Project No: 095284.00.003	Sample Matrix: Soil/Solid	Collect Time: 14:05

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A19326-003A **Matrix: Soil/Solid**
Description: MS (SB101 (4-5))

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Bromoform	3300		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
8. Bromomethane	3200		µg/kg	200	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
9. 2-Butanone	3600		µg/kg	750	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
10. n-Butylbenzene	3000		µg/kg	63	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
11. sec-Butylbenzene	3200		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
12. tert-Butylbenzene	3100		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
13. Carbon Disulfide	3400		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
14. Carbon Tetrachloride	2900		µg/kg	63	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
15. Chlorobenzene	3200		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
16. Chloroethane	3800		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
17. Chloroform	2800		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
18. Chloromethane	2600	V-	µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
19. 2-Chlorotoluene	3000		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	2800		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
21. Dibromochloromethane	3100		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
22. Dibromomethane	3300		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
23. 1,2-Dichlorobenzene	3100		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
24. 1,3-Dichlorobenzene	3200		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
25. 1,4-Dichlorobenzene	3200		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
26. Dichlorodifluoromethane	3300		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
27. 1,1-Dichloroethane	2800		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
28. 1,2-Dichloroethane	2700		µg/kg	63	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
29. 1,1-Dichloroethene	2800		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
30. cis-1,2-Dichloroethene	2700		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
31. trans-1,2-Dichloroethene	2800		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
32. 1,2-Dichloropropane	3000		µg/kg	63	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
33. cis-1,3-Dichloropropene	3200		µg/kg	63	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
34. trans-1,3-Dichloropropene	3100		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
35. Ethylbenzene	3100		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
36. Ethylene Dibromide	3000		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
37. 2-Hexanone	3800		µg/kg	2500	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
38. Isopropylbenzene	3200		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
39. 4-Methyl-2-pentanone	3600		µg/kg	2500	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
40. Methylene Chloride	2500		µg/kg	130	1.0	01/23/24	VJ24A23A	01/23/24 11:33	VJ24A23A	SNC
‡ 41. 2-Methylnaphthalene	2600		µg/kg	330	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
42. MTBE	2900		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC

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Analytical Laboratory Report
Laboratory Project Number: A19326
Laboratory Sample Number: A19326-003

Order: A19326
 Date: 01/29/24

Client Identification: Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description: MS (SB101 (4-5))	Chain of Custody: 219247
Client Project Name: 095284.00.003	Sample No:	Collect Date: 01/18/24
Client Project No: 095284.00.003	Sample Matrix: Soil/Solid	Collect Time: 14:05

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A19326-003A **Matrix: Soil/Solid**
Description: MS (SB101 (4-5))

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
43. Naphthalene	2800		µg/kg	330	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
44. n-Propylbenzene	3200		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
45. Styrene	3200		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
46. 1,1,1,2-Tetrachloroethane	3300		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
47. 1,1,2,2-Tetrachloroethane	3100		µg/kg	63	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
48. Tetrachloroethene	3400		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
49. Toluene	3100		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
50. 1,2,4-Trichlorobenzene	3000		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
51. 1,1,1-Trichloroethane	2900		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
52. 1,1,2-Trichloroethane	3200		µg/kg	63	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
53. Trichloroethene	2900		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
54. Trichlorofluoromethane	4100		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
55. 1,2,3-Trichloropropane	3300		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
‡ 56. 1,2,3-Trimethylbenzene	3000		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
57. 1,2,4-Trimethylbenzene	3200		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
58. 1,3,5-Trimethylbenzene	3300		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
59. Vinyl Chloride	3200		µg/kg	40	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
60. m&p-Xylene	6200		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
61. o-Xylene	3000		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC
‡ 62. Xylenes	9200		µg/kg	150	1.0	01/22/24	VP24A22A	01/22/24 12:50	VP24A22A	SNC

Polynuclear Aromatic Hydrocarbons (PNAs)
Method: EPA 3546/EPA 8270E

Aliquot ID: A19326-003 **Matrix: Soil/Solid**
Description: MS (SB101 (4-5))

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene (SIM)	1300		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 19:34	S524A22A	KDG
2. Acenaphthylene (SIM)	1300		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 19:34	S524A22A	KDG
3. Anthracene (SIM)	1200		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 19:34	S524A22A	KDG
4. Benzo(a)anthracene (SIM)	1300		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 19:34	S524A22A	KDG
5. Benzo(a)pyrene (SIM)	1500		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 19:34	S524A22A	KDG
6. Benzo(b)fluoranthene (SIM)	1400		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 19:34	S524A22A	KDG
7. Benzo(ghi)perylene (SIM)	1300		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 19:34	S524A22A	KDG
8. Benzo(k)fluoranthene (SIM)	1500		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 19:34	S524A22A	KDG
9. Chrysene (SIM)	1400		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 19:34	S524A22A	KDG
10. Dibenzo(a,h)anthracene (SIM)	1400		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 19:34	S524A22A	KDG
11. Fluoranthene (SIM)	1300		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 19:34	S524A22A	KDG

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Analytical Laboratory Report
Laboratory Project Number: A19326
Laboratory Sample Number: A19326-003

Order: A19326
 Date: 01/29/24

Client Identification: Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description: MS (SB101 (4-5))	Chain of Custody: 219247
Client Project Name: 095284.00.003	Sample No:	Collect Date: 01/18/24
Client Project No: 095284.00.003	Sample Matrix: Soil/Solid	Collect Time: 14:05

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable †: Parameter not included in NELAC Scope of Analysis.

Polynuclear Aromatic Hydrocarbons (PNAs)
Method: EPA 3546/EPA 8270E

Aliquot ID: A19326-003 **Matrix: Soil/Solid**
Description: MS (SB101 (4-5))

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis			
						P. Date	P. Batch	A. Date	A. Batch	Init.	
12. Fluorene (SIM)	1400		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24	19:34	S524A22A	KDG
13. Indeno(1,2,3-cd)pyrene (SIM)	1400		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24	19:34	S524A22A	KDG
14. 2-Methylnaphthalene (SIM)	1200		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24	19:34	S524A22A	KDG
15. Naphthalene (SIM)	1300		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24	19:34	S524A22A	KDG
16. Phenanthrene (SIM)	1200		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24	19:34	S524A22A	KDG
17. Pyrene (SIM)	1400		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24	19:34	S524A22A	KDG

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Analytical Laboratory Report
Laboratory Project Number: A19326
Laboratory Sample Number: A19326-004

Order: A19326
 Date: 01/29/24

Client Identification: Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description: MSD (SB101 (4-5))	Chain of Custody: 219247
Client Project Name: 095284.00.003	Sample No:	Collect Date: 01/18/24
Client Project No: 095284.00.003	Sample Matrix: Soil/Solid	Collect Time: 14:05

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **A19326-004** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **MSD (SB101 (4-5))**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	10		%	1	1.0	01/24/24	MC240124	01/25/24	MC240124	LJK

Trace Elements by ICP/MS Aliquot ID: **A19326-004** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **MSD (SB101 (4-5))**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Cadmium	10000		µg/kg	50	20	01/26/24	PT24A26B	01/26/24	T424A26A	JJS
2. Chromium	32000		µg/kg	500	20	01/26/24	PT24A26B	01/26/24	T424A26A	JJS
3. Lead	26000		µg/kg	1000	20	01/26/24	PT24A26B	01/26/24	T424A26A	JJS

Polychlorinated Biphenyls (PCBs) Aliquot ID: **A19326-004** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **MSD (SB101 (4-5))**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	630		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 21:20	SO24A22A	BRC
2. Aroclor-1221	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 21:20	SO24A22A	BRC
3. Aroclor-1232	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 21:20	SO24A22A	BRC
4. Aroclor-1242	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 21:20	SO24A22A	BRC
5. Aroclor-1248	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 21:20	SO24A22A	BRC
6. Aroclor-1254	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 21:20	SO24A22A	BRC
7. Aroclor-1260	570		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 21:20	SO24A22A	BRC
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 21:20	SO24A22A	BRC
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 21:20	SO24A22A	BRC

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **A19326-004A** Matrix: **Soil/Solid**
 Method: **EPA 5035A/EPA 8260D** Description: **MSD (SB101 (4-5))**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	3900		µg/kg	1000	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
‡ 2. Acrylonitrile	2900		µg/kg	120	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
3. Benzene	2900		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
4. Bromobenzene	2900		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
5. Bromochloromethane	2700		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
6. Bromodichloromethane	3100		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC

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Analytical Laboratory Report
Laboratory Project Number: A19326
Laboratory Sample Number: A19326-004

Order: A19326
 Date: 01/29/24

Client Identification: Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description: MSD (SB101 (4-5))	Chain of Custody: 219247
Client Project Name: 095284.00.003	Sample No:	Collect Date: 01/18/24
Client Project No: 095284.00.003	Sample Matrix: Soil/Solid	Collect Time: 14:05

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A19326-004A **Matrix: Soil/Solid**
Description: MSD (SB101 (4-5))

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
7. Bromoform	3300		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
8. Bromomethane	3300		µg/kg	200	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
9. 2-Butanone	3500		µg/kg	750	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
10. n-Butylbenzene	3000		µg/kg	60	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
11. sec-Butylbenzene	3100		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
12. tert-Butylbenzene	3100		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
13. Carbon Disulfide	3400		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
14. Carbon Tetrachloride	3100		µg/kg	60	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
15. Chlorobenzene	3100		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
16. Chloroethane	3900		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
17. Chloroform	2800		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
18. Chloromethane	2600	V-	µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
19. 2-Chlorotoluene	2900		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	2900		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
21. Dibromochloromethane	3100		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
22. Dibromomethane	3300		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
23. 1,2-Dichlorobenzene	3100		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
24. 1,3-Dichlorobenzene	3200		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
25. 1,4-Dichlorobenzene	3200		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
26. Dichlorodifluoromethane	3300		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
27. 1,1-Dichloroethane	2700		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
28. 1,2-Dichloroethane	2700		µg/kg	60	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
29. 1,1-Dichloroethene	2800		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
30. cis-1,2-Dichloroethene	2700		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
31. trans-1,2-Dichloroethene	2800		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
32. 1,2-Dichloropropane	2900		µg/kg	60	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
33. cis-1,3-Dichloropropene	3100		µg/kg	60	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
34. trans-1,3-Dichloropropene	3100		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
35. Ethylbenzene	3100		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
36. Ethylene Dibromide	2900		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
37. 2-Hexanone	3900		µg/kg	2500	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
38. Isopropylbenzene	3200		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
39. 4-Methyl-2-pentanone	3700		µg/kg	2500	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
40. Methylene Chloride	2300		µg/kg	120	1.0	01/23/24	VJ24A23A	01/23/24 11:57	VJ24A23A	SNC
‡ 41. 2-Methylnaphthalene	3100		µg/kg	330	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
42. MTBE	2800		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC

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Analytical Laboratory Report
Laboratory Project Number: A19326
Laboratory Sample Number: A19326-004

Order: A19326
 Date: 01/29/24

Client Identification: Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description: MSD (SB101 (4-5))	Chain of Custody: 219247
Client Project Name: 095284.00.003	Sample No:	Collect Date: 01/18/24
Client Project No: 095284.00.003	Sample Matrix: Soil/Solid	Collect Time: 14:05

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A19326-004A **Matrix: Soil/Solid**
Description: MSD (SB101 (4-5))

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
43. Naphthalene	2900		µg/kg	330	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
44. n-Propylbenzene	3100		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
45. Styrene	3200		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
46. 1,1,1,2-Tetrachloroethane	3200		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
47. 1,1,2,2-Tetrachloroethane	3100		µg/kg	60	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
48. Tetrachloroethene	3300		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
49. Toluene	3000		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
50. 1,2,4-Trichlorobenzene	3100		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
51. 1,1,1-Trichloroethane	2900		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
52. 1,1,2-Trichloroethane	3100		µg/kg	60	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
53. Trichloroethene	2900		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
54. Trichlorofluoromethane	4000		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
55. 1,2,3-Trichloropropane	3300		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
‡ 56. 1,2,3-Trimethylbenzene	2900		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
57. 1,2,4-Trimethylbenzene	3100		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
58. 1,3,5-Trimethylbenzene	3200		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
59. Vinyl Chloride	3200		µg/kg	40	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
60. m&p-Xylene	6100		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
61. o-Xylene	3000		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC
‡ 62. Xylenes	9100		µg/kg	150	1.0	01/22/24	VP24A22A	01/22/24 13:16	VP24A22A	SNC

Polynuclear Aromatic Hydrocarbons (PNAs)
Method: EPA 3546/EPA 8270E

Aliquot ID: A19326-004 **Matrix: Soil/Solid**
Description: MSD (SB101 (4-5))

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene (SIM)	930		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 20:09	S524A22A	KDG
2. Acenaphthylene (SIM)	1000		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 20:09	S524A22A	KDG
3. Anthracene (SIM)	1000		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 20:09	S524A22A	KDG
4. Benzo(a)anthracene (SIM)	1200		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 20:09	S524A22A	KDG
5. Benzo(a)pyrene (SIM)	1400		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 20:09	S524A22A	KDG
6. Benzo(b)fluoranthene (SIM)	1400		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 20:09	S524A22A	KDG
7. Benzo(ghi)perylene (SIM)	1300		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 20:09	S524A22A	KDG
8. Benzo(k)fluoranthene (SIM)	1400		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 20:09	S524A22A	KDG
9. Chrysene (SIM)	1300		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 20:09	S524A22A	KDG
10. Dibenzo(a,h)anthracene (SIM)	1300		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 20:09	S524A22A	KDG
11. Fluoranthene (SIM)	1200		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 20:09	S524A22A	KDG

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Analytical Laboratory Report
Laboratory Project Number: A19326
Laboratory Sample Number: A19326-004

Order: A19326
 Date: 01/29/24

Client Identification: Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description: MSD (SB101 (4-5))	Chain of Custody: 219247
Client Project Name: 095284.00.003	Sample No:	Collect Date: 01/18/24
Client Project No: 095284.00.003	Sample Matrix: Soil/Solid	Collect Time: 14:05

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable †: Parameter not included in NELAC Scope of Analysis.

Polynuclear Aromatic Hydrocarbons (PNAs)
Method: EPA 3546/EPA 8270E

Aliquot ID: A19326-004 **Matrix: Soil/Solid**
Description: MSD (SB101 (4-5))

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
12. Fluorene (SIM)	1000		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 20:09	S524A22A	KDG
13. Indeno(1,2,3-cd)pyrene (SIM)	1300		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 20:09	S524A22A	KDG
14. 2-Methylnaphthalene (SIM)	930		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 20:09	S524A22A	KDG
15. Naphthalene (SIM)	890		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 20:09	S524A22A	KDG
16. Phenanthrene (SIM)	980		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 20:09	S524A22A	KDG
17. Pyrene (SIM)	1300		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 20:09	S524A22A	KDG

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Analytical Laboratory Report
Laboratory Project Number: A19326
Laboratory Sample Number: A19326-005

 Order: A19326
 Date: 01/29/24

Client Identification: Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description: SB102 (1-2)	Chain of Custody: 219247
Client Project Name: 095284.00.003	Sample No:	Collect Date: 01/18/24
Client Project No: 095284.00.003	Sample Matrix: Soil/Solid	Collect Time: 14:30

 Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C	Aliquot ID: A19326-005	Matrix: Soil/Solid
Method: ASTM D2216-10	Description: SB102 (1-2)	

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	6		%	1	1.0	01/24/24	MC240124	01/25/24	MC240124	LJK

Polychlorinated Biphenyls (PCBs)	Aliquot ID: A19326-005	Matrix: Soil/Solid
Method: EPA 3546/EPA 8082A	Description: SB102 (1-2)	

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 21:55	SO24A22A	BRC
2. Aroclor-1221	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 21:55	SO24A22A	BRC
3. Aroclor-1232	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 21:55	SO24A22A	BRC
4. Aroclor-1242	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 21:55	SO24A22A	BRC
5. Aroclor-1248	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 21:55	SO24A22A	BRC
6. Aroclor-1254	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 21:55	SO24A22A	BRC
7. Aroclor-1260	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 21:55	SO24A22A	BRC
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 21:55	SO24A22A	BRC
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 21:55	SO24A22A	BRC

Volatile Organic Compounds (VOCs) by GC/MS, 5035	Aliquot ID: A19326-005A	Matrix: Soil/Solid
Method: EPA 5035A/EPA 8260D	Description: SB102 (1-2)	

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
‡ 2. Acrylonitrile	U		µg/kg	110	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
3. Benzene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
4. Bromobenzene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
5. Bromochloromethane	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
6. Bromodichloromethane	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
7. Bromoform	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
8. Bromomethane	U		µg/kg	200	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
9. 2-Butanone	U		µg/kg	750	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
10. n-Butylbenzene	U		µg/kg	57	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
11. sec-Butylbenzene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
12. tert-Butylbenzene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
13. Carbon Disulfide	U		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
14. Carbon Tetrachloride	U		µg/kg	57	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
15. Chlorobenzene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC

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Analytical Laboratory Report
Laboratory Project Number: A19326
Laboratory Sample Number: A19326-005

Order: A19326
 Date: 01/29/24

Client Identification: Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description: SB102 (1-2)	Chain of Custody: 219247
Client Project Name: 095284.00.003	Sample No:	Collect Date: 01/18/24
Client Project No: 095284.00.003	Sample Matrix: Soil/Solid	Collect Time: 14:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A19326-005A **Matrix: Soil/Solid**
Description: SB102 (1-2)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
16. Chloroethane	U		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
17. Chloroform	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
18. Chloromethane	U	V-	µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
19. 2-Chlorotoluene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
21. Dibromochloromethane	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
22. Dibromomethane	U		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
28. 1,2-Dichloroethane	U		µg/kg	57	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
32. 1,2-Dichloropropane	U		µg/kg	57	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
33. cis-1,3-Dichloropropene	U		µg/kg	57	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
34. trans-1,3-Dichloropropene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
35. Ethylbenzene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
36. Ethylene Dibromide	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
37. 2-Hexanone	U		µg/kg	2500	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
38. Isopropylbenzene	U		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
40. Methylene Chloride	U		µg/kg	120	1.0	01/23/24	VJ24A23A	01/23/24 13:09	VJ24A23A	SNC
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
42. MTBE	U		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
43. Naphthalene	U		µg/kg	330	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
44. n-Propylbenzene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
45. Styrene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	57	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
48. Tetrachloroethene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
49. Toluene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC

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Analytical Laboratory Report
Laboratory Project Number: A19326
Laboratory Sample Number: A19326-005

Order: A19326
 Date: 01/29/24

Client Identification: Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description: SB102 (1-2)	Chain of Custody: 219247
Client Project Name: 095284.00.003	Sample No:	Collect Date: 01/18/24
Client Project No: 095284.00.003	Sample Matrix: Soil/Solid	Collect Time: 14:30

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A19326-005A **Matrix: Soil/Solid**
Description: SB102 (1-2)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
52. 1,1,2-Trichloroethane	U		µg/kg	57	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
53. Trichloroethene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
54. Trichlorofluoromethane	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
59. Vinyl Chloride	U		µg/kg	40	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
60. m&p-Xylene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
61. o-Xylene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC
‡ 62. Xylenes	U		µg/kg	150	1.0	01/22/24	VP24A22A	01/22/24 14:33	VP24A22A	SNC

Polynuclear Aromatic Hydrocarbons (PNAs)
Method: EPA 3546/EPA 8270E

Aliquot ID: A19326-005 **Matrix: Soil/Solid**
Description: SB102 (1-2)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 20:43	S524A22A	KDG
2. Acenaphthylene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 20:43	S524A22A	KDG
3. Anthracene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 20:43	S524A22A	KDG
4. Benzo(a)anthracene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 20:43	S524A22A	KDG
5. Benzo(a)pyrene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 20:43	S524A22A	KDG
6. Benzo(b)fluoranthene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 20:43	S524A22A	KDG
7. Benzo(ghi)perylene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 20:43	S524A22A	KDG
8. Benzo(k)fluoranthene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 20:43	S524A22A	KDG
9. Chrysene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 20:43	S524A22A	KDG
10. Dibenzo(a,h)anthracene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 20:43	S524A22A	KDG
11. Fluoranthene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 20:43	S524A22A	KDG
12. Fluorene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 20:43	S524A22A	KDG
13. Indeno(1,2,3-cd)pyrene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 20:43	S524A22A	KDG
14. 2-Methylnaphthalene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 20:43	S524A22A	KDG
15. Naphthalene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 20:43	S524A22A	KDG
16. Phenanthrene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 20:43	S524A22A	KDG
17. Pyrene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/22/24 20:43	S524A22A	KDG

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Analytical Laboratory Report
Laboratory Project Number: A19326
Laboratory Sample Number: A19326-006

Order: A19326
 Date: 01/29/24

Client Identification: Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description: SB102 (3.5-4.5)	Chain of Custody: 219247
Client Project Name: 095284.00.003	Sample No:	Collect Date: 01/18/24
Client Project No: 095284.00.003	Sample Matrix: Soil/Solid	Collect Time: 14:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **A19326-006** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB102 (3.5-4.5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	10		%	1	1.0	01/24/24	MC240124	01/25/24	MC240124	LJK

Polychlorinated Biphenyls (PCBs) Aliquot ID: **A19326-006** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB102 (3.5-4.5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 22:07	SO24A22A	BRC
2. Aroclor-1221	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 22:07	SO24A22A	BRC
3. Aroclor-1232	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 22:07	SO24A22A	BRC
4. Aroclor-1242	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 22:07	SO24A22A	BRC
5. Aroclor-1248	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 22:07	SO24A22A	BRC
6. Aroclor-1254	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 22:07	SO24A22A	BRC
7. Aroclor-1260	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 22:07	SO24A22A	BRC
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 22:07	SO24A22A	BRC
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 22:07	SO24A22A	BRC

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **A19326-006A** Matrix: **Soil/Solid**
 Method: **EPA 5035A/EPA 8260D** Description: **SB102 (3.5-4.5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
‡ 2. Acrylonitrile	U		µg/kg	120	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
3. Benzene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
4. Bromobenzene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
5. Bromochloromethane	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
6. Bromodichloromethane	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
7. Bromoform	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
8. Bromomethane	U		µg/kg	200	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
9. 2-Butanone	U		µg/kg	750	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
10. n-Butylbenzene	U		µg/kg	60	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
11. sec-Butylbenzene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
12. tert-Butylbenzene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
13. Carbon Disulfide	U		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
14. Carbon Tetrachloride	U		µg/kg	60	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
15. Chlorobenzene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC

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Analytical Laboratory Report
Laboratory Project Number: A19326
Laboratory Sample Number: A19326-006

Order: A19326
 Date: 01/29/24

Client Identification: Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description: SB102 (3.5-4.5)	Chain of Custody: 219247
Client Project Name: 095284.00.003	Sample No:	Collect Date: 01/18/24
Client Project No: 095284.00.003	Sample Matrix: Soil/Solid	Collect Time: 14:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A19326-006A **Matrix: Soil/Solid**
Description: SB102 (3.5-4.5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
16. Chloroethane	U		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
17. Chloroform	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
18. Chloromethane	U	V-	µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
19. 2-Chlorotoluene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
21. Dibromochloromethane	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
22. Dibromomethane	U		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
28. 1,2-Dichloroethane	U		µg/kg	60	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
32. 1,2-Dichloropropane	U		µg/kg	60	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
33. cis-1,3-Dichloropropene	U		µg/kg	60	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
34. trans-1,3-Dichloropropene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
35. Ethylbenzene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
36. Ethylene Dibromide	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
37. 2-Hexanone	U		µg/kg	2500	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
38. Isopropylbenzene	U		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
40. Methylene Chloride	U		µg/kg	120	1.0	01/23/24	VJ24A23A	01/23/24 13:33	VJ24A23A	SNC
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
42. MTBE	U		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
43. Naphthalene	U		µg/kg	330	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
44. n-Propylbenzene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
45. Styrene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	60	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
48. Tetrachloroethene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
49. Toluene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC

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Analytical Laboratory Report
Laboratory Project Number: A19326
Laboratory Sample Number: A19326-006

Order: A19326
Date: 01/29/24

Client Identification: Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description: SB102 (3.5-4.5)	Chain of Custody: 219247
Client Project Name: 095284.00.003	Sample No:	Collect Date: 01/18/24
Client Project No: 095284.00.003	Sample Matrix: Soil/Solid	Collect Time: 14:55

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A19326-006A **Matrix: Soil/Solid**
Description: SB102 (3.5-4.5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
52. 1,1,2-Trichloroethane	U		µg/kg	60	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
53. Trichloroethene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
54. Trichlorofluoromethane	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
59. Vinyl Chloride	U		µg/kg	40	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
60. m&p-Xylene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
61. o-Xylene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC
‡ 62. Xylenes	U		µg/kg	150	1.0	01/22/24	VP24A22A	01/22/24 14:59	VP24A22A	SNC

Polynuclear Aromatic Hydrocarbons (PNAs)
Method: EPA 3546/EPA 8270E

Aliquot ID: A19326-006 **Matrix: Soil/Solid**
Description: SB102 (3.5-4.5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/23/24 18:57	S524A23A	KDG
2. Acenaphthylene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/23/24 18:57	S524A23A	KDG
3. Anthracene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/23/24 18:57	S524A23A	KDG
4. Benzo(a)anthracene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/23/24 18:57	S524A23A	KDG
5. Benzo(a)pyrene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/23/24 18:57	S524A23A	KDG
6. Benzo(b)fluoranthene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/23/24 18:57	S524A23A	KDG
7. Benzo(ghi)perylene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/23/24 18:57	S524A23A	KDG
8. Benzo(k)fluoranthene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/23/24 18:57	S524A23A	KDG
9. Chrysene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/23/24 18:57	S524A23A	KDG
10. Dibenzo(a,h)anthracene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/23/24 18:57	S524A23A	KDG
11. Fluoranthene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/23/24 18:57	S524A23A	KDG
12. Fluorene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/23/24 18:57	S524A23A	KDG
13. Indeno(1,2,3-cd)pyrene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/23/24 18:57	S524A23A	KDG
14. 2-Methylnaphthalene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/23/24 18:57	S524A23A	KDG
15. Naphthalene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/23/24 18:57	S524A23A	KDG
16. Phenanthrene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/23/24 18:57	S524A23A	KDG
17. Pyrene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/23/24 18:57	S524A23A	KDG

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Analytical Laboratory Report
Laboratory Project Number: A19326
Laboratory Sample Number: A19326-007

Order: A19326
 Date: 01/29/24

Client Identification: Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description: DUP Soil	Chain of Custody: 219247
Client Project Name: 095284.00.003	Sample No:	Collect Date: 01/18/24
Client Project No: 095284.00.003	Sample Matrix: Soil/Solid	Collect Time: NA

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **A19326-007** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **DUP Soil**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	8		%	1	1.0	01/24/24	MC240124	01/25/24	MC240124	LJK

Trace Elements by ICP/MS Aliquot ID: **A19326-007** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **DUP Soil**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Cadmium	65		µg/kg	50	20	01/26/24	PT24A26B	01/26/24	T424A26A	JJS
2. Chromium	8100		µg/kg	500	20	01/26/24	PT24A26B	01/26/24	T424A26A	JJS
3. Lead	4900		µg/kg	1000	20	01/26/24	PT24A26B	01/26/24	T424A26A	JJS

Polychlorinated Biphenyls (PCBs) Aliquot ID: **A19326-007** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **DUP Soil**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 22:19	SO24A22A	BRC
2. Aroclor-1221	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 22:19	SO24A22A	BRC
3. Aroclor-1232	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 22:19	SO24A22A	BRC
4. Aroclor-1242	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 22:19	SO24A22A	BRC
5. Aroclor-1248	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 22:19	SO24A22A	BRC
6. Aroclor-1254	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 22:19	SO24A22A	BRC
7. Aroclor-1260	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 22:19	SO24A22A	BRC
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 22:19	SO24A22A	BRC
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	01/22/24	PS24A22C	01/22/24 22:19	SO24A22A	BRC

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **A19326-007A** Matrix: **Soil/Solid**
 Method: **EPA 5035A/EPA 8260D** Description: **DUP Soil**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	01/22/24	VP24A22A	01/22/24 15:25	VP24A22A	SNC
‡ 2. Acrylonitrile	U		µg/kg	110	1.0	01/22/24	VP24A22A	01/22/24 15:25	VP24A22A	SNC
3. Benzene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 15:25	VP24A22A	SNC
4. Bromobenzene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 15:25	VP24A22A	SNC
5. Bromochloromethane	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 15:25	VP24A22A	SNC
6. Bromodichloromethane	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 15:25	VP24A22A	SNC

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Analytical Laboratory Report
Laboratory Project Number: A19326
Laboratory Sample Number: A19326-007

Order: A19326
 Date: 01/29/24

Client Identification: Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description: DUP Soil	Chain of Custody: 219247
Client Project Name: 095284.00.003	Sample No:	Collect Date: 01/18/24
Client Project No: 095284.00.003	Sample Matrix: Soil/Solid	Collect Time: NA

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A19326-007A **Matrix: Soil/Solid**
Description: DUP Soil

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis			
						P. Date	P. Batch	A. Date	A. Batch	Init.	
7. Bromoform	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24	15:25	VP24A22A	SNC
8. Bromomethane	U		µg/kg	200	1.0	01/22/24	VP24A22A	01/22/24	15:25	VP24A22A	SNC
9. 2-Butanone	U		µg/kg	750	1.0	01/22/24	VP24A22A	01/22/24	15:25	VP24A22A	SNC
10. n-Butylbenzene	U		µg/kg	57	1.0	01/22/24	VP24A22A	01/22/24	15:25	VP24A22A	SNC
11. sec-Butylbenzene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24	15:25	VP24A22A	SNC
12. tert-Butylbenzene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24	15:25	VP24A22A	SNC
13. Carbon Disulfide	U		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24	15:25	VP24A22A	SNC
14. Carbon Tetrachloride	U		µg/kg	57	1.0	01/22/24	VP24A22A	01/22/24	15:25	VP24A22A	SNC
15. Chlorobenzene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24	15:25	VP24A22A	SNC
16. Chloroethane	U		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24	15:25	VP24A22A	SNC
17. Chloroform	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24	15:25	VP24A22A	SNC
18. Chloromethane	U	V-	µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24	15:25	VP24A22A	SNC
19. 2-Chlorotoluene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24	15:25	VP24A22A	SNC
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24	15:25	VP24A22A	SNC
21. Dibromochloromethane	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24	15:25	VP24A22A	SNC
22. Dibromomethane	U		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24	15:25	VP24A22A	SNC
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24	15:25	VP24A22A	SNC
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24	15:25	VP24A22A	SNC
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24	15:25	VP24A22A	SNC
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24	15:25	VP24A22A	SNC
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24	15:25	VP24A22A	SNC
28. 1,2-Dichloroethane	U		µg/kg	57	1.0	01/22/24	VP24A22A	01/22/24	15:25	VP24A22A	SNC
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24	15:25	VP24A22A	SNC
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24	15:25	VP24A22A	SNC
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24	15:25	VP24A22A	SNC
32. 1,2-Dichloropropane	U		µg/kg	57	1.0	01/22/24	VP24A22A	01/22/24	15:25	VP24A22A	SNC
33. cis-1,3-Dichloropropene	U		µg/kg	57	1.0	01/22/24	VP24A22A	01/22/24	15:25	VP24A22A	SNC
34. trans-1,3-Dichloropropene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24	15:25	VP24A22A	SNC
35. Ethylbenzene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24	15:25	VP24A22A	SNC
36. Ethylene Dibromide	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24	15:25	VP24A22A	SNC
37. 2-Hexanone	U		µg/kg	2500	1.0	01/22/24	VP24A22A	01/22/24	15:25	VP24A22A	SNC
38. Isopropylbenzene	U		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24	15:25	VP24A22A	SNC
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	01/22/24	VP24A22A	01/22/24	15:25	VP24A22A	SNC
40. Methylene Chloride	U		µg/kg	120	1.0	01/23/24	VJ24A23A	01/23/24	13:57	VJ24A23A	SNC
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	01/22/24	VP24A22A	01/22/24	15:25	VP24A22A	SNC
42. MTBE	U		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24	15:25	VP24A22A	SNC

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Analytical Laboratory Report
Laboratory Project Number: A19326
Laboratory Sample Number: A19326-007

Order: A19326
 Date: 01/29/24

Client Identification:	Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description:	DUP Soil	Chain of Custody:	219247
Client Project Name:	095284.00.003	Sample No.:		Collect Date:	01/18/24
Client Project No.:	095284.00.003	Sample Matrix:	Soil/Solid	Collect Time:	NA

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A19326-007A **Matrix: Soil/Solid**
Description: DUP Soil

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
43. Naphthalene	U		µg/kg	330	1.0	01/22/24	VP24A22A	01/22/24 15:25	VP24A22A	SNC
44. n-Propylbenzene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 15:25	VP24A22A	SNC
45. Styrene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 15:25	VP24A22A	SNC
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 15:25	VP24A22A	SNC
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	57	1.0	01/22/24	VP24A22A	01/22/24 15:25	VP24A22A	SNC
48. Tetrachloroethene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 15:25	VP24A22A	SNC
49. Toluene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 15:25	VP24A22A	SNC
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 15:25	VP24A22A	SNC
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 15:25	VP24A22A	SNC
52. 1,1,2-Trichloroethane	U		µg/kg	57	1.0	01/22/24	VP24A22A	01/22/24 15:25	VP24A22A	SNC
53. Trichloroethene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 15:25	VP24A22A	SNC
54. Trichlorofluoromethane	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 15:25	VP24A22A	SNC
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 15:25	VP24A22A	SNC
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 15:25	VP24A22A	SNC
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 15:25	VP24A22A	SNC
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 15:25	VP24A22A	SNC
59. Vinyl Chloride	U		µg/kg	40	1.0	01/22/24	VP24A22A	01/22/24 15:25	VP24A22A	SNC
60. m&p-Xylene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 15:25	VP24A22A	SNC
61. o-Xylene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 15:25	VP24A22A	SNC
‡ 62. Xylenes	U		µg/kg	150	1.0	01/22/24	VP24A22A	01/22/24 15:25	VP24A22A	SNC

Polynuclear Aromatic Hydrocarbons (PNAs)
Method: EPA 3546/EPA 8270E

Aliquot ID: A19326-007 **Matrix: Soil/Solid**
Description: DUP Soil

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/23/24 19:32	S524A23A	KDG
2. Acenaphthylene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/23/24 19:32	S524A23A	KDG
3. Anthracene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/23/24 19:32	S524A23A	KDG
4. Benzo(a)anthracene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/23/24 19:32	S524A23A	KDG
5. Benzo(a)pyrene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/23/24 19:32	S524A23A	KDG
6. Benzo(b)fluoranthene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/23/24 19:32	S524A23A	KDG
7. Benzo(ghi)perylene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/23/24 19:32	S524A23A	KDG
8. Benzo(k)fluoranthene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/23/24 19:32	S524A23A	KDG
9. Chrysene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/23/24 19:32	S524A23A	KDG
10. Dibenzo(a,h)anthracene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/23/24 19:32	S524A23A	KDG
11. Fluoranthene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/23/24 19:32	S524A23A	KDG

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Analytical Laboratory Report
Laboratory Project Number: A19326
Laboratory Sample Number: A19326-007

Order: A19326
 Date: 01/29/24

Client Identification: Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description: DUP Soil	Chain of Custody: 219247
Client Project Name: 095284.00.003	Sample No:	Collect Date: 01/18/24
Client Project No: 095284.00.003	Sample Matrix: Soil/Solid	Collect Time: NA

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable †: Parameter not included in NELAC Scope of Analysis.

Polynuclear Aromatic Hydrocarbons (PNAs)
Method: EPA 3546/EPA 8270E

Aliquot ID: A19326-007 **Matrix: Soil/Solid**
Description: DUP Soil

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis			
						P. Date	P. Batch	A. Date	A. Batch	Init.	
12. Fluorene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/23/24	19:32	S524A23A	KDG
13. Indeno(1,2,3-cd)pyrene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/23/24	19:32	S524A23A	KDG
14. 2-Methylnaphthalene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/23/24	19:32	S524A23A	KDG
15. Naphthalene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/23/24	19:32	S524A23A	KDG
16. Phenanthrene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/23/24	19:32	S524A23A	KDG
17. Pyrene (SIM)	U		µg/kg	330	1.0	01/22/24	PS24A22C	01/23/24	19:32	S524A23A	KDG

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Analytical Laboratory Report
Laboratory Project Number: A19326
Laboratory Sample Number: A19326-008

Order: A19326
 Date: 01/29/24

Client Identification: Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description: Methanol Blank	Chain of Custody: 219247
Client Project Name: 095284.00.003	Sample No:	Collect Date: 01/18/24
Client Project No: 095284.00.003	Sample Matrix: Blank: Methanol	Collect Time: NA

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A19326-008 **Matrix: Blank: Methanol**
Description: Methanol Blank

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
3. Benzene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
4. Bromobenzene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
5. Bromochloromethane	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
6. Bromodichloromethane	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
7. Bromoform	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
8. Bromomethane	U		µg/kg	200	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
9. 2-Butanone	U		µg/kg	750	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
10. n-Butylbenzene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
11. sec-Butylbenzene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
12. tert-Butylbenzene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
13. Carbon Disulfide	U		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
14. Carbon Tetrachloride	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
15. Chlorobenzene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
16. Chloroethane	U		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
17. Chloroform	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
18. Chloromethane	U	V-	µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
19. 2-Chlorotoluene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
21. Dibromochloromethane	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
22. Dibromomethane	U		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
32. 1,2-Dichloropropane	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
33. cis-1,3-Dichloropropene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
34. trans-1,3-Dichloropropene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
35. Ethylbenzene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
36. Ethylene Dibromide	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC

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Analytical Laboratory Report
Laboratory Project Number: A19326
Laboratory Sample Number: A19326-008

Order: A19326
 Date: 01/29/24

Client Identification: Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description: Methanol Blank	Chain of Custody: 219247
Client Project Name: 095284.00.003	Sample No:	Collect Date: 01/18/24
Client Project No: 095284.00.003	Sample Matrix: Blank: Methanol	Collect Time: NA

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A19326-008 **Matrix: Blank: Methanol**
Description: Methanol Blank

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
37. 2-Hexanone	U		µg/kg	2500	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
38. Isopropylbenzene	U		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
40. Methylene Chloride	U		µg/kg	100	1.0	01/23/24	VJ24A23A	01/23/24 10:44	VJ24A23A	SNC
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
42. MTBE	U		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
43. Naphthalene	U		µg/kg	330	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
44. n-Propylbenzene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
45. Styrene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
48. Tetrachloroethene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
49. Toluene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
53. Trichloroethene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
54. Trichlorofluoromethane	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
59. Vinyl Chloride	U		µg/kg	40	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
60. m&p-Xylene	U		µg/kg	100	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
61. o-Xylene	U		µg/kg	50	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC
‡ 62. Xylenes	U		µg/kg	150	1.0	01/22/24	VP24A22A	01/22/24 11:58	VP24A22A	SNC

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Analytical Laboratory Report
Laboratory Project Number: A19326

Order: A19326
Date: 01/29/24

Definitions/ Qualifiers:

- A:** Spike recovery or precision unusable due to dilution.
- B:** The analyte was detected in the associated method blank.
- E:** The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
- J:** The concentration is an estimated value.
- M:** Modified Method
- U:** The analyte was not detected at or above the reporting limit.
- X:** Matrix Interference has resulted in a raised reporting limit or distorted result.
- W:** Results reported on a wet-weight basis.
- *:** Value reported is outside QC limits

Exception Summary:

- *** : Duplicate analysis not within control limits.
- F+** : Recovery from the spiked aliquot exceeds the upper control limit (matrix spike or matrix spike duplicate).
- V-** : Recovery in the associated continuing calibration verification sample (CCV) exceeds the lower control limit. Results may be biased low.

Analysis Locations:

All analyses performed in Holt.



Accreditation Number(s):

T104704518-23-15 (TX)

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Matrix Spike Report
Laboratory Project Number: A19326

 Order ID: A19326
 Page: 1 of 6
 Date: 01/29/24

A19326-002: Original Sample (OS)/Matrix Spike (MS)/Matrix Spike Duplicate (MSD)

EPA 6020A

Run Time: A19326-002 (OS): 01/26/24 18:41 [T424A26A] A19326-003 (MS): 01/26/24 18:02 [T424A26A] A19326-004 (MSD): 01/26/24 18:04 [T424A26A]

Analyte	Original	MS	MS Result	MS Rec.	Rec. Limits	MS	MSD	MSD	MSD	MSD	RPD	RPD Limits	RPD
	Result	Spike Amount				Qualifier	Spike Amount	Result	Rec.	Qualifier			Qualifier
	µg/kg (dry wt)	µg/kg (dry wt)	µg/kg (dry wt)	%	%		µg/kg (dry wt)	µg/kg (dry wt)	%		%	%	
Cadmium	51.8	10000	10500	104	70 - 130		10000	10100	100		4	20	
Chromium	13100	20000	32400	96	70 - 130		20000	32400	96		0	20	
Lead	5190	20000	26300	106	70 - 130		20000	25600	102		3	20	

A19326-002: Original Sample (OS)/Matrix Spike (MS)/Matrix Spike Duplicate (MSD)

EPA 8082A

Run Time: A19326-002 (OS): 01/22/24 21:44 [SO24A22A] A19326-003 (MS): 01/22/24 21:09 [SO24A22A] A19326-004 (MSD): 01/22/24 21:20 [SO24A22A]

Analyte	Original	MS	MS Result	MS Rec.	Rec. Limits	MS	MSD	MSD	MSD	MSD	RPD	RPD Limits	RPD
	Result	Spike Amount				Qualifier	Spike Amount	Result	Rec.	Qualifier			Qualifier
	µg/kg (dry wt)	µg/kg (dry wt)	µg/kg (dry wt)	%	%		µg/kg (dry wt)	µg/kg (dry wt)	%		%	%	
Aroclor-1016	U	757	665	88	60 - 120		741	625	84		4	20	
Aroclor-1260	U	757	688	91	60 - 120		741	574	77		16	20	

A19326-002: Original Sample (OS)/Matrix Spike (MS)/Matrix Spike Duplicate (MSD)

EPA 8270E

Run Time: A19326-002 (OS): 01/22/24 19:00 [S524A22A] A19326-003 (MS): 01/22/24 19:34 [S524A22A] A19326-004 (MSD): 01/22/24 20:09 [S524A22A]

Analyte	Original	MS	MS Result	MS Rec.	Rec. Limits	MS	MSD	MSD	MSD	MSD	RPD	RPD Limits	RPD
	Result	Spike Amount				Qualifier	Spike Amount	Result	Rec.	Qualifier			Qualifier
	µg/kg (dry wt)	µg/kg (dry wt)	µg/kg (dry wt)	%	%		µg/kg (dry wt)	µg/kg (dry wt)	%		%	%	
Acenaphthene (SIM)	U	1510	1290	85	35 - 93		1480	931	63		30	30	
Acenaphthylene (SIM)	U	1510	1330	88	33 - 100		1480	1030	69		23	30	
Anthracene (SIM)	U	1510	1200	79	43 - 91		1480	999	67		16	30	
Benzo(a)anthracene (SIM)	U	1510	1300	86	47 - 102		1480	1240	84		3	30	
Benzo(a)pyrene (SIM)	U	1510	1500	99	45 - 117		1480	1440	97		2	30	
Benzo(b)fluoranthene (SIM)	U	1510	1450	96	48 - 121		1480	1380	93		3	30	
Benzo(ghi)perylene (SIM)	U	1510	1350	89	48 - 111		1480	1270	86		4	30	
Benzo(k)fluoranthene (SIM)	U	1510	1450	96	52 - 117		1480	1400	94		1	30	
Chrysene (SIM)	U	1510	1400	92	51 - 108		1480	1330	90		3	30	
Dibenzo(a,h)anthracene (SIM)	U	1510	1380	91	51 - 113		1480	1310	88		3	30	
Fluoranthene (SIM)	U	1510	1280	85	50 - 101		1480	1160	78		8	30	
Fluorene (SIM)	U	1510	1390	92	40 - 97		1480	1040	70		27	30	
Indeno(1,2,3-cd)pyrene (SIM)	U	1510	1360	90	54 - 122		1480	1280	86		4	30	
2-Methylnaphthalene (SIM)	U	1510	1170	77	30 - 95		1480	928	63		21	30	

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A19326-002: Original Sample (OS)/Matrix Spike (MS)/Matrix Spike Duplicate (MSD)
EPA 8270E

Run Time: A19326-002 (OS): 01/22/24 19:00 [S524A22A] A19326-003 (MS): 01/22/24 19:34 [S524A22A] A19326-004 (MSD): 01/22/24 20:09 [S524A22A]

Analyte	Original	MS	MS Result	MS Rec.	Rec. Limits	MS	MSD	MSD	MSD	MSD	RPD	RPD Limits	RPD
	Result	Spike Amount				Qualifier	Spike Amount	Result	Rec.	Qualifier			Qualifier
	µg/kg (dry wt)	µg/kg (dry wt)	µg/kg (dry wt)	%	%		µg/kg (dry wt)	µg/kg (dry wt)	%		%	%	
Naphthalene (SIM)	U	1510	1270	84	27 - 87		1480	885	60		34	30	*
Phenanthrene (SIM)	U	1510	1200	79	41 - 92		1480	978	66		18	30	
Pyrene (SIM)	U	1510	1440	95	46 - 109		1480	1310	88		7	30	

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A19326-002A: Original Sample (OS)/Matrix Spike (MS)/Matrix Spike Duplicate (MSD)
EPA 8260D

Run Time: A19326-002A (OS): 01/22/24 12:24 [VP24A22A] A19326-003A (MS): 01/22/24 12:50 [VP24A22A] A19326-004A (MSD): 01/22/24 13:16 [VP24A22A]

Analyte	Original	MS	MS Result	MS Rec.	Rec. Limits	MS	MSD	MSD	MSD	MSD	RPD	RPD Limits	RPD
	Result	Spike Amount	µg/kg (dry wt)	%	%	Qualifier	Spike Amount	Result	Rec.	Qualifier	%	%	Qualifier
	µg/kg (dry wt)	µg/kg (dry wt)	µg/kg (dry wt)	%	%		µg/kg (dry wt)	µg/kg (dry wt)	%		%	%	
Acetone	U	3130	3800	121	50 - 149		3010	3940	131		8	20	
Acrylonitrile	U	3130	2880	92	70 - 130		3010	2860	95		3	20	
Benzene	U	3130	2930	94	75 - 125		3010	2880	96		2	20	
Bromobenzene	U	3130	2990	95	70 - 120		3010	2940	98		2	20	
Bromochloromethane	U	3130	2770	88	70 - 125		3010	2710	90		2	20	
Bromodichloromethane	U	3130	3080	98	70 - 130		3010	3100	103		5	20	
Bromoform	U	3130	3300	105	70 - 130		3010	3300	110		4	20	
Bromomethane	U	3130	3200	102	66 - 134		3010	3340	111		8	20	
2-Butanone	U	3130	3580	114	67 - 131		3010	3500	116		2	20	
n-Butylbenzene	U	3130	3040	97	70 - 130		3010	2990	99		2	20	
sec-Butylbenzene	U	3130	3180	101	70 - 130		3010	3130	104		2	20	
tert-Butylbenzene	U	3130	3130	100	70 - 130		3010	3090	103		3	20	
Carbon Disulfide	U	3130	3380	108	70 - 130		3010	3430	114		5	20	
Carbon Tetrachloride	U	3130	2900	93	70 - 130		3010	3100	103		11	20	
Chlorobenzene	U	3130	3150	101	75 - 125		3010	3120	104		3	20	
Chloroethane	U	3130	3790	121	70 - 141		3010	3900	130		7	20	
Chloroform	U	3130	2800	89	80 - 120		3010	2770	92		3	20	
Chloromethane	U	3130	2580	82	63 - 130		3010	2610	87		5	20	
2-Chlorotoluene	U	3130	2950	94	70 - 130		3010	2920	97		3	20	
1,2-Dibromo-3-chloropropane (SIM)	U	3130	2840	91	70 - 130		3010	2900	96		6	20	
Dibromochloromethane	U	3130	3130	100	70 - 130		3010	3140	104		4	20	
Dibromomethane	U	3130	3340	107	70 - 130		3010	3280	109		2	20	
1,2-Dichlorobenzene	U	3130	3110	99	75 - 120		3010	3080	102		3	20	
1,3-Dichlorobenzene	U	3130	3240	103	70 - 125		3010	3200	106		3	20	
1,4-Dichlorobenzene	U	3130	3190	102	70 - 125		3010	3190	106		4	20	
Dichlorodifluoromethane	U	3130	3310	106	65 - 135		3010	3330	111		5	20	
1,1-Dichloroethane	U	3130	2790	89	75 - 125		3010	2750	91		3	20	
1,2-Dichloroethane	U	3130	2730	87	70 - 130		3010	2710	90		3	20	
1,1-Dichloroethene	U	3130	2840	91	75 - 120		3010	2820	94		3	20	
cis-1,2-Dichloroethene	U	3130	2750	88	70 - 125		3010	2720	90		3	20	
trans-1,2-Dichloroethene	U	3130	2780	89	70 - 130		3010	2760	92		3	20	

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A19326-002A: Original Sample (OS)/Matrix Spike (MS)/Matrix Spike Duplicate (MSD)

EPA 8260D

Run Time: A19326-002A (OS): 01/22/24 12:24 [VP24A22A] A19326-003A (MS): 01/22/24 12:50 [VP24A22A] A19326-004A (MSD): 01/22/24 13:16 [VP24A22A]

Analyte	Original	MS	MS Result	MS Rec.	Rec. Limits	MS	MSD	MSD	MSD	MSD	RPD	RPD Limits	RPD
	Result	Spike Amount	µg/kg (dry wt)	%	%	Qualifier	Spike Amount	Result	Rec.	Qualifier	%	%	Qualifier
	µg/kg (dry wt)	µg/kg (dry wt)	µg/kg (dry wt)	%	%		µg/kg (dry wt)	µg/kg (dry wt)	%		%	%	
1,2-Dichloropropane	U	3130	3010	96	80 - 120		3010	2950	98		2	20	
cis-1,3-Dichloropropene	U	3130	3150	101	70 - 125		3010	3100	103		2	20	
trans-1,3-Dichloropropene	U	3130	3100	99	70 - 125		3010	3080	102		3	20	
Ethylbenzene	U	3130	3120	100	80 - 120		3010	3070	102		2	20	
Ethylene Dibromide	U	3130	2980	95	70 - 125		3010	2920	97		2	20	
2-Hexanone	U	3130	3830	122	70 - 130		3010	3950	131	*	7	20	
Isopropylbenzene	U	3130	3230	103	75 - 130		3010	3180	106		2	20	
4-Methyl-2-pentanone	U	3130	3590	115	70 - 130		3010	3660	122		6	20	
2-Methylnaphthalene	U	3130	2620	84	61 - 136		3010	3080	102		20	20	
MTBE	U	3130	2860	91	70 - 130		3010	2800	93		2	20	
Naphthalene	U	3130	2800	89	70 - 125		3010	2930	97		9	20	
n-Propylbenzene	U	3130	3190	102	70 - 130		3010	3140	104		2	20	
Styrene	U	3130	3210	102	75 - 125		3010	3170	105		3	20	
1,1,1,2-Tetrachloroethane	U	3130	3250	104	75 - 125		3010	3200	106		2	20	
1,1,2,2-Tetrachloroethane	U	3130	3110	99	70 - 130		3010	3070	102		3	20	
Tetrachloroethene	U	3130	3420	109	70 - 130		3010	3340	111		2	20	
Toluene	U	3130	3080	98	80 - 120		3010	3040	101		3	20	
1,2,4-Trichlorobenzene	U	3130	3020	96	70 - 130		3010	3110	103		7	20	
1,1,1-Trichloroethane	U	3130	2910	93	70 - 130		3010	2920	97		4	20	
1,1,2-Trichloroethane	U	3130	3150	101	70 - 125		3010	3070	102		1	20	
Trichloroethene	U	3130	2950	94	75 - 125		3010	2940	98		4	20	
Trichlorofluoromethane	U	3130	4080	130	50 - 150		3010	4030	134		3	20	
1,2,3-Trichloropropane	U	3130	3330	106	70 - 130		3010	3350	111		5	20	
1,2,3-Trimethylbenzene	U	3130	2970	95	70 - 130		3010	2940	98		3	20	
1,2,4-Trimethylbenzene	U	3130	3200	102	70 - 130		3010	3150	105		2	20	
1,3,5-Trimethylbenzene	U	3130	3260	104	70 - 130		3010	3180	106		1	20	
Vinyl Chloride	U	3130	3160	101	69 - 120		3010	3180	106		5	20	
m&p-Xylene	U	6270	6200	99	80 - 125		6020	6110	101		3	20	
o-Xylene	U	3130	2980	95	75 - 125		3010	2960	98		3	20	

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A19326-002A: Original Sample (OS)/Matrix Spike (MS)/Matrix Spike Duplicate (MSD)
EPA 8260D

Run Time: A19326-002A (OS): 01/23/24 11:09 [VJ24A23A] A19326-003A (MS): 01/23/24 11:33 [VJ24A23A] A19326-004A (MSD): 01/23/24 11:57 [VJ24A23A]

Analyte	Original	MS	MS Result	MS Rec.	Rec. Limits	MS	MSD	MSD	MSD	MSD	RPD	RPD Limits	RPD
	Result	Spike Amount				Qualifier	Spike Amount	Result	Rec.	Qualifier			Qualifier
	µg/kg (dry wt)	µg/kg (dry wt)	µg/kg (dry wt)	%	%		µg/kg (dry wt)	µg/kg (dry wt)	%		%	%	
Methylene Chloride	U	3130	2480	79	70 - 130		3010	2330	77		2	20	

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A METIRI GROUP COMPANY

Definitions/ Qualifiers:

- U:** The analyte was not detected at or above the Reporting Limit (RL).
- *:** Value reported is outside QC limits

Exception Summary:

Exceptions have been properly noted on reported results or affected samples have been scheduled for reanalysis when appropriate.

Report Generated By:

By Sue Ricketts at 10:49 AM, Jan 29, 2024

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PS24A22C: Method Blank (MB)

EPA 8082A

Run Time: PS24A22C.MB 01/22/2024 20:22 [SO24A22A]

Analyte	MB Result	MB Qualifier	MB RDL
	µg/kg		µg/kg
Aroclor-1016	U		100
Aroclor-1260	U		100
Decachlorobiphenyl-PCB(S)	74		40-143
2,4,5,6-Tetrachloro-m-xylene-PCB(S)	64		42-133

PS24A22C: Method Blank (MB)

EPA 8270E

Run Time: PS24A22C.MB 01/22/2024 17:18 [S524A22A]

Analyte	MB Result	MB Qualifier	MB RDL
	µg/kg		µg/kg
Acenaphthene (SIM)	U		330
Acenaphthylene (SIM)	U		330
Anthracene (SIM)	U		330
Benzo(a)anthracene (SIM)	U		330
Benzo(a)pyrene (SIM)	U		330
Benzo(b)fluoranthene (SIM)	U		330
Benzo(ghi)perylene (SIM)	U		330
Benzo(k)fluoranthene (SIM)	U		330
Chrysene (SIM)	U		330
Dibenzo(a,h)anthracene (SIM)	U		330
Fluoranthene (SIM)	U		330
Fluorene (SIM)	U		330
Indeno(1,2,3-cd)pyrene (SIM)	U		330
2-Methylnaphthalene (SIM)	U		330
Naphthalene (SIM)	U		330
Phenanthrene (SIM)	U		330
Pyrene (SIM)	U		330
2-Fluorobiphenyl(S)	70		49-115
1-Fluoronaphthalene(S)	57		46-114
4-Terphenyl-d14(S)	104		48-117

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PS24A22C: Laboratory Control Sample (LCS)

EPA 8082A

Run Time: PS24A22C.LCS: 01/22/2024 20:34 [SO24A22A]

Analyte	LCS Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	µg/kg	µg/kg	%	%	
Aroclor-1016	667	528	79	60-120	
Aroclor-1260	667	526	79	60-120	
<i>Decachlorobiphenyl-PCB(S)</i>			62	40-143	
<i>2,4,5,6-Tetrachloro-m-xylene-PCB(S)</i>			66	42-133	

PS24A22C: Laboratory Control Sample (LCS)

EPA 8270E

Run Time: PS24A22C.LCS: 01/22/2024 17:52 [S524A22A]

Analyte	LCS Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	µg/kg	µg/kg	%	%	
Acenaphthene (SIM)	1330	903	68	35-93	
Acenaphthylene (SIM)	1330	977	73	33-100	
Anthracene (SIM)	1330	854	64	43-91	
Benzo(a)anthracene (SIM)	1330	1130	85	47-102	
Benzo(a)pyrene (SIM)	1330	1310	98	45-117	
Benzo(b)fluoranthene (SIM)	1330	1250	94	48-121	
Benzo(ghi)perylene (SIM)	1330	1160	87	48-111	
Benzo(k)fluoranthene (SIM)	1330	1270	95	52-117	
Chrysene (SIM)	1330	1220	91	51-108	
Dibenzo(a,h)anthracene (SIM)	1330	1200	90	51-113	
Fluoranthene (SIM)	1330	1020	76	50-101	
Fluorene (SIM)	1330	954	72	40-97	
Indeno(1,2,3-cd)pyrene (SIM)	1330	1160	87	54-122	
2-Methylnaphthalene (SIM)	1330	841	63	30-95	
Naphthalene (SIM)	1330	868	65	27-87	
Phenanthrene (SIM)	1330	842	63	41-92	
Pyrene (SIM)	1330	1180	88	46-109	
<i>2-Fluorobiphenyl(S)</i>			70	49-115	
<i>1-Fluoronaphthalene(S)</i>			49	46-114	
<i>4-Terphenyl-d14(S)</i>			98	48-117	

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PT24A26B: Method Blank (MB)

EPA 6020A

Run Time: PT24A26B.MB 01/26/2024 17:59 [T424A26A]

Analyte	MB Result	MB Qualifier	MB RDL
	µg/kg		µg/kg
Cadmium	U		50
Chromium	U		500
Lead	U		1000

PT24A26B: Laboratory Control Sample (LCS)

EPA 6020A

Run Time: PT24A26B.LCS: 01/26/2024 18:01 [T424A26A]

Analyte	LCS Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	µg/kg	µg/kg	%	%	
Cadmium	10000	9860	99	85-115	
Chromium	20000	21300	107	85-115	
Lead	20000	22400	112	85-115	

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VJ24A23A: Method Blank (MB)

EPA 8260D

Run Time: VJ24A23A.MB 01/23/2024 10:20 [VJ24A23A]

Analyte	MB Result	MB Qualifier	MB RDL
	µg/kg		µg/kg
Methylene Chloride	U		100
4-Bromofluorobenzene(S)	102		76-127
Dibromofluoromethane(S)	98		76-126
1,2-Dichloroethane-d4(S)	100		75-120
Toluene-d8(S)	100		80-120

VJ24A23A: Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD)

EPA 8260D

Run Time: VJ24A23A.LCS: 01/23/2024 09:08 [VJ24A23A] VJ24A23A.LCSD: 01/23/2024 09:32 [VJ24A23A]

Analyte	LCS Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier	LCSD Spike Amount	LCSD Result	LCSD Rec.	LCSD Qualifier	RPD	RPD Limits	RPD Qualifier
	µg/kg	µg/kg	%	%		µg/kg	µg/kg	%		%	%	
Methylene Chloride	2500	1890	76	70-130		2500	1930	77		1	20	
4-Bromofluorobenzene(S)			101	76-127				100				
Dibromofluoromethane(S)			93	76-126				93				
1,2-Dichloroethane-d4(S)			93	75-120				94				
Toluene-d8(S)			98	80-120				98				

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VP24A22A: Method Blank (MB)
EPA 8260D

Run Time: VP24A22A.MB 01/22/2024 11:32 [VP24A22A]

Analyte	MB Result	MB Qualifier	MB RDL
	µg/kg		µg/kg
Acetone	U		1000
Acrylonitrile	U		100
Benzene	U		50
Bromobenzene	U		100
Bromochloromethane	U		100
Bromodichloromethane	U		100
Bromoform	U		100
Bromomethane	U		200
2-Butanone	U		750
n-Butylbenzene	U		50
sec-Butylbenzene	U		50
tert-Butylbenzene	U		50
Carbon Disulfide	U		250
Carbon Tetrachloride	U		50
Chlorobenzene	U		50
Chloroethane	U		250
Chloroform	U		50
Chloromethane	U		250
2-Chlorotoluene	U		50
1,2-Dibromo-3-chloropropane (SIM)	U		250
Dibromochloromethane	U		100
Dibromomethane	U		250
1,2-Dichlorobenzene	U		100
1,3-Dichlorobenzene	U		100
1,4-Dichlorobenzene	U		100
Dichlorodifluoromethane	U		250
1,1-Dichloroethane	U		50
1,2-Dichloroethane	U		50
1,1-Dichloroethene	U		50
cis-1,2-Dichloroethene	U		50
trans-1,2-Dichloroethene	U		50

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Quality Control Report
Laboratory Project Number: A19326

 Order ID: A19326
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 Date: 01/29/24

VP24A22A: Method Blank (MB)
EPA 8260D

Run Time: VP24A22A.MB 01/22/2024 11:32 [VP24A22A]

Analyte	MB Result	MB Qualifier	MB RDL
	µg/kg		µg/kg
1,2-Dichloropropane	U		50
cis-1,3-Dichloropropene	U		50
trans-1,3-Dichloropropene	U		50
Ethylbenzene	U		50
Ethylene Dibromide	U		50
2-Hexanone	U		2500
Isopropylbenzene	U		250
4-Methyl-2-pentanone	U		2500
2-Methylnaphthalene	U		330
MTBE	U		250
Naphthalene	U		330
n-Propylbenzene	U		100
Styrene	U		50
1,1,1,2-Tetrachloroethane	U		100
1,1,2,2-Tetrachloroethane	U		50
Tetrachloroethene	U		50
Toluene	U		50
1,2,4-Trichlorobenzene	U		250
1,1,1-Trichloroethane	U		50
1,1,2-Trichloroethane	U		50
Trichloroethene	U		50
Trichlorofluoromethane	U		100
1,2,3-Trichloropropane	U		100
1,2,3-Trimethylbenzene	U		100
1,2,4-Trimethylbenzene	U		100
1,3,5-Trimethylbenzene	U		100
Vinyl Chloride	U		40
m&p-Xylene	U		100
o-Xylene	U		50
4-Bromofluorobenzene(S)	94		76-127
Dibromofluoromethane(S)	87		76-126

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Quality Control Report
Laboratory Project Number: A19326

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Page: 7 of 11
Date: 01/29/24

VP24A22A: Method Blank (MB)

EPA 8260D

Run Time: VP24A22A.MB 01/22/2024 11:32 [VP24A22A]

Analyte	MB Result	MB Qualifier	MB RDL
1,2-Dichloroethane-d4(S)	94		75-120
Toluene-d8(S)	99		80-120

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Quality Control Report
Laboratory Project Number: A19326

 Order ID: A19326
 Page: 8 of 11
 Date: 01/29/24

VP24A22A: Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD)
EPA 8260D

Run Time: VP24A22A.LCS: 01/22/2024 10:14 [VP24A22A] VP24A22A.LCSD: 01/22/2024 10:40 [VP24A22A]

Analyte	LCS	LCS Result	LCS Rec.	Rec. Limits	LCS	LCSD	LCSD	LCSD	LCSD	RPD	RPD Limits	RPD
	Spike Amount				Qualifier	Spike Amount	Result	Rec.	Qualifier	%	%	Qualifier
	µg/kg	µg/kg	%	%		µg/kg	µg/kg	%		%		
Acetone	2500	2400	96	50-149		2500	2270	91		5	20	
Acrylonitrile	2500	2260	90	70-130		2500	2250	90		0	20	
Benzene	2500	2310	93	75-125		2500	2280	91		2	20	
Bromobenzene	2500	2310	92	70-120		2500	2310	92		0	20	
Bromochloromethane	2500	2120	85	70-125		2500	2120	85		0	20	
Bromodichloromethane	2500	2410	96	70-130		2500	2420	97		1	20	
Bromoform	2500	2810	112	70-130		2500	2800	112		0	20	
Bromomethane	2500	2520	101	66-134		2500	2660	106		5	20	
2-Butanone	2500	2240	90	67-131		2500	2130	85		6	20	
n-Butylbenzene	2500	2320	93	70-130		2500	2270	91		2	20	
sec-Butylbenzene	2500	2430	97	70-130		2500	2370	95		2	20	
tert-Butylbenzene	2500	2430	97	70-130		2500	2370	95		2	20	
Carbon Disulfide	2500	2500	100	70-130		2500	2510	100		0	20	
Carbon Tetrachloride	2500	2440	98	70-130		2500	2430	97		1	20	
Chlorobenzene	2500	2530	101	75-125		2500	2490	100		1	20	
Chloroethane	2500	2840	114	70-141		2500	2820	113		1	20	
Chloroform	2500	2150	86	80-120		2500	2140	86		0	20	
Chloromethane	2500	1960	78	63-130		2500	1960	78		0	20	
2-Chlorotoluene	2500	2310	92	70-130		2500	2260	91		1	20	
1,2-Dibromo-3-chloropropane (SIM)	2500	2520	101	70-130		2500	2450	98		3	20	
Dibromochloromethane	2500	2530	101	70-130		2500	2560	102		1	20	
Dibromomethane	2500	2770	111	70-130		2500	2750	110		1	20	
1,2-Dichlorobenzene	2500	2570	103	75-120		2500	2540	101		2	20	
1,3-Dichlorobenzene	2500	2610	105	70-125		2500	2570	103		2	20	
1,4-Dichlorobenzene	2500	2610	104	70-125		2500	2580	103		1	20	
Dichlorodifluoromethane	2500	2390	96	65-135		2500	2390	96		0	20	
1,1-Dichloroethane	2500	2100	84	75-125		2500	2100	84		0	20	
1,2-Dichloroethane	2500	2160	86	70-130		2500	2150	86		0	20	
1,1-Dichloroethene	2500	1940	78	58-104		2500	2000	80		3	20	
cis-1,2-Dichloroethene	2500	2090	83	70-125		2500	2090	84		1	20	
trans-1,2-Dichloroethene	2500	2100	84	70-130		2500	2080	83		1	20	

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Quality Control Report
Laboratory Project Number: A19326

 Order ID: A19326
 Page: 9 of 11
 Date: 01/29/24

VP24A22A: Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD)

EPA 8260D

Run Time: VP24A22A.LCS: 01/22/2024 10:14 [VP24A22A] VP24A22A.LCSD: 01/22/2024 10:40 [VP24A22A]

Analyte	LCS	LCS Result	LCS Rec.	Rec. Limits	LCS	LCSD	LCSD	LCSD	LCSD	RPD	RPD Limits	RPD
	Spike Amount				Qualifier	Spike Amount	Result	Rec.	Qualifier	%	%	Qualifier
	µg/kg	µg/kg	%	%		µg/kg	µg/kg	%		%		
1,2-Dichloropropane	2500	2360	94	80-120		2500	2350	94		0	20	
cis-1,3-Dichloropropene	2500	2420	97	70-125		2500	2450	98		1	20	
trans-1,3-Dichloropropene	2500	2420	97	70-125		2500	2440	97		0	20	
Ethylbenzene	2500	2440	98	80-120		2500	2410	96		2	20	
Ethylene Dibromide	2500	2430	97	70-125		2500	2440	98		1	20	
2-Hexanone	2500	2280	91	70-130		2500	2160	86		6	20	
Isopropylbenzene	2500	2540	102	75-130		2500	2490	100		2	20	
4-Methyl-2-pentanone	2500	2870	115	70-130		2500	2800	112		3	20	
2-Methylnaphthalene	2500	2670	107	61-136		2500	2680	107		0	20	
MTBE	2500	2280	91	70-130		2500	2300	92		1	20	
Naphthalene	2500	2530	101	70-125		2500	2520	101		0	20	
n-Propylbenzene	2500	2430	97	70-130		2500	2390	96		1	20	
Styrene	2500	2570	103	75-125		2500	2550	102		1	20	
1,1,1,2-Tetrachloroethane	2500	2550	102	75-125		2500	2590	103		1	20	
1,1,2,2-Tetrachloroethane	2500	2640	105	70-130		2500	2640	106		1	20	
Tetrachloroethene	2500	2650	106	70-130		2500	2570	103		3	20	
Toluene	2500	2410	96	80-120		2500	2380	95		1	20	
1,2,4-Trichlorobenzene	2500	2570	103	70-130		2500	2570	103		0	20	
1,1,1-Trichloroethane	2500	2180	87	70-130		2500	2150	86		1	20	
1,1,2-Trichloroethane	2500	2540	102	70-125		2500	2560	102		0	20	
Trichloroethene	2500	2300	92	75-125		2500	2260	91		1	20	
Trichlorofluoromethane	2500	3030	121	50-150		2500	2920	117		3	20	
1,2,3-Trichloropropane	2500	2660	107	70-130		2500	2610	104		3	20	
1,2,3-Trimethylbenzene	2500	2360	94	70-130		2500	2320	93		1	20	
1,2,4-Trimethylbenzene	2500	2490	100	70-130		2500	2460	98		2	20	
1,3,5-Trimethylbenzene	2500	2500	100	70-130		2500	2440	98		2	20	
Vinyl Chloride	2500	2300	92	69-120		2500	2280	91		1	20	
m&p-Xylene	5000	4910	98	80-125		5000	4820	96		2	20	
o-Xylene	2500	2370	95	75-125		2500	2350	94		1	20	
4-Bromofluorobenzene(S)			95	76-127				96				
Dibromofluoromethane(S)			91	76-126				92				

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Quality Control Report
Laboratory Project Number: A19326

 Order ID: A19326
 Page: 10 of 11
 Date: 01/29/24

VP24A22A: Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD)
EPA 8260D

Run Time: VP24A22A.LCS: 01/22/2024 10:14 [VP24A22A] VP24A22A.LCSD: 01/22/2024 10:40 [VP24A22A]

Analyte	LCS Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier	LCSD Spike Amount	LCSD Result	LCSD Rec.	LCSD Qualifier	RPD	RPD Limits	RPD Qualifier
	µg/kg	µg/kg	%	%		µg/kg	µg/kg	%		%	%	
1,2-Dichloroethane-d4(S)			86	75-120				88				
Toluene-d8(S)			98	80-120				99				

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Quality Control Report
Laboratory Project Number: A19326

Order ID: A19326
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Definitions/Qualifiers:

- U:** The analyte was not detected at or above the Reporting Limit (RL).
- *:** Value reported is outside QC limits

Exception Summary:

Exceptions have been properly noted on reported results or affected samples have been scheduled for reanalysis when appropriate.

Report Generated By:

By Sue Ricketts at 10:36 AM, Jan 29, 2024

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Analytical Laboratory
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 email: lab@fibertec.us

Geoprobe
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Chain of Custody # **219247**
 PAGE 1 of 1

Client Name: SME			MATRIX (SEE RIGHT CORNER FOR CODE)	# OF CONTAINERS	PARAMETERS										Matrix Code			Deliverables	
Contact Person: Casey Smith					HOLD SAMPLE	S	Soil	GW	Ground Water	<input checked="" type="checkbox"/>		Level 2							
Project Name/ Number: 095284.00.003						A	Air	SW	Surface Water	<input type="checkbox"/>		Level 3							
Email distribution list: Casey Smith Jacob Lindsay						O	Oil	WW	Waste Water	<input type="checkbox"/>		Level 4							
Quote#						P	Wipe	X	Other: Specify	<input type="checkbox"/>		EDD							
Purchase Order#			Remarks:																
Date	Time	Sample #	Client Sample Descriptor																
1/18/24	1330		SB101 (1-2)	S	3	X	X	X	X										
	1405		SB101 (4-5)	S	3	X	X	X	X										
	1405		MS (SB101 (4-5))	S	3	X	X	X	X										
	1405		MSD (SB101 (4-5))	S	3	X	X	X	X										
	1430		SB102 (1-2)	S	2	X	X	X											
	1455		SB102 (3.5-4.5)	S	2	X	X	X											
			DUP Soil	S	3	X	X	X											
			Methanol Blank	S	1	X													
Comments: **Metals - Chromium, cadmium, and lead**																			
Sampled/Relinquished By: Jacob Lindsay				Date/Time: 1/18/24 16:15				Received By: SME Cold Storage											
Relinquished By: SME Cold Storage				Date/Time: 1/19/24 11:30				Received By: J. Bronck											
Relinquished By: J. Bronck				Date/Time: 1/19/24 15:00				Received By Laboratory: Jacob Lindsay											
Turnaround Time ALL RESULTS WILL BE SENT BY THE END OF THE BUSINESS DAY <input type="checkbox"/> 1 bus. day <input type="checkbox"/> 2 bus. days <input type="checkbox"/> 3 bus. days <input type="checkbox"/> 4 bus. days <input checked="" type="checkbox"/> 5-7 bus. days (standard) Other (specify time/date requirement): _____												LAB USE ONLY Fibertec project number: A19326 Temperature upon receipt at Lab: 1.8°C							
Please see back for terms and conditions																			



Case Narrative

Client: Soil and Materials Engineers, Inc.
Project Name: 095284.00.003

One soil and seven water samples, including blanks, were collected on January 30, 2024 and received by Fibertec, Inc. on January 31, 2024. The shipping cooler temperature was within specifications (0 – 6 °C), and the sample containers arrived without any visible signs of tampering or breakage. Containers were checked for correct pH, where appropriate and preserved as needed. The samples were prepared and analyzed within the required hold times.

This report has been amended to only include metals Cadmium, Chromium, and Lead per client request. This replaces the report sent on February 8, 2024.

Please note that sample -008 for metals analysis, arrived at the lab with a pH of 4. This is outside the specified criteria of (≤ 2). The pH was adjusted at the lab.

Exceptions are noted below.

Cross Reference

Lab ID #	Client ID #	Matrix	Requested Tests
A19453-001	Equipment Blank	Water	Cadmium, Chromium, Lead, VOCs, PNAs
A19453-002	Trip Blank	Water	VOCs
A19453-003	SB101(6.5-7.5)	Soil	%Moisture, Cadmium, Chromium, Lead, PCBs, VOCs, PNAs
A19453-004	SB101-GW(5-10)	Water	Cadmium, Chromium, Lead, VOCs, PNAs
A19453-005	Dup GW	Water	Cadmium, Chromium, Lead, VOCs, PNAs
A19453-006	SB101-GW(5-10)MS	Water	Cadmium, Chromium, Lead, VOCs, PNAs
A19453-007	SB101-GW(5-10)MSD	Water	Cadmium, Chromium, Lead, VOCs, PNAs
A19453-008	SB102-GW(4-9)	Water	Cadmium, Chromium, Lead, VOCs, PNAs

Exceptions

Volatile Organic Compounds Method: EPA 5030C/8260D

Multiple compounds on various samples were qualified as estimated due to high Continuing Calibration Verification (CCV), Laboratory Control Sample (LCS) and/or Laboratory Control Sample Duplicate (LCSD). Results may be biased high, but were non-detect.

Sample -004 was qualified for the listed compounds as the spiked sample recovery was high for the Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD). The Laboratory Control Sample (LCS) was acceptable. Results may be biased high, but were non-detect.

Chloroethane: MS 134% recovery with criteria being 61-130%, LCS 123% recovery

Vinyl Chloride: MS 137% recovery / MSD 133% recovery, with criteria being 74-125%, LCS 124% recovery

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Case Narrative

Polynuclear Aromatic Hydrocarbons Method: EPA 3535A/EPA 8270E

Samples -001 and -004 through -008 were qualified as estimated for Benzo(ghi)perylene, Dibenzo(a,h)anthracene, and Indeno(1,2,3-cd)pyrene due to high Continuing Calibration Verification. Results may be biased high, but were non-detect, except for the MS/MSD.

Michigan 10 Elements Method: EPA 0200.2/EPA 6020A

Zinc was detected in the method blank associated with samples -003 but was below the reporting limit. Results may be biased high.

Polychlorinated Biphenyls Method: EPA 3546/EPA 8082A

Sample -003 was qualified as estimated for Aroclor-1016 due to high Continuing Calibration Verification. Results may be biased high, but were non-detect.

Volatile Organic Compounds Method: EPA 5035A/EPA 8260D

The Laboratory Control Sample and Laboratory Control Sample Duplicate (LCS/LCSD) pair exhibited an RPD for the listed compounds associated with sample -003. This indicates increased variability with the results.

Acetone (27%) exceeding criteria (RPD \leq 20%)

2-Butanone (24%) exceeding criteria (RPD \leq 20%)

2-Hexanone (33%) exceeding criteria (RPD \leq 20%)

Multiple compounds on sample -003 were qualified as estimated due to high Continuing Calibration Verification (CCV), Laboratory Control Sample (LCS) and/or Laboratory Control Sample Duplicate (LCSD). Results may be biased high, but were non-detect.

No further exceptions were observed.



Tuesday, February 13, 2024

Fibertec Project Number: A19453 Amended
Project Identification: 095284.00.003 /095284.00.003
Submittal Date: 01/31/2024

Mr. Casey Smith
Soil and Materials Engineers, Inc. - Grand Rapids
882 40th Street SE
Grand Rapids, MI 49508

Dear Mr. Smith,

Thank you for selecting Fibertec Environmental Services as your analytical laboratory. The samples you submitted have been analyzed in accordance with NELAC standards and the results compiled in the attached report. Any exceptions to NELAC compliance are noted in the report. These results apply only to those samples submitted. Please note TO-15 samples will be disposed of 7 calendar days after the reporting date. All other samples will be disposed of 30 days after the reporting date.

This report has been amended to only include metals Cadmium, Chromium, and Lead per client request. This replaces the report sent on 2/8/24.

Please note that sample -008 for metals analysis, arrived at the lab with a pH of 4. This is outside the specified criteria of (\leq 2). The pH was adjusted at the lab.

If you have any questions regarding these results or if we may be of further assistance to you, please contact me at (517) 699-0345.

Sincerely,

By Sue Ricketts at 1:07 PM, Feb 13, 2024

For Heather L. Smith
Director of Laboratory Operations

Enclosures

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Analytical Laboratory Report
Laboratory Project Number: A19453
Laboratory Sample Number: A19453-001

Order: A19453
 Date: 02/13/24

Client Identification: Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description: Equipment Blank	Chain of Custody: 215609
Client Project Name: 095284.00.003	Sample No:	Collect Date: 01/30/24
Client Project No: 095284.00.003	Sample Matrix: Blank: Equipment	Collect Time: 13:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Michigan 10 Elements by ICP/MS, Total Recoverable
Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: A19453-001A **Matrix: Blank: Equipment**
Description: Equipment Blank

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Cadmium	U		µg/L	1.0	10	02/05/24	PT24B05A	02/05/24	T424B05B	JJS
2. Chromium	U		µg/L	10	10	02/05/24	PT24B05A	02/05/24	T424B05B	JJS
3. Lead	U		µg/L	3.0	10	02/05/24	PT24B05A	02/05/24	T424B05B	JJS

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260D

Aliquot ID: A19453-001B **Matrix: Blank: Equipment**
Description: Equipment Blank

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	50	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
‡ 2. Acrylonitrile	U		µg/L	2.3	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
3. Benzene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
4. Bromobenzene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
5. Bromochloromethane	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
6. Bromodichloromethane	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
‡ 7. Bromoform (SIM)	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
8. Bromomethane	U		µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
9. 2-Butanone	U		µg/L	25	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
10. n-Butylbenzene	U	V+	µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
11. sec-Butylbenzene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
12. tert-Butylbenzene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
13. Carbon Disulfide	U	V+	µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
15. Chlorobenzene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
16. Chloroethane	U		µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
17. Chloroform	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
18. Chloromethane	U	V+	µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
21. Dibromochloromethane	U		µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
22. Dibromomethane	U		µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
26. Dichlorodifluoromethane	U	V+	µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD

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Analytical Laboratory Report
Laboratory Project Number: A19453
Laboratory Sample Number: A19453-001

Order: A19453
 Date: 02/13/24

Client Identification: Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description: Equipment Blank	Chain of Custody: 215609
Client Project Name: 095284.00.003	Sample No:	Collect Date: 01/30/24
Client Project No: 095284.00.003	Sample Matrix: Blank: Equipment	Collect Time: 13:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260D

Aliquot ID: A19453-001B **Matrix: Blank: Equipment**
Description: Equipment Blank

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
34. trans-1,3-Dichloropropene	U		µg/L	0.75	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
35. Ethylbenzene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
36. Ethylene Dibromide	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
37. 2-Hexanone	U		µg/L	50	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
38. Isopropylbenzene	U		µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
40. Methylene Chloride	U		µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
‡ 41. 2-Methylnaphthalene	U		µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
42. MTBE	U		µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
43. Naphthalene	U		µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
44. n-Propylbenzene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
45. Styrene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
47. 1,1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
48. Tetrachloroethene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
49. Toluene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
‡ 52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
53. Trichloroethene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
55. 1,2,3-Trichloropropane	U		µg/L	1.4	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
57. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
58. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
59. Vinyl Chloride	U	V+ L+	µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
60. m&p-Xylene	U		µg/L	2.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
61. o-Xylene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD
‡ 62. Xylenes	U		µg/L	3.0	1.0	02/02/24	VI24B02B	02/02/24 13:24	VI24B02B	KYD

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Analytical Laboratory Report
Laboratory Project Number: A19453
Laboratory Sample Number: A19453-001

Order: A19453
 Date: 02/13/24

Client Identification: Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description: Equipment Blank	Chain of Custody: 215609
Client Project Name: 095284.00.003	Sample No:	Collect Date: 01/30/24
Client Project No: 095284.00.003	Sample Matrix: Blank: Equipment	Collect Time: 13:15

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable †: Parameter not included in NELAC Scope of Analysis.

Polynuclear Aromatic Hydrocarbons (PNAs)
Method: EPA 3535A/EPA 8270E

Aliquot ID: A19453-001 **Matrix: Blank: Equipment**
Description: Equipment Blank

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/L	5.0	1.0	02/05/24	PS24B05C	02/05/24 17:31	SS24B05B	CRC
2. Acenaphthylene	U		µg/L	5.0	1.0	02/05/24	PS24B05C	02/05/24 17:31	SS24B05B	CRC
3. Anthracene	U		µg/L	5.0	1.0	02/05/24	PS24B05C	02/05/24 17:31	SS24B05B	CRC
4. Benzo(a)anthracene	U		µg/L	1.0	1.0	02/05/24	PS24B05C	02/05/24 17:31	SS24B05B	CRC
5. Benzo(a)pyrene	U		µg/L	1.0	1.0	02/05/24	PS24B05C	02/05/24 17:31	SS24B05B	CRC
6. Benzo(b)fluoranthene	U		µg/L	1.0	1.0	02/05/24	PS24B05C	02/05/24 17:31	SS24B05B	CRC
7. Benzo(ghi)perylene	U	V+	µg/L	1.0	1.0	02/05/24	PS24B05C	02/05/24 17:31	SS24B05B	CRC
8. Benzo(k)fluoranthene	U		µg/L	1.0	1.0	02/05/24	PS24B05C	02/05/24 17:31	SS24B05B	CRC
9. Chrysene	U		µg/L	1.0	1.0	02/05/24	PS24B05C	02/05/24 17:31	SS24B05B	CRC
10. Dibenzo(a,h)anthracene	U	V+	µg/L	2.0	1.0	02/05/24	PS24B05C	02/05/24 17:31	SS24B05B	CRC
11. Fluoranthene	U		µg/L	1.0	1.0	02/05/24	PS24B05C	02/05/24 17:31	SS24B05B	CRC
12. Fluorene	U		µg/L	5.0	1.0	02/05/24	PS24B05C	02/05/24 17:31	SS24B05B	CRC
13. Indeno(1,2,3-cd)pyrene	U	V+	µg/L	2.0	1.0	02/05/24	PS24B05C	02/05/24 17:31	SS24B05B	CRC
14. 2-Methylnaphthalene	U		µg/L	5.0	1.0	02/05/24	PS24B05C	02/05/24 17:31	SS24B05B	CRC
15. Naphthalene	U		µg/L	5.0	1.0	02/05/24	PS24B05C	02/05/24 17:31	SS24B05B	CRC
16. Phenanthrene	U		µg/L	2.0	1.0	02/05/24	PS24B05C	02/05/24 17:31	SS24B05B	CRC
17. Pyrene	U		µg/L	5.0	1.0	02/05/24	PS24B05C	02/05/24 17:31	SS24B05B	CRC

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Analytical Laboratory Report
Laboratory Project Number: A19453
Laboratory Sample Number: A19453-002

Order: A19453
 Date: 02/13/24

Client Identification: Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description: Trip Blank	Chain of Custody: 215609
Client Project Name: 095284.00.003	Sample No:	Collect Date: 01/30/24
Client Project No: 095284.00.003	Sample Matrix: Blank: Trip	Collect Time: NA

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260D

Aliquot ID: A19453-002 **Matrix: Blank: Trip**
Description: Trip Blank

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis			
						P. Date	P. Batch	A. Date	A. Batch	Init.	
1. Acetone	U		µg/L	50	1.0	02/02/24	VI24B02B	02/02/24	13:52	VI24B02B	KYD
‡ 2. Acrylonitrile	U		µg/L	2.3	1.0	02/02/24	VI24B02B	02/02/24	13:52	VI24B02B	KYD
3. Benzene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24	13:52	VI24B02B	KYD
4. Bromobenzene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24	13:52	VI24B02B	KYD
5. Bromochloromethane	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24	13:52	VI24B02B	KYD
6. Bromodichloromethane	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24	13:52	VI24B02B	KYD
‡ 7. Bromoform (SIM)	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24	13:52	VI24B02B	KYD
8. Bromomethane	U		µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24	13:52	VI24B02B	KYD
9. 2-Butanone	U		µg/L	25	1.0	02/02/24	VI24B02B	02/02/24	13:52	VI24B02B	KYD
10. n-Butylbenzene	U	V+	µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24	13:52	VI24B02B	KYD
11. sec-Butylbenzene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24	13:52	VI24B02B	KYD
12. tert-Butylbenzene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24	13:52	VI24B02B	KYD
13. Carbon Disulfide	U	V+	µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24	13:52	VI24B02B	KYD
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24	13:52	VI24B02B	KYD
15. Chlorobenzene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24	13:52	VI24B02B	KYD
16. Chloroethane	U		µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24	13:52	VI24B02B	KYD
17. Chloroform	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24	13:52	VI24B02B	KYD
18. Chloromethane	U	V+	µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24	13:52	VI24B02B	KYD
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24	13:52	VI24B02B	KYD
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24	13:52	VI24B02B	KYD
21. Dibromochloromethane	U		µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24	13:52	VI24B02B	KYD
22. Dibromomethane	U		µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24	13:52	VI24B02B	KYD
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24	13:52	VI24B02B	KYD
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24	13:52	VI24B02B	KYD
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24	13:52	VI24B02B	KYD
26. Dichlorodifluoromethane	U	V+	µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24	13:52	VI24B02B	KYD
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24	13:52	VI24B02B	KYD
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24	13:52	VI24B02B	KYD
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24	13:52	VI24B02B	KYD
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24	13:52	VI24B02B	KYD
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24	13:52	VI24B02B	KYD
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24	13:52	VI24B02B	KYD
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	02/02/24	VI24B02B	02/02/24	13:52	VI24B02B	KYD
34. trans-1,3-Dichloropropene	U		µg/L	0.75	1.0	02/02/24	VI24B02B	02/02/24	13:52	VI24B02B	KYD
35. Ethylbenzene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24	13:52	VI24B02B	KYD
36. Ethylene Dibromide	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24	13:52	VI24B02B	KYD

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Analytical Laboratory Report
Laboratory Project Number: A19453
Laboratory Sample Number: A19453-002

Order: A19453
 Date: 02/13/24

Client Identification: Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description: Trip Blank	Chain of Custody: 215609
Client Project Name: 095284.00.003	Sample No:	Collect Date: 01/30/24
Client Project No: 095284.00.003	Sample Matrix: Blank: Trip	Collect Time: NA

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260D

Aliquot ID: A19453-002 **Matrix: Blank: Trip**
Description: Trip Blank

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
37. 2-Hexanone	U		µg/L	50	1.0	02/02/24	VI24B02B	02/02/24 13:52	VI24B02B	KYD
38. Isopropylbenzene	U		µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24 13:52	VI24B02B	KYD
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	02/02/24	VI24B02B	02/02/24 13:52	VI24B02B	KYD
40. Methylene Chloride	U		µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24 13:52	VI24B02B	KYD
‡ 41. 2-Methylnaphthalene	U		µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24 13:52	VI24B02B	KYD
42. MTBE	U		µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24 13:52	VI24B02B	KYD
43. Naphthalene	U		µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24 13:52	VI24B02B	KYD
44. n-Propylbenzene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:52	VI24B02B	KYD
45. Styrene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:52	VI24B02B	KYD
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:52	VI24B02B	KYD
47. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:52	VI24B02B	KYD
48. Tetrachloroethene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:52	VI24B02B	KYD
49. Toluene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:52	VI24B02B	KYD
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24 13:52	VI24B02B	KYD
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:52	VI24B02B	KYD
‡ 52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:52	VI24B02B	KYD
53. Trichloroethene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:52	VI24B02B	KYD
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:52	VI24B02B	KYD
55. 1,2,3-Trichloropropane	U		µg/L	1.4	1.0	02/02/24	VI24B02B	02/02/24 13:52	VI24B02B	KYD
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:52	VI24B02B	KYD
57. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:52	VI24B02B	KYD
58. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:52	VI24B02B	KYD
59. Vinyl Chloride	U	V+ L+	µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:52	VI24B02B	KYD
60. m&p-Xylene	U		µg/L	2.0	1.0	02/02/24	VI24B02B	02/02/24 13:52	VI24B02B	KYD
61. o-Xylene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 13:52	VI24B02B	KYD
‡ 62. Xylenes	U		µg/L	3.0	1.0	02/02/24	VI24B02B	02/02/24 13:52	VI24B02B	KYD

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Analytical Laboratory Report
Laboratory Project Number: A19453
Laboratory Sample Number: A19453-003

Order: A19453
 Date: 02/13/24

Client Identification: Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description: SB101(6.5-7.5)	Chain of Custody: 215609
Client Project Name: 095284.00.003	Sample No:	Collect Date: 01/30/24
Client Project No: 095284.00.003	Sample Matrix: Soil/Solid	Collect Time: 10:25

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C Aliquot ID: **A19453-003** Matrix: **Soil/Solid**
 Method: **ASTM D2216-10** Description: **SB101(6.5-7.5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	10		%	1	1.0	02/05/24	MC240205	02/06/24	MC240205	LJK

Michigan 10 Elements by ICP/MS Aliquot ID: **A19453-003** Matrix: **Soil/Solid**
 Method: **EPA 0200.2/EPA 6020A** Description: **SB101(6.5-7.5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Cadmium	60		µg/kg	50	20	02/07/24	PT24B07D	02/07/24	T424B07B	JJS
2. Chromium	9600		µg/kg	500	20	02/07/24	PT24B07D	02/07/24	T424B07B	JJS
3. Lead	3900		µg/kg	1000	20	02/07/24	PT24B07D	02/07/24	T424B07B	JJS

Polychlorinated Biphenyls (PCBs) Aliquot ID: **A19453-003** Matrix: **Soil/Solid**
 Method: **EPA 3546/EPA 8082A** Description: **SB101(6.5-7.5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Aroclor-1016	U	V+	µg/kg	100	5.0	02/02/24	PS24B02G	02/04/24 14:11	SO24B03A	BRC
2. Aroclor-1221	U		µg/kg	100	5.0	02/02/24	PS24B02G	02/04/24 14:11	SO24B03A	BRC
3. Aroclor-1232	U		µg/kg	100	5.0	02/02/24	PS24B02G	02/04/24 14:11	SO24B03A	BRC
4. Aroclor-1242	U		µg/kg	100	5.0	02/02/24	PS24B02G	02/04/24 14:11	SO24B03A	BRC
5. Aroclor-1248	U		µg/kg	100	5.0	02/02/24	PS24B02G	02/04/24 14:11	SO24B03A	BRC
6. Aroclor-1254	U		µg/kg	100	5.0	02/02/24	PS24B02G	02/04/24 14:11	SO24B03A	BRC
7. Aroclor-1260	U		µg/kg	100	5.0	02/02/24	PS24B02G	02/04/24 14:11	SO24B03A	BRC
‡ 8. Aroclor-1262	U		µg/kg	100	5.0	02/02/24	PS24B02G	02/04/24 14:11	SO24B03A	BRC
‡ 9. Aroclor-1268	U		µg/kg	100	5.0	02/02/24	PS24B02G	02/04/24 14:11	SO24B03A	BRC

Volatile Organic Compounds (VOCs) by GC/MS, 5035 Aliquot ID: **A19453-003A** Matrix: **Soil/Solid**
 Method: **EPA 5035A/EPA 8260D** Description: **SB101(6.5-7.5)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U	V+	µg/kg	1000	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
‡ 2. Acrylonitrile	U		µg/kg	120	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
3. Benzene	U		µg/kg	50	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
4. Bromobenzene	U		µg/kg	100	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
5. Bromochloromethane	U		µg/kg	100	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC

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Analytical Laboratory Report
Laboratory Project Number: A19453
Laboratory Sample Number: A19453-003

Order: A19453
 Date: 02/13/24

Client Identification: Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description: SB101(6.5-7.5)	Chain of Custody: 215609
Client Project Name: 095284.00.003	Sample No:	Collect Date: 01/30/24
Client Project No: 095284.00.003	Sample Matrix: Soil/Solid	Collect Time: 10:25

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A19453-003A **Matrix: Soil/Solid**
Description: SB101(6.5-7.5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
6. Bromodichloromethane	U		µg/kg	100	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
7. Bromoform	U		µg/kg	100	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
8. Bromomethane	U		µg/kg	200	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
9. 2-Butanone	U	*	µg/kg	750	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
10. n-Butylbenzene	U		µg/kg	60	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
11. sec-Butylbenzene	U		µg/kg	50	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
12. tert-Butylbenzene	U		µg/kg	50	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
13. Carbon Disulfide	U		µg/kg	250	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
14. Carbon Tetrachloride	U	V+ L+	µg/kg	60	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
15. Chlorobenzene	U		µg/kg	50	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
16. Chloroethane	U	V+	µg/kg	250	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
17. Chloroform	U		µg/kg	50	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
18. Chloromethane	U		µg/kg	250	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
19. 2-Chlorotoluene	U		µg/kg	50	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
21. Dibromochloromethane	U		µg/kg	100	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
22. Dibromomethane	U		µg/kg	250	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
28. 1,2-Dichloroethane	U		µg/kg	60	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
32. 1,2-Dichloropropane	U		µg/kg	60	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
33. cis-1,3-Dichloropropene	U		µg/kg	60	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
34. trans-1,3-Dichloropropene	U		µg/kg	50	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
35. Ethylbenzene	U		µg/kg	50	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
36. Ethylene Dibromide	U		µg/kg	50	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
37. 2-Hexanone	U	V+ *	µg/kg	2500	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
38. Isopropylbenzene	U		µg/kg	250	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
39. 4-Methyl-2-pentanone	U	V+	µg/kg	2500	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
40. Methylene Chloride	U		µg/kg	100	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC

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Analytical Laboratory Report
Laboratory Project Number: A19453
Laboratory Sample Number: A19453-003

Order: A19453
 Date: 02/13/24

Client Identification: Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description: SB101(6.5-7.5)	Chain of Custody: 215609
Client Project Name: 095284.00.003	Sample No:	Collect Date: 01/30/24
Client Project No: 095284.00.003	Sample Matrix: Soil/Solid	Collect Time: 10:25

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035
Method: EPA 5035A/EPA 8260D

Aliquot ID: A19453-003A **Matrix: Soil/Solid**
Description: SB101(6.5-7.5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 41. 2-Methylnaphthalene	U	V+	µg/kg	330	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
42. MTBE	U		µg/kg	250	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
43. Naphthalene	U		µg/kg	330	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
44. n-Propylbenzene	U		µg/kg	100	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
45. Styrene	U		µg/kg	50	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	60	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
48. Tetrachloroethene	U		µg/kg	50	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
49. Toluene	U		µg/kg	50	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
52. 1,1,2-Trichloroethane	U		µg/kg	60	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
53. Trichloroethene	U		µg/kg	50	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
54. Trichlorofluoromethane	U	V+	µg/kg	100	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
55. 1,2,3-Trichloropropane	U	V+	µg/kg	100	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
59. Vinyl Chloride	U		µg/kg	40	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
60. m&p-Xylene	U		µg/kg	100	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
61. o-Xylene	U		µg/kg	50	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC
‡ 62. Xylenes	U		µg/kg	150	1.0	02/02/24	VP24B02A	02/02/24 20:05	VP24B02A	SNC

Polynuclear Aromatic Hydrocarbons (PNAs)
Method: EPA 3546/EPA 8270E

Aliquot ID: A19453-003 **Matrix: Soil/Solid**
Description: SB101(6.5-7.5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene (SIM)	U		µg/kg	330	1.0	02/02/24	PS24B02F	02/03/24 07:14	SN24B02B	WTA
2. Acenaphthylene (SIM)	U		µg/kg	330	1.0	02/02/24	PS24B02F	02/03/24 07:14	SN24B02B	WTA
3. Anthracene (SIM)	U		µg/kg	330	1.0	02/02/24	PS24B02F	02/03/24 07:14	SN24B02B	WTA
4. Benzo(a)anthracene (SIM)	U		µg/kg	330	1.0	02/02/24	PS24B02F	02/03/24 07:14	SN24B02B	WTA
5. Benzo(a)pyrene (SIM)	U		µg/kg	330	1.0	02/02/24	PS24B02F	02/03/24 07:14	SN24B02B	WTA
6. Benzo(b)fluoranthene (SIM)	U		µg/kg	330	1.0	02/02/24	PS24B02F	02/03/24 07:14	SN24B02B	WTA
7. Benzo(ghi)perylene (SIM)	U		µg/kg	330	1.0	02/02/24	PS24B02F	02/03/24 07:14	SN24B02B	WTA
8. Benzo(k)fluoranthene (SIM)	U		µg/kg	330	1.0	02/02/24	PS24B02F	02/03/24 07:14	SN24B02B	WTA
9. Chrysene (SIM)	U		µg/kg	330	1.0	02/02/24	PS24B02F	02/03/24 07:14	SN24B02B	WTA

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Analytical Laboratory Report
Laboratory Project Number: A19453
Laboratory Sample Number: A19453-003

Order: A19453
 Date: 02/13/24

Client Identification: Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description: SB101(6.5-7.5)	Chain of Custody: 215609
Client Project Name: 095284.00.003	Sample No:	Collect Date: 01/30/24
Client Project No: 095284.00.003	Sample Matrix: Soil/Solid	Collect Time: 10:25

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable †: Parameter not included in NELAC Scope of Analysis.

Polynuclear Aromatic Hydrocarbons (PNAs)
Method: EPA 3546/EPA 8270E

Aliquot ID: A19453-003 **Matrix: Soil/Solid**
Description: SB101(6.5-7.5)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
10. Dibenzo(a,h)anthracene (SIM)	U		µg/kg	330	1.0	02/02/24	PS24B02F	02/03/24 07:14	SN24B02B	WTA
11. Fluoranthene (SIM)	U		µg/kg	330	1.0	02/02/24	PS24B02F	02/03/24 07:14	SN24B02B	WTA
12. Fluorene (SIM)	U		µg/kg	330	1.0	02/02/24	PS24B02F	02/03/24 07:14	SN24B02B	WTA
13. Indeno(1,2,3-cd)pyrene (SIM)	U		µg/kg	330	1.0	02/02/24	PS24B02F	02/03/24 07:14	SN24B02B	WTA
14. 2-Methylnaphthalene (SIM)	U		µg/kg	330	1.0	02/02/24	PS24B02F	02/03/24 07:14	SN24B02B	WTA
15. Naphthalene (SIM)	U		µg/kg	330	1.0	02/02/24	PS24B02F	02/03/24 07:14	SN24B02B	WTA
16. Phenanthrene (SIM)	U		µg/kg	330	1.0	02/02/24	PS24B02F	02/03/24 07:14	SN24B02B	WTA
17. Pyrene (SIM)	U		µg/kg	330	1.0	02/02/24	PS24B02F	02/03/24 07:14	SN24B02B	WTA

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Analytical Laboratory Report
Laboratory Project Number: A19453
Laboratory Sample Number: A19453-004

Order: A19453
 Date: 02/13/24

Client Identification: Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description: SB101-GW(5-10)	Chain of Custody: 215609
Client Project Name: 095284.00.003	Sample No:	Collect Date: 01/30/24
Client Project No: 095284.00.003	Sample Matrix: Ground Water	Collect Time: 11:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Michigan 10 Elements by ICP/MS, Total Recoverable
Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: A19453-004B **Matrix: Ground Water**
Description: SB101-GW(5-10)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Cadmium	U		µg/L	1.0	10	02/05/24	PT24B05A	02/05/24	T424B05B	JJS
2. Chromium	U		µg/L	10	10	02/05/24	PT24B05A	02/05/24	T424B05B	JJS
3. Lead	U		µg/L	3.0	10	02/05/24	PT24B05A	02/05/24	T424B05B	JJS

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260D

Aliquot ID: A19453-004C **Matrix: Ground Water**
Description: SB101-GW(5-10)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	50	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
‡ 2. Acrylonitrile	U		µg/L	2.3	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
3. Benzene	U		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
4. Bromobenzene	U		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
5. Bromochloromethane	U		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
6. Bromodichloromethane	U		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
‡ 7. Bromoform (SIM)	U		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
8. Bromomethane	U		µg/L	5.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
9. 2-Butanone	U		µg/L	25	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
10. n-Butylbenzene	U	V+	µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
11. sec-Butylbenzene	U		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
12. tert-Butylbenzene	U		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
13. Carbon Disulfide	U		µg/L	5.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
15. Chlorobenzene	U		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
16. Chloroethane	U	V+ F+	µg/L	5.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
17. Chloroform	U		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
18. Chloromethane	U		µg/L	5.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
21. Dibromochloromethane	U		µg/L	5.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
22. Dibromomethane	U		µg/L	5.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
26. Dichlorodifluoromethane	U		µg/L	5.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD

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Analytical Laboratory Report
Laboratory Project Number: A19453
Laboratory Sample Number: A19453-004

Order: A19453
 Date: 02/13/24

Client Identification: Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description: SB101-GW(5-10)	Chain of Custody: 215609
Client Project Name: 095284.00.003	Sample No:	Collect Date: 01/30/24
Client Project No: 095284.00.003	Sample Matrix: Ground Water	Collect Time: 11:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260D

Aliquot ID: A19453-004C **Matrix: Ground Water**
Description: SB101-GW(5-10)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
34. trans-1,3-Dichloropropene	U		µg/L	0.75	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
35. Ethylbenzene	U		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
36. Ethylene Dibromide	U		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
37. 2-Hexanone	U		µg/L	50	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
38. Isopropylbenzene	U		µg/L	5.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
40. Methylene Chloride	U		µg/L	5.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
‡ 41. 2-Methylnaphthalene	U		µg/L	5.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
42. MTBE	U		µg/L	5.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
43. Naphthalene	U		µg/L	5.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
44. n-Propylbenzene	U		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
45. Styrene	U		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
47. 1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
48. Tetrachloroethene	U		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
49. Toluene	2.4		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
‡ 52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
53. Trichloroethene	U		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
55. 1,2,3-Trichloropropane	U		µg/L	1.4	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
57. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
58. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
59. Vinyl Chloride	U	L+ F+	µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
60. m&p-Xylene	U		µg/L	2.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
61. o-Xylene	U		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD
‡ 62. Xylenes	U		µg/L	3.0	1.0	02/05/24	VI24B05B	02/05/24 21:51	VI24B05B	KYD

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Analytical Laboratory Report
Laboratory Project Number: A19453
Laboratory Sample Number: A19453-004

Order: A19453
 Date: 02/13/24

Client Identification: Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description: SB101-GW(5-10)	Chain of Custody: 215609
Client Project Name: 095284.00.003	Sample No:	Collect Date: 01/30/24
Client Project No: 095284.00.003	Sample Matrix: Ground Water	Collect Time: 11:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable †: Parameter not included in NELAC Scope of Analysis.

Polynuclear Aromatic Hydrocarbons (PNAs)
Method: EPA 3535A/EPA 8270E

Aliquot ID: A19453-004 **Matrix: Ground Water**
Description: SB101-GW(5-10)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/L	5.0	1.0	02/05/24	PS24B05C	02/05/24 18:10	SS24B05B	CRC
2. Acenaphthylene	U		µg/L	5.0	1.0	02/05/24	PS24B05C	02/05/24 18:10	SS24B05B	CRC
3. Anthracene	U		µg/L	5.0	1.0	02/05/24	PS24B05C	02/05/24 18:10	SS24B05B	CRC
4. Benzo(a)anthracene	U		µg/L	1.0	1.0	02/05/24	PS24B05C	02/05/24 18:10	SS24B05B	CRC
5. Benzo(a)pyrene	U		µg/L	1.0	1.0	02/05/24	PS24B05C	02/05/24 18:10	SS24B05B	CRC
6. Benzo(b)fluoranthene	U		µg/L	1.0	1.0	02/05/24	PS24B05C	02/05/24 18:10	SS24B05B	CRC
7. Benzo(ghi)perylene	U	V+	µg/L	1.0	1.0	02/05/24	PS24B05C	02/05/24 18:10	SS24B05B	CRC
8. Benzo(k)fluoranthene	U		µg/L	1.0	1.0	02/05/24	PS24B05C	02/05/24 18:10	SS24B05B	CRC
9. Chrysene	U		µg/L	1.0	1.0	02/05/24	PS24B05C	02/05/24 18:10	SS24B05B	CRC
10. Dibenzo(a,h)anthracene	U	V+	µg/L	2.0	1.0	02/05/24	PS24B05C	02/05/24 18:10	SS24B05B	CRC
11. Fluoranthene	U		µg/L	1.0	1.0	02/05/24	PS24B05C	02/05/24 18:10	SS24B05B	CRC
12. Fluorene	U		µg/L	5.0	1.0	02/05/24	PS24B05C	02/05/24 18:10	SS24B05B	CRC
13. Indeno(1,2,3-cd)pyrene	U	V+	µg/L	2.0	1.0	02/05/24	PS24B05C	02/05/24 18:10	SS24B05B	CRC
14. 2-Methylnaphthalene	U		µg/L	5.0	1.0	02/05/24	PS24B05C	02/05/24 18:10	SS24B05B	CRC
15. Naphthalene	U		µg/L	5.0	1.0	02/05/24	PS24B05C	02/05/24 18:10	SS24B05B	CRC
16. Phenanthrene	U		µg/L	2.0	1.0	02/05/24	PS24B05C	02/05/24 18:10	SS24B05B	CRC
17. Pyrene	U		µg/L	5.0	1.0	02/05/24	PS24B05C	02/05/24 18:10	SS24B05B	CRC

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Analytical Laboratory Report
Laboratory Project Number: A19453
Laboratory Sample Number: A19453-005

Order: A19453
 Date: 02/13/24

Client Identification: Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description: Dup GW	Chain of Custody: 215609
Client Project Name: 095284.00.003	Sample No:	Collect Date: 01/30/24
Client Project No: 095284.00.003	Sample Matrix: Ground Water	Collect Time: NA

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Michigan 10 Elements by ICP/MS, Total Recoverable
Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: A19453-005B **Matrix: Ground Water**
Description: Dup GW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Cadmium	U		µg/L	1.0	10	02/05/24	PT24B05A	02/05/24	T424B05B	JJS
2. Chromium	U		µg/L	10	10	02/05/24	PT24B05A	02/05/24	T424B05B	JJS
3. Lead	U		µg/L	3.0	10	02/05/24	PT24B05A	02/05/24	T424B05B	JJS

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260D

Aliquot ID: A19453-005C **Matrix: Ground Water**
Description: Dup GW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	50	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
‡ 2. Acrylonitrile	U		µg/L	2.3	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
3. Benzene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
4. Bromobenzene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
5. Bromochloromethane	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
6. Bromodichloromethane	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
‡ 7. Bromoform (SIM)	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
8. Bromomethane	U		µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
9. 2-Butanone	U		µg/L	25	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
10. n-Butylbenzene	U	V+	µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
11. sec-Butylbenzene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
12. tert-Butylbenzene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
13. Carbon Disulfide	U	V+	µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
15. Chlorobenzene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
16. Chloroethane	U		µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
17. Chloroform	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
18. Chloromethane	U	V+	µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
21. Dibromochloromethane	U		µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
22. Dibromomethane	U		µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
26. Dichlorodifluoromethane	U	V+	µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD

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Analytical Laboratory Report
Laboratory Project Number: A19453
Laboratory Sample Number: A19453-005

Order: A19453
 Date: 02/13/24

Client Identification: Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description: Dup GW	Chain of Custody: 215609
Client Project Name: 095284.00.003	Sample No:	Collect Date: 01/30/24
Client Project No: 095284.00.003	Sample Matrix: Ground Water	Collect Time: NA

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS
 Method: EPA 5030C/EPA 8260D

Aliquot ID: **A19453-005C** Matrix: **Ground Water**
 Description: **Dup GW**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
34. trans-1,3-Dichloropropene	U		µg/L	0.75	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
35. Ethylbenzene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
36. Ethylene Dibromide	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
37. 2-Hexanone	U		µg/L	50	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
38. Isopropylbenzene	U		µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
40. Methylene Chloride	U		µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
‡ 41. 2-Methylnaphthalene	U		µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
42. MTBE	U		µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
43. Naphthalene	U		µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
44. n-Propylbenzene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
45. Styrene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
47. 1,1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
48. Tetrachloroethene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
49. Toluene	2.9		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
‡ 52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
53. Trichloroethene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
55. 1,2,3-Trichloropropane	U		µg/L	1.4	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
‡ 56. 1,2,3-Trimethylbenzene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
57. 1,2,4-Trimethylbenzene	1.1		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
58. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
59. Vinyl Chloride	U	V+ L+	µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
60. m&p-Xylene	2.2		µg/L	2.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
61. o-Xylene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD
‡ 62. Xylenes	3.1		µg/L	3.0	1.0	02/02/24	VI24B02B	02/02/24 21:15	VI24B02B	KYD

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Analytical Laboratory Report
Laboratory Project Number: A19453
Laboratory Sample Number: A19453-005

Order: A19453
 Date: 02/13/24

Client Identification: Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description: Dup GW	Chain of Custody: 215609
Client Project Name: 095284.00.003	Sample No:	Collect Date: 01/30/24
Client Project No: 095284.00.003	Sample Matrix: Ground Water	Collect Time: NA

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable †: Parameter not included in NELAC Scope of Analysis.

Polynuclear Aromatic Hydrocarbons (PNAs)
Method: EPA 3535A/EPA 8270E

Aliquot ID: A19453-005 **Matrix: Ground Water**
Description: Dup GW

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/L	5.0	1.0	02/05/24	PS24B05C	02/05/24 18:49	SS24B05B	CRC
2. Acenaphthylene	U		µg/L	5.0	1.0	02/05/24	PS24B05C	02/05/24 18:49	SS24B05B	CRC
3. Anthracene	U		µg/L	5.0	1.0	02/05/24	PS24B05C	02/05/24 18:49	SS24B05B	CRC
4. Benzo(a)anthracene	U		µg/L	1.0	1.0	02/05/24	PS24B05C	02/05/24 18:49	SS24B05B	CRC
5. Benzo(a)pyrene	U		µg/L	1.0	1.0	02/05/24	PS24B05C	02/05/24 18:49	SS24B05B	CRC
6. Benzo(b)fluoranthene	U		µg/L	1.0	1.0	02/05/24	PS24B05C	02/05/24 18:49	SS24B05B	CRC
7. Benzo(ghi)perylene	U	V+	µg/L	1.0	1.0	02/05/24	PS24B05C	02/05/24 18:49	SS24B05B	CRC
8. Benzo(k)fluoranthene	U		µg/L	1.0	1.0	02/05/24	PS24B05C	02/05/24 18:49	SS24B05B	CRC
9. Chrysene	U		µg/L	1.0	1.0	02/05/24	PS24B05C	02/05/24 18:49	SS24B05B	CRC
10. Dibenzo(a,h)anthracene	U	V+	µg/L	2.0	1.0	02/05/24	PS24B05C	02/05/24 18:49	SS24B05B	CRC
11. Fluoranthene	U		µg/L	1.0	1.0	02/05/24	PS24B05C	02/05/24 18:49	SS24B05B	CRC
12. Fluorene	U		µg/L	5.0	1.0	02/05/24	PS24B05C	02/05/24 18:49	SS24B05B	CRC
13. Indeno(1,2,3-cd)pyrene	U	V+	µg/L	2.0	1.0	02/05/24	PS24B05C	02/05/24 18:49	SS24B05B	CRC
14. 2-Methylnaphthalene	U		µg/L	5.0	1.0	02/05/24	PS24B05C	02/05/24 18:49	SS24B05B	CRC
15. Naphthalene	U		µg/L	5.0	1.0	02/05/24	PS24B05C	02/05/24 18:49	SS24B05B	CRC
16. Phenanthrene	U		µg/L	2.0	1.0	02/05/24	PS24B05C	02/05/24 18:49	SS24B05B	CRC
17. Pyrene	U		µg/L	5.0	1.0	02/05/24	PS24B05C	02/05/24 18:49	SS24B05B	CRC

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Analytical Laboratory Report
Laboratory Project Number: A19453
Laboratory Sample Number: A19453-006

Order: A19453
 Date: 02/13/24

Client Identification: Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description: SB101-GW(5-10)MS	Chain of Custody: 215609
Client Project Name: 095284.00.003	Sample No:	Collect Date: 01/30/24
Client Project No: 095284.00.003	Sample Matrix: Ground Water	Collect Time: 11:20

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Michigan 10 Elements by ICP/MS, Total Recoverable
Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: A19453-006A **Matrix: Ground Water**
Description: SB101-GW(5-10)MS

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Cadmium	100		µg/L	1.0	10	02/05/24	PT24B05A	02/05/24	T424B05B	JJS
2. Chromium	200		µg/L	10	10	02/05/24	PT24B05A	02/05/24	T424B05B	JJS
3. Lead	220		µg/L	3.0	10	02/05/24	PT24B05A	02/05/24	T424B05B	JJS

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260D

Aliquot ID: A19453-006B **Matrix: Ground Water**
Description: SB101-GW(5-10)MS

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	50	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
‡ 2. Acrylonitrile	45		µg/L	2.3	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
3. Benzene	57		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
4. Bromobenzene	59		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
5. Bromochloromethane	57		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
6. Bromodichloromethane	55		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
‡ 7. Bromoform (SIM)	48		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
8. Bromomethane	58		µg/L	5.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
9. 2-Butanone	34		µg/L	25	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
10. n-Butylbenzene	61	V+	µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
11. sec-Butylbenzene	59		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
12. tert-Butylbenzene	58		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
13. Carbon Disulfide	60		µg/L	5.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
14. Carbon Tetrachloride	57		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
15. Chlorobenzene	55		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
16. Chloroethane	67	V+	µg/L	5.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
17. Chloroform	54		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
18. Chloromethane	61		µg/L	5.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
19. 2-Chlorotoluene	60		µg/L	5.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	41		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
21. Dibromochloromethane	49		µg/L	5.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
22. Dibromomethane	43		µg/L	5.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
23. 1,2-Dichlorobenzene	54		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
24. 1,3-Dichlorobenzene	56		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
25. 1,4-Dichlorobenzene	54		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
26. Dichlorodifluoromethane	66		µg/L	5.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
27. 1,1-Dichloroethane	56		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
28. 1,2-Dichloroethane	50		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD

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Analytical Laboratory Report
Laboratory Project Number: A19453
Laboratory Sample Number: A19453-006

Order: A19453
 Date: 02/13/24

Client Identification: Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description: SB101-GW(5-10)MS	Chain of Custody: 215609
Client Project Name: 095284.00.003	Sample No:	Collect Date: 01/30/24
Client Project No: 095284.00.003	Sample Matrix: Ground Water	Collect Time: 11:20

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS
 Method: EPA 5030C/EPA 8260D

Aliquot ID: **A19453-006B** Matrix: **Ground Water**
 Description: **SB101-GW(5-10)MS**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
29. 1,1-Dichloroethene	55		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
30. cis-1,2-Dichloroethene	57		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
31. trans-1,2-Dichloroethene	57		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
32. 1,2-Dichloropropane	58		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
33. cis-1,3-Dichloropropene	54		µg/L	0.50	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
34. trans-1,3-Dichloropropene	50		µg/L	0.75	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
35. Ethylbenzene	59		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
36. Ethylene Dibromide	43		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
37. 2-Hexanone	U		µg/L	50	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
38. Isopropylbenzene	57		µg/L	5.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
40. Methylene Chloride	57		µg/L	5.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
‡ 41. 2-Methylnaphthalene	43		µg/L	5.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
42. MTBE	50		µg/L	5.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
43. Naphthalene	46		µg/L	5.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
44. n-Propylbenzene	62		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
45. Styrene	56		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
46. 1,1,1,2-Tetrachloroethane	54		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
47. 1,1,1,2,2-Tetrachloroethane	50		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
48. Tetrachloroethene	52		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
49. Toluene	60		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
50. 1,2,4-Trichlorobenzene	49		µg/L	5.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
51. 1,1,1-Trichloroethane	58		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
‡ 52. 1,1,2-Trichloroethane	48		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
53. Trichloroethene	52		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
54. Trichlorofluoromethane	62		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
55. 1,2,3-Trichloropropane	42		µg/L	1.4	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
‡ 56. 1,2,3-Trimethylbenzene	56		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
57. 1,2,4-Trimethylbenzene	60		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
58. 1,3,5-Trimethylbenzene	59		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
59. Vinyl Chloride	69	L+	µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
60. m&p-Xylene	120		µg/L	2.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
61. o-Xylene	57		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD
‡ 62. Xylenes	180		µg/L	3.0	1.0	02/05/24	VI24B05B	02/05/24 22:19	VI24B05B	KYD

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Analytical Laboratory Report
Laboratory Project Number: A19453
Laboratory Sample Number: A19453-006

Order: A19453
 Date: 02/13/24

Client Identification: Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description: SB101-GW(5-10)MS	Chain of Custody: 215609
Client Project Name: 095284.00.003	Sample No:	Collect Date: 01/30/24
Client Project No: 095284.00.003	Sample Matrix: Ground Water	Collect Time: 11:20

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable †: Parameter not included in NELAC Scope of Analysis.

Polynuclear Aromatic Hydrocarbons (PNAs)
Method: EPA 3535A/EPA 8270E

Aliquot ID: A19453-006 **Matrix: Ground Water**
Description: SB101-GW(5-10)MS

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	17		µg/L	5.0	1.0	02/05/24	PS24B05C	02/05/24 19:29	SS24B05B	CRC
2. Acenaphthylene	16		µg/L	5.0	1.0	02/05/24	PS24B05C	02/05/24 19:29	SS24B05B	CRC
3. Anthracene	17		µg/L	5.0	1.0	02/05/24	PS24B05C	02/05/24 19:29	SS24B05B	CRC
4. Benzo(a)anthracene	18		µg/L	1.0	1.0	02/05/24	PS24B05C	02/05/24 19:29	SS24B05B	CRC
5. Benzo(a)pyrene	18		µg/L	1.0	1.0	02/05/24	PS24B05C	02/05/24 19:29	SS24B05B	CRC
6. Benzo(b)fluoranthene	18		µg/L	1.0	1.0	02/05/24	PS24B05C	02/05/24 19:29	SS24B05B	CRC
7. Benzo(ghi)perylene	22	V+	µg/L	1.0	1.0	02/05/24	PS24B05C	02/05/24 19:29	SS24B05B	CRC
8. Benzo(k)fluoranthene	18		µg/L	1.0	1.0	02/05/24	PS24B05C	02/05/24 19:29	SS24B05B	CRC
9. Chrysene	19		µg/L	1.0	1.0	02/05/24	PS24B05C	02/05/24 19:29	SS24B05B	CRC
10. Dibenzo(a,h)anthracene	21	V+	µg/L	2.0	1.0	02/05/24	PS24B05C	02/05/24 19:29	SS24B05B	CRC
11. Fluoranthene	19		µg/L	1.0	1.0	02/05/24	PS24B05C	02/05/24 19:29	SS24B05B	CRC
12. Fluorene	17		µg/L	5.0	1.0	02/05/24	PS24B05C	02/05/24 19:29	SS24B05B	CRC
13. Indeno(1,2,3-cd)pyrene	20	V+	µg/L	2.0	1.0	02/05/24	PS24B05C	02/05/24 19:29	SS24B05B	CRC
14. 2-Methylnaphthalene	15		µg/L	5.0	1.0	02/05/24	PS24B05C	02/05/24 19:29	SS24B05B	CRC
15. Naphthalene	15		µg/L	5.0	1.0	02/05/24	PS24B05C	02/05/24 19:29	SS24B05B	CRC
16. Phenanthrene	17		µg/L	2.0	1.0	02/05/24	PS24B05C	02/05/24 19:29	SS24B05B	CRC
17. Pyrene	21		µg/L	5.0	1.0	02/05/24	PS24B05C	02/05/24 19:29	SS24B05B	CRC

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Analytical Laboratory Report
Laboratory Project Number: A19453
Laboratory Sample Number: A19453-007

Order: A19453
 Date: 02/13/24

Client Identification: Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description: SB101-GW(5-10)MSD	Chain of Custody: 215609
Client Project Name: 095284.00.003	Sample No:	Collect Date: 01/30/24
Client Project No: 095284.00.003	Sample Matrix: Ground Water	Collect Time: 11:20

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Michigan 10 Elements by ICP/MS, Total Recoverable
Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: A19453-007A **Matrix: Ground Water**
Description: SB101-GW(5-10)MSD

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Cadmium	100		µg/L	1.0	10	02/05/24	PT24B05A	02/05/24	T424B05B	JJS
2. Chromium	190		µg/L	10	10	02/05/24	PT24B05A	02/05/24	T424B05B	JJS
3. Lead	220		µg/L	3.0	10	02/05/24	PT24B05A	02/05/24	T424B05B	JJS

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260D

Aliquot ID: A19453-007B **Matrix: Ground Water**
Description: SB101-GW(5-10)MSD

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	50	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
‡ 2. Acrylonitrile	46		µg/L	2.3	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
3. Benzene	56		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
4. Bromobenzene	59		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
5. Bromochloromethane	57		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
6. Bromodichloromethane	54		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
‡ 7. Bromoform (SIM)	49		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
8. Bromomethane	51		µg/L	5.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
9. 2-Butanone	34		µg/L	25	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
10. n-Butylbenzene	60	V+	µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
11. sec-Butylbenzene	58		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
12. tert-Butylbenzene	57		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
13. Carbon Disulfide	59		µg/L	5.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
14. Carbon Tetrachloride	56		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
15. Chlorobenzene	54		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
16. Chloroethane	64	V+	µg/L	5.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
17. Chloroform	53		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
18. Chloromethane	62		µg/L	5.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
19. 2-Chlorotoluene	59		µg/L	5.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	42		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
21. Dibromochloromethane	50		µg/L	5.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
22. Dibromomethane	42		µg/L	5.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
23. 1,2-Dichlorobenzene	54		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
24. 1,3-Dichlorobenzene	54		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
25. 1,4-Dichlorobenzene	54		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
26. Dichlorodifluoromethane	65		µg/L	5.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
27. 1,1-Dichloroethane	55		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
28. 1,2-Dichloroethane	49		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD

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Analytical Laboratory Report
Laboratory Project Number: A19453
Laboratory Sample Number: A19453-007

Order: A19453
 Date: 02/13/24

Client Identification: Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description: SB101-GW(5-10)MSD	Chain of Custody: 215609
Client Project Name: 095284.00.003	Sample No:	Collect Date: 01/30/24
Client Project No: 095284.00.003	Sample Matrix: Ground Water	Collect Time: 11:20

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260D

Aliquot ID: A19453-007B **Matrix: Ground Water**
Description: SB101-GW(5-10)MSD

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
29. 1,1-Dichloroethene	54		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
30. cis-1,2-Dichloroethene	57		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
31. trans-1,2-Dichloroethene	56		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
32. 1,2-Dichloropropane	56		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
33. cis-1,3-Dichloropropene	53		µg/L	0.50	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
34. trans-1,3-Dichloropropene	49		µg/L	0.75	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
35. Ethylbenzene	58		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
36. Ethylene Dibromide	44		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
37. 2-Hexanone	U		µg/L	50	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
38. Isopropylbenzene	57		µg/L	5.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
40. Methylene Chloride	56		µg/L	5.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
‡ 41. 2-Methylnaphthalene	51		µg/L	5.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
42. MTBE	51		µg/L	5.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
43. Naphthalene	47		µg/L	5.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
44. n-Propylbenzene	60		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
45. Styrene	56		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
46. 1,1,1,2-Tetrachloroethane	54		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
47. 1,1,1,2,2-Tetrachloroethane	50		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
48. Tetrachloroethene	52		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
49. Toluene	58		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
50. 1,2,4-Trichlorobenzene	50		µg/L	5.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
51. 1,1,1-Trichloroethane	58		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
‡ 52. 1,1,2-Trichloroethane	49		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
53. Trichloroethene	51		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
54. Trichlorofluoromethane	61		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
55. 1,2,3-Trichloropropane	42		µg/L	1.4	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
‡ 56. 1,2,3-Trimethylbenzene	56		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
57. 1,2,4-Trimethylbenzene	59		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
58. 1,3,5-Trimethylbenzene	57		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
59. Vinyl Chloride	67	L+	µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
60. m&p-Xylene	120		µg/L	2.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
61. o-Xylene	57		µg/L	1.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD
‡ 62. Xylenes	170		µg/L	3.0	1.0	02/05/24	VI24B05B	02/05/24 22:47	VI24B05B	KYD

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Analytical Laboratory Report
Laboratory Project Number: A19453
Laboratory Sample Number: A19453-007

Order: A19453
 Date: 02/13/24

Client Identification: Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description: SB101-GW(5-10)MSD	Chain of Custody: 215609
Client Project Name: 095284.00.003	Sample No:	Collect Date: 01/30/24
Client Project No: 095284.00.003	Sample Matrix: Ground Water	Collect Time: 11:20

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable †: Parameter not included in NELAC Scope of Analysis.

Polynuclear Aromatic Hydrocarbons (PNAs)
Method: EPA 3535A/EPA 8270E

Aliquot ID: A19453-007 **Matrix: Ground Water**
Description: SB101-GW(5-10)MSD

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	16		µg/L	5.0	1.0	02/05/24	PS24B05C	02/05/24 20:08	SS24B05B	CRC
2. Acenaphthylene	16		µg/L	5.0	1.0	02/05/24	PS24B05C	02/05/24 20:08	SS24B05B	CRC
3. Anthracene	16		µg/L	5.0	1.0	02/05/24	PS24B05C	02/05/24 20:08	SS24B05B	CRC
4. Benzo(a)anthracene	18		µg/L	1.0	1.0	02/05/24	PS24B05C	02/05/24 20:08	SS24B05B	CRC
5. Benzo(a)pyrene	18		µg/L	1.0	1.0	02/05/24	PS24B05C	02/05/24 20:08	SS24B05B	CRC
6. Benzo(b)fluoranthene	16		µg/L	1.0	1.0	02/05/24	PS24B05C	02/05/24 20:08	SS24B05B	CRC
7. Benzo(ghi)perylene	21	V+	µg/L	1.0	1.0	02/05/24	PS24B05C	02/05/24 20:08	SS24B05B	CRC
8. Benzo(k)fluoranthene	16		µg/L	1.0	1.0	02/05/24	PS24B05C	02/05/24 20:08	SS24B05B	CRC
9. Chrysene	19		µg/L	1.0	1.0	02/05/24	PS24B05C	02/05/24 20:08	SS24B05B	CRC
10. Dibenzo(a,h)anthracene	21	V+	µg/L	2.0	1.0	02/05/24	PS24B05C	02/05/24 20:08	SS24B05B	CRC
11. Fluoranthene	21		µg/L	1.0	1.0	02/05/24	PS24B05C	02/05/24 20:08	SS24B05B	CRC
12. Fluorene	16		µg/L	5.0	1.0	02/05/24	PS24B05C	02/05/24 20:08	SS24B05B	CRC
13. Indeno(1,2,3-cd)pyrene	20	V+	µg/L	2.0	1.0	02/05/24	PS24B05C	02/05/24 20:08	SS24B05B	CRC
14. 2-Methylnaphthalene	19		µg/L	5.0	1.0	02/05/24	PS24B05C	02/05/24 20:08	SS24B05B	CRC
15. Naphthalene	16		µg/L	5.0	1.0	02/05/24	PS24B05C	02/05/24 20:08	SS24B05B	CRC
16. Phenanthrene	17		µg/L	2.0	1.0	02/05/24	PS24B05C	02/05/24 20:08	SS24B05B	CRC
17. Pyrene	18		µg/L	5.0	1.0	02/05/24	PS24B05C	02/05/24 20:08	SS24B05B	CRC

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Analytical Laboratory Report
Laboratory Project Number: A19453
Laboratory Sample Number: A19453-008

Order: A19453
 Date: 02/13/24

Client Identification: Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description: SB102-GW(4-9)	Chain of Custody: 215609
Client Project Name: 095284.00.003	Sample No:	Collect Date: 01/30/24
Client Project No: 095284.00.003	Sample Matrix: Ground Water	Collect Time: 13:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Michigan 10 Elements by ICP/MS, Total Recoverable
Method: EPA 3005A (Total Recoverable)/EPA 6020A

Aliquot ID: A19453-008B **Matrix: Ground Water**
Description: SB102-GW(4-9)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Cadmium	U		µg/L	1.0	10	02/05/24	PT24B05A	02/05/24	T424B05B	JJS
2. Chromium	U		µg/L	10	10	02/05/24	PT24B05A	02/05/24	T424B05B	JJS
3. Lead	U		µg/L	3.0	10	02/05/24	PT24B05A	02/05/24	T424B05B	JJS

Volatile Organic Compounds (VOCs) by GC/MS
Method: EPA 5030C/EPA 8260D

Aliquot ID: A19453-008C **Matrix: Ground Water**
Description: SB102-GW(4-9)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acetone	U		µg/L	50	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
‡ 2. Acrylonitrile	U		µg/L	2.3	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
3. Benzene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
4. Bromobenzene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
5. Bromochloromethane	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
6. Bromodichloromethane	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
‡ 7. Bromoform (SIM)	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
8. Bromomethane	U		µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
9. 2-Butanone	U		µg/L	25	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
10. n-Butylbenzene	U	V+	µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
11. sec-Butylbenzene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
12. tert-Butylbenzene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
13. Carbon Disulfide	U	V+	µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
14. Carbon Tetrachloride	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
15. Chlorobenzene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
16. Chloroethane	U		µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
17. Chloroform	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
18. Chloromethane	U	V+	µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
19. 2-Chlorotoluene	U		µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
21. Dibromochloromethane	U		µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
22. Dibromomethane	U		µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
23. 1,2-Dichlorobenzene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
24. 1,3-Dichlorobenzene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
25. 1,4-Dichlorobenzene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
26. Dichlorodifluoromethane	U	V+	µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
27. 1,1-Dichloroethane	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
28. 1,2-Dichloroethane	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD

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A METIRI GROUP COMPANY

Analytical Laboratory Report
Laboratory Project Number: A19453
Laboratory Sample Number: A19453-008

Order: A19453
 Date: 02/13/24

Client Identification: Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description: SB102-GW(4-9)	Chain of Custody: 215609
Client Project Name: 095284.00.003	Sample No:	Collect Date: 01/30/24
Client Project No: 095284.00.003	Sample Matrix: Ground Water	Collect Time: 13:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS
 Method: EPA 5030C/EPA 8260D

Aliquot ID: **A19453-008C** Matrix: **Ground Water**
 Description: **SB102-GW(4-9)**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
29. 1,1-Dichloroethene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
30. cis-1,2-Dichloroethene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
31. trans-1,2-Dichloroethene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
32. 1,2-Dichloropropane	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
33. cis-1,3-Dichloropropene	U		µg/L	0.50	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
34. trans-1,3-Dichloropropene	U		µg/L	0.75	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
35. Ethylbenzene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
36. Ethylene Dibromide	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
37. 2-Hexanone	U		µg/L	50	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
38. Isopropylbenzene	U		µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
39. 4-Methyl-2-pentanone	U		µg/L	50	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
40. Methylene Chloride	U		µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
‡ 41. 2-Methylnaphthalene	U		µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
42. MTBE	U		µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
43. Naphthalene	U		µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
44. n-Propylbenzene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
45. Styrene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
46. 1,1,1,2-Tetrachloroethane	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
47. 1,1,1,2,2-Tetrachloroethane	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
48. Tetrachloroethene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
49. Toluene	1.0		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
50. 1,2,4-Trichlorobenzene	U		µg/L	5.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
51. 1,1,1-Trichloroethane	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
‡ 52. 1,1,2-Trichloroethane	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
53. Trichloroethene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
54. Trichlorofluoromethane	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
55. 1,2,3-Trichloropropane	U		µg/L	1.4	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
‡ 56. 1,2,3-Trimethylbenzene	2.8		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
57. 1,2,4-Trimethylbenzene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
58. 1,3,5-Trimethylbenzene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
59. Vinyl Chloride	U	V+ L+	µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
60. m&p-Xylene	U		µg/L	2.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
61. o-Xylene	U		µg/L	1.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD
‡ 62. Xylenes	U		µg/L	3.0	1.0	02/02/24	VI24B02B	02/02/24 21:43	VI24B02B	KYD

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Analytical Laboratory Report
Laboratory Project Number: A19453
Laboratory Sample Number: A19453-008

Order: A19453
 Date: 02/13/24

Client Identification: Soil and Materials Engineers, Inc. - Grand Rapids	Sample Description: SB102-GW(4-9)	Chain of Custody: 215609
Client Project Name: 095284.00.003	Sample No:	Collect Date: 01/30/24
Client Project No: 095284.00.003	Sample Matrix: Ground Water	Collect Time: 13:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable †: Parameter not included in NELAC Scope of Analysis.

Polynuclear Aromatic Hydrocarbons (PNAs)
Method: EPA 3535A/EPA 8270E

Aliquot ID: A19453-008 **Matrix: Ground Water**
Description: SB102-GW(4-9)

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Acenaphthene	U		µg/L	5.0	1.0	02/05/24	PS24B05C	02/05/24 20:47	SS24B05B	CRC
2. Acenaphthylene	U		µg/L	5.0	1.0	02/05/24	PS24B05C	02/05/24 20:47	SS24B05B	CRC
3. Anthracene	U		µg/L	5.0	1.0	02/05/24	PS24B05C	02/05/24 20:47	SS24B05B	CRC
4. Benzo(a)anthracene	U		µg/L	1.0	1.0	02/05/24	PS24B05C	02/05/24 20:47	SS24B05B	CRC
5. Benzo(a)pyrene	U		µg/L	1.0	1.0	02/05/24	PS24B05C	02/05/24 20:47	SS24B05B	CRC
6. Benzo(b)fluoranthene	U		µg/L	1.0	1.0	02/05/24	PS24B05C	02/05/24 20:47	SS24B05B	CRC
7. Benzo(ghi)perylene	U	V+	µg/L	1.0	1.0	02/05/24	PS24B05C	02/05/24 20:47	SS24B05B	CRC
8. Benzo(k)fluoranthene	U		µg/L	1.0	1.0	02/05/24	PS24B05C	02/05/24 20:47	SS24B05B	CRC
9. Chrysene	U		µg/L	1.0	1.0	02/05/24	PS24B05C	02/05/24 20:47	SS24B05B	CRC
10. Dibenzo(a,h)anthracene	U	V+	µg/L	2.0	1.0	02/05/24	PS24B05C	02/05/24 20:47	SS24B05B	CRC
11. Fluoranthene	U		µg/L	1.0	1.0	02/05/24	PS24B05C	02/05/24 20:47	SS24B05B	CRC
12. Fluorene	U		µg/L	5.0	1.0	02/05/24	PS24B05C	02/05/24 20:47	SS24B05B	CRC
13. Indeno(1,2,3-cd)pyrene	U	V+	µg/L	2.0	1.0	02/05/24	PS24B05C	02/05/24 20:47	SS24B05B	CRC
14. 2-Methylnaphthalene	U		µg/L	5.0	1.0	02/05/24	PS24B05C	02/05/24 20:47	SS24B05B	CRC
15. Naphthalene	U		µg/L	5.0	1.0	02/05/24	PS24B05C	02/05/24 20:47	SS24B05B	CRC
16. Phenanthrene	U		µg/L	2.0	1.0	02/05/24	PS24B05C	02/05/24 20:47	SS24B05B	CRC
17. Pyrene	U		µg/L	5.0	1.0	02/05/24	PS24B05C	02/05/24 20:47	SS24B05B	CRC

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Analytical Laboratory Report
Laboratory Project Number: A19453

Order: A19453
Date: 02/13/24

Definitions/ Qualifiers:

- A:** Spike recovery or precision unusable due to dilution.
- B:** The analyte was detected in the associated method blank.
- E:** The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
- J:** The concentration is an estimated value.
- M:** Modified Method
- U:** The analyte was not detected at or above the reporting limit.
- X:** Matrix Interference has resulted in a raised reporting limit or distorted result.
- W:** Results reported on a wet-weight basis.
- *:** Value reported is outside QC limits

Exception Summary:

- *** : Duplicate analysis not within control limits.
- F+** : Recovery from the spiked aliquot exceeds the upper control limit (matrix spike or matrix spike duplicate).
- L+** : Recovery in the associated laboratory sample (LCS) exceeds the upper control limit. Results may be biased high.
- V+** : Recovery in the associated continuing calibration verification sample (CCV) exceeds the upper control limit. Results may be biased high.

Analysis Locations:

All analyses performed in Holt.



Accreditation Number(s):

TX-C24-00039 (TX)

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PS24B02F: Method Blank (MB)

EPA 8270E

Run Time: PS24B02F.MB 02/02/2024 23:04 [SN24B02B]

Analyte	MB Result	MB Qualifier	MB RDL
	µg/kg		µg/kg
Acenaphthene (SIM)	U		330
Acenaphthylene (SIM)	U		330
Anthracene (SIM)	U		330
Benzo(a)anthracene (SIM)	U		330
Benzo(a)pyrene (SIM)	U		330
Benzo(b)fluoranthene (SIM)	U		330
Benzo(ghi)perylene (SIM)	U		330
Benzo(k)fluoranthene (SIM)	U		330
Chrysene (SIM)	U		330
Dibenzo(a,h)anthracene (SIM)	U		330
Fluoranthene (SIM)	U		330
Fluorene (SIM)	U		330
Indeno(1,2,3-cd)pyrene (SIM)	U		330
2-Methylnaphthalene (SIM)	U		330
Naphthalene (SIM)	U		330
Phenanthrene (SIM)	U		330
Pyrene (SIM)	U		330
2-Fluorobiphenyl(S)	64		49-115
1-Fluoronaphthalene(S)	64		46-114
4-Terphenyl-d14(S)	92		48-117

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Quality Control Report
Laboratory Project Number: A19453

 Order ID: A19453
 Page: 2 of 26
 Date: 02/13/24

PS24B02F: Laboratory Control Sample (LCS)
EPA 8270E

Run Time: PS24B02F.LCS: 02/02/2024 23:32 [SN24B02B]

Analyte	LCS	LCS Result	LCS Rec.	Rec. Limits	LCS
	Spike Amount				Qualifier
	µg/kg	µg/kg	%	%	
Acenaphthene (SIM)	1330	754	57	35-93	
Acenaphthylene (SIM)	1330	828	62	33-100	
Anthracene (SIM)	1330	854	64	43-91	
Benzo(a)anthracene (SIM)	1330	1030	77	47-102	
Benzo(a)pyrene (SIM)	1330	1210	91	45-117	
Benzo(b)fluoranthene (SIM)	1330	1120	84	48-121	
Benzo(ghi)perylene (SIM)	1330	1060	79	48-111	
Benzo(k)fluoranthene (SIM)	1330	1020	76	52-117	
Chrysene (SIM)	1330	1020	76	51-108	
Dibenzo(a,h)anthracene (SIM)	1330	1070	81	51-113	
Fluoranthene (SIM)	1330	984	74	50-101	
Fluorene (SIM)	1330	810	61	40-97	
Indeno(1,2,3-cd)pyrene (SIM)	1330	1110	84	54-122	
2-Methylnaphthalene (SIM)	1330	729	55	30-95	
Naphthalene (SIM)	1330	724	54	27-87	
Phenanthrene (SIM)	1330	820	61	41-92	
Pyrene (SIM)	1330	1040	78	46-109	
2-Fluorobiphenyl(S)			64	49-115	
1-Fluoronaphthalene(S)			64	46-114	
4-Terphenyl-d14(S)			90	48-117	

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Quality Control Report
Laboratory Project Number: A19453

 Order ID: A19453
 Page: 3 of 26
 Date: 02/13/24

PS24B02G: Method Blank (MB)

EPA 8082A

Run Time: PS24B02G.MB 02/04/2024 12:26 [SO24B03A]

Analyte	MB Result	MB Qualifier	MB RDL
	µg/kg		µg/kg
Aroclor-1016	U		100
Aroclor-1260	U		100
<i>Decachlorobiphenyl-PCB(S)</i>	47		40-143
<i>2,4,5,6-Tetrachloro-m-xylene-PCB(S)</i>	56		42-133

PS24B02G: Laboratory Control Sample (LCS)

EPA 8082A

Run Time: PS24B02G.LCS: 02/04/2024 12:37 [SO24B03A]

Analyte	LCS Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	µg/kg	µg/kg	%	%	
Aroclor-1016	667	489	73	60-120	
Aroclor-1260	667	457	69	60-120	
<i>Decachlorobiphenyl-PCB(S)</i>			61	40-143	
<i>2,4,5,6-Tetrachloro-m-xylene-PCB(S)</i>			69	42-133	

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PS24B05C: Method Blank (MB)

EPA 8270E

Run Time: PS24B05C.MB 02/05/2024 16:13 [SS24B05B]

Analyte	MB Result	MB Qualifier	MB RDL
	µg/L		µg/L
Acenaphthene	U		5.0
Acenaphthylene	U		5.0
Anthracene	U		5.0
Benzo(a)anthracene	U		1.0
Benzo(a)pyrene	U		1.0
Benzo(b)fluoranthene	U		1.0
Benzo(ghi)perylene	U		1.0
Benzo(k)fluoranthene	U		1.0
Chrysene	U		1.0
Dibenzo(a,h)anthracene	U		2.0
Fluoranthene	U		1.0
Fluorene	U		5.0
Indeno(1,2,3-cd)pyrene	U		2.0
2-Methylnaphthalene	U		5.0
Naphthalene	U		5.0
Phenanthrene	U		2.0
Pyrene	U		5.0
2-Fluorobiphenyl(S)	74		44-109
1-Fluoronaphthalene(S)	64		44-103
4-Terphenyl-d14(S)	79		44-124

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PS24B05C: Laboratory Control Sample (LCS)

EPA 8270E

Run Time: PS24B05C.LCS: 02/05/2024 16:52 [SS24B05B]

Analyte	LCS	LCS Result	LCS Rec.	Rec. Limits	LCS
	Spike Amount				Qualifier
	µg/L	µg/L	%	%	
Acenaphthene	20.0	14.3	71	60-107	
Acenaphthylene	20.0	14.4	72	54-107	
Anthracene	20.0	15.0	75	55-112	
Benzo(a)anthracene	20.0	16.6	83	56-112	
Benzo(a)pyrene	20.0	16.9	84	59-113	
Benzo(b)fluoranthene	20.0	17.0	85	59-113	
Benzo(ghi)perylene	20.0	20.3	101	46-124	
Benzo(k)fluoranthene	20.0	16.5	83	59-111	
Chrysene	20.0	17.5	87	53-112	
Dibenzo(a,h)anthracene	20.0	19.4	97	48-131	
Fluoranthene	20.0	18.3	91	69-112	
Fluorene	20.0	14.0	70	70-112	
Indeno(1,2,3-cd)pyrene	20.0	19.0	95	54-128	
2-Methylnaphthalene	20.0	14.2	71	31-113	
Naphthalene	20.0	13.9	69	37-107	
Phenanthrene	20.0	16.2	81	65-112	
Pyrene	20.0	15.9	79	70-115	
2-Fluorobiphenyl(S)			53	44-109	
1-Fluoronaphthalene(S)			56	44-103	
4-Terphenyl-d14(S)			76	44-124	

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PT24B05A: Method Blank (MB)

EPA 6020A

Run Time: PT24B05A.MB 02/05/2024 15:02 [T424B05B]

Analyte	MB Result	MB Qualifier	MB RDL
	µg/L		µg/L
Cadmium	U		1.0
Chromium	U		10
Lead	U		3.0

PT24B05A: Laboratory Control Sample (LCS)

EPA 6020A

Run Time: PT24B05A.LCS: 02/05/2024 15:04 [T424B05B]

Analyte	LCS Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	µg/L	µg/L	%	%	
Cadmium	100	103	103	85-115	
Chromium	200	206	103	85-115	
Lead	200	228	114	85-115	

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PT24B07D: Method Blank (MB)

EPA 6020A

Run Time: PT24B07D.MB 02/07/2024 15:16 [T424B07B]

Analyte	MB Result	MB Qualifier	MB RDL
	µg/kg		µg/kg
Cadmium	U		50
Chromium	U		500
Lead	U		1000

PT24B07D: Laboratory Control Sample (LCS)

EPA 6020A

Run Time: PT24B07D.LCS: 02/07/2024 15:17 [T424B07B]

Analyte	LCS Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	µg/kg	µg/kg	%	%	
Cadmium	10000	10700	107	85-115	
Chromium	20000	21000	105	85-115	
Lead	20000	21600	108	85-115	

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VI24B02B: Method Blank (MB)
EPA 8260D

Run Time: VI24B02B.MB 02/02/2024 12:55 [VI24B02B]

Analyte	MB Result	MB Qualifier	MB RDL
µg/L			µg/L
Acetone	U		50
Acrylonitrile	U		2.0
Benzene	U		1.0
Bromobenzene	U		1.0
Bromochloromethane	U		1.0
Bromodichloromethane	U		1.0
Bromoform (SIM)	U		1.0
Bromomethane	U		5.0
2-Butanone	U		25
n-Butylbenzene	U		1.0
sec-Butylbenzene	U		1.0
tert-Butylbenzene	U		1.0
Carbon Disulfide	U		5.0
Carbon Tetrachloride	U		1.0
Chlorobenzene	U		1.0
Chloroethane	U		5.0
Chloroform	U		1.0
Chloromethane	U		5.0
2-Chlorotoluene	U		5.0
1,2-Dibromo-3-chloropropane (SIM)	U		1.0
Dibromochloromethane	U		5.0
Dibromomethane	U		5.0
1,2-Dichlorobenzene	U		1.0
1,3-Dichlorobenzene	U		1.0
1,4-Dichlorobenzene	U		1.0
Dichlorodifluoromethane	U		5.0
1,1-Dichloroethane	U		1.0
1,2-Dichloroethane	U		1.0
1,1-Dichloroethene	U		1.0
cis-1,2-Dichloroethene	U		1.0
trans-1,2-Dichloroethene	U		1.0

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VI24B02B: Method Blank (MB)
EPA 8260D

Run Time: VI24B02B.MB 02/02/2024 12:55 [VI24B02B]

Analyte	MB Result	MB Qualifier	MB RDL
µg/L			µg/L
1,2-Dichloropropane	U		1.0
cis-1,3-Dichloropropene	U		0.50
trans-1,3-Dichloropropene	U		0.50
Ethylbenzene	U		1.0
Ethylene Dibromide	U		1.0
2-Hexanone	U		50
Isopropylbenzene	U		5.0
4-Methyl-2-pentanone	U		50
Methylene Chloride	U		5.0
2-Methylnaphthalene	U		5.0
MTBE	U		5.0
Naphthalene	U		5.0
n-Propylbenzene	U		1.0
Styrene	U		1.0
1,1,1,2-Tetrachloroethane	U		1.0
1,1,2,2-Tetrachloroethane	U		1.0
Tetrachloroethene	U		1.0
Toluene	U		1.0
1,2,4-Trichlorobenzene	U		5.0
1,1,1-Trichloroethane	U		1.0
1,1,2-Trichloroethane	U		1.0
Trichloroethene	U		1.0
Trichlorofluoromethane	U		1.0
1,2,3-Trichloropropane	U		1.0
1,2,3-Trimethylbenzene	U		1.0
1,2,4-Trimethylbenzene	U		1.0
1,3,5-Trimethylbenzene	U		1.0
Vinyl Chloride	U		1.0
m&p-Xylene	U		2.0
o-Xylene	U		1.0
4-Bromofluorobenzene(S)	101		80-120

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VI24B02B: Method Blank (MB)

EPA 8260D

Run Time: VI24B02B.MB 02/02/2024 12:55 [VI24B02B]

Analyte	MB Result	MB Qualifier	MB RDL
	µg/L		µg/L
Dibromofluoromethane(S)	98		80-120
1,2-Dichloroethane-d4(S)	100		80-120
Toluene-d8(S)	102		80-120

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VI24B02B: Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD)

EPA 8260D

Run Time: VI24B02B.LCS: 02/02/2024 11:33 [VI24B02B] VI24B02B.LCSD: 02/02/2024 12:00 [VI24B02B]

Analyte	LCS	LCS Result	LCS Rec.	Rec. Limits	LCS	LCSD	LCSD	LCSD	LCSD	RPD	RPD Limits	RPD
	Spike Amount				Qualifier	Spike Amount	Result	Rec.	Qualifier	%	%	Qualifier
	µg/L	µg/L	%	%		µg/L	µg/L	%		%		
Acetone	50.0	22.8	46	40-130		50.0	25.3	51		10	20	
Acrylonitrile	50.0	43.4	87	70-130		50.0	45.3	91		4	20	
Benzene	50.0	55.5	111	80-120		50.0	56.1	112		1	20	
Bromobenzene	50.0	58.7	117	75-125		50.0	60.4	121		3	20	
Bromochloromethane	50.0	58.3	117	70-130		50.0	60.4	121		3	20	
Bromodichloromethane	50.0	56.3	113	75-120		50.0	58.4	117		3	20	
Bromoform (SIM)	50.0	50.1	100	70-130		50.0	52.2	104		4	20	
Bromomethane	50.0	51.2	102	68-135		50.0	55.8	112		9	20	
2-Butanone	50.0	31.8	64	40-129		50.0	32.8	66		3	20	
n-Butylbenzene	50.0	60.3	121	70-133		50.0	61.1	122		1	20	
sec-Butylbenzene	50.0	57.7	115	70-125		50.0	57.9	116		1	20	
tert-Butylbenzene	50.0	56.6	113	70-130		50.0	57.2	114		1	20	
Carbon Disulfide	50.0	61.5	123	70-130		50.0	62.1	124		1	20	
Carbon Tetrachloride	50.0	57.1	114	70-130		50.0	58.3	117		3	20	
Chlorobenzene	50.0	55.1	110	80-120		50.0	56.1	112		2	20	
Chloroethane	50.0	61.4	123	61-130		50.0	62.9	126		2	20	
Chloroform	50.0	53.6	107	80-120		50.0	55.7	111		4	20	
Chloromethane	50.0	59.7	119	67-125		50.0	61.6	123		3	20	
2-Chlorotoluene	50.0	58.8	118	75-125		50.0	60.0	120		2	20	
1,2-Dibromo-3-chloropropane (SIM)	50.0	39.9	80	70-130		50.0	41.9	84		5	20	
Dibromochloromethane	50.0	50.6	101	70-130		50.0	52.1	104		3	20	
Dibromomethane	50.0	45.6	91	75-125		50.0	47.5	95		4	20	
1,2-Dichlorobenzene	50.0	55.3	111	70-120		50.0	57.2	114		3	20	
1,3-Dichlorobenzene	50.0	56.6	113	75-125		50.0	58.1	116		3	20	
1,4-Dichlorobenzene	50.0	55.0	110	75-125		50.0	56.5	113		3	20	
Dichlorodifluoromethane	50.0	60.5	121	70-136		50.0	61.6	123		2	20	
1,1-Dichloroethane	50.0	54.2	108	70-130		50.0	55.8	112		4	20	
1,2-Dichloroethane	50.0	50.9	102	70-130		50.0	52.3	105		3	20	
1,1-Dichloroethene	50.0	52.9	106	78-120		50.0	53.5	107		1	20	
cis-1,2-Dichloroethene	50.0	56.1	112	70-125		50.0	57.0	114		2	20	
trans-1,2-Dichloroethene	50.0	55.4	111	70-130		50.0	56.6	113		2	20	

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VI24B02B: Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD)

EPA 8260D

Run Time: VI24B02B.LCS: 02/02/2024 11:33 [VI24B02B] VI24B02B.LCSD: 02/02/2024 12:00 [VI24B02B]

Analyte	LCS	LCS Result	LCS Rec.	Rec. Limits	LCS	LCSD	LCSD	LCSD	LCSD	RPD	RPD Limits	RPD
	Spike Amount				Qualifier	Spike Amount	Result	Rec.	Qualifier	%	%	Qualifier
	µg/L	µg/L	%	%		µg/L	µg/L	%		%		
1,2-Dichloropropane	50.0	56.5	113	80-121		50.0	57.7	115		2	20	
cis-1,3-Dichloropropene	50.0	56.6	113	70-130		50.0	58.6	117		3	20	
trans-1,3-Dichloropropene	50.0	52.7	105	70-132		50.0	54.3	109		4	20	
Ethylbenzene	50.0	57.3	115	80-120		50.0	58.3	117		2	20	
Ethylene Dibromide	50.0	44.1	88	80-120		50.0	46.5	93		6	20	
2-Hexanone	50.0	31.8	64	50-130		50.0	33.9	68		6	20	
Isopropylbenzene	50.0	56.2	112	75-125		50.0	57.6	115		3	20	
4-Methyl-2-pentanone	50.0	40.3	81	70-130		50.0	42.2	84		4	20	
Methylene Chloride	50.0	55.7	111	70-130		50.0	58.3	117		5	20	
2-Methylnaphthalene	50.0	47.0	94	70-130		50.0	47.9	96		2	20	
MTBE	50.0	49.0	98	70-125		50.0	51.0	102		4	20	
Naphthalene	50.0	44.5	89	70-130		50.0	45.8	92		3	20	
n-Propylbenzene	50.0	60.2	120	70-130		50.0	60.6	121		1	20	
Styrene	50.0	56.6	113	70-130		50.0	58.3	117		3	20	
1,1,1,2-Tetrachloroethane	50.0	56.6	113	80-130		50.0	58.0	116		3	20	
1,1,2,2-Tetrachloroethane	50.0	48.4	97	70-130		50.0	50.3	101		4	20	
Tetrachloroethene	50.0	53.3	107	70-130		50.0	53.9	108		1	20	
Toluene	50.0	55.9	112	80-120		50.0	57.1	114		2	20	
1,2,4-Trichlorobenzene	50.0	52.9	106	70-130		50.0	54.5	109		3	20	
1,1,1-Trichloroethane	50.0	57.9	116	70-130		50.0	59.6	119		3	20	
1,1,2-Trichloroethane	50.0	48.6	97	75-125		50.0	50.7	101		4	20	
Trichloroethene	50.0	52.4	105	71-125		50.0	53.3	107		2	20	
Trichlorofluoromethane	50.0	58.1	116	70-133		50.0	59.5	119		3	20	
1,2,3-Trichloropropane	50.0	39.8	80	75-125		50.0	42.2	84		5	20	
1,2,3-Trimethylbenzene	50.0	55.3	111	70-130		50.0	56.5	113		2	20	
1,2,4-Trimethylbenzene	50.0	59.3	119	75-130		50.0	59.9	120		1	20	
1,3,5-Trimethylbenzene	50.0	57.8	116	75-130		50.0	58.3	117		1	20	
Vinyl Chloride	50.0	61.9	124	74-125		50.0	63.1	126	*	2	20	
m&p-Xylene	100	116	116	75-130		100	117	117		1	20	
o-Xylene	50.0	56.3	113	80-120		50.0	57.5	115		2	20	
4-Bromofluorobenzene(S)			100	80-120				102				

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VI24B02B: Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD)

EPA 8260D

Run Time: VI24B02B.LCS: 02/02/2024 11:33 [VI24B02B] VI24B02B.LCSD: 02/02/2024 12:00 [VI24B02B]

Analyte	LCS Spike Amount µg/L	LCS Result µg/L	LCS Rec. %	Rec. Limits %	LCS Qualifier	LCSD Spike Amount µg/L	LCSD Result µg/L	LCSD Rec. %	LCSD Qualifier	RPD %	RPD Limits %	RPD Qualifier
Dibromofluoromethane(S)			97	80-120				100				
1,2-Dichloroethane-d4(S)			95	80-120				95				
Toluene-d8(S)			99	80-120				99				

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VI24B05B: Method Blank (MB)
EPA 8260D

Run Time: VI24B05B.MB 02/05/2024 13:11 [VI24B05B]

Analyte	MB Result	MB Qualifier	MB RDL
	µg/L		µg/L
Acetone	U		50
Acrylonitrile	U		2.0
Benzene	U		1.0
Bromobenzene	U		1.0
Bromochloromethane	U		1.0
Bromodichloromethane	U		1.0
Bromoform (SIM)	U		1.0
Bromomethane	U		5.0
2-Butanone	U		25
n-Butylbenzene	U		1.0
sec-Butylbenzene	U		1.0
tert-Butylbenzene	U		1.0
Carbon Disulfide	U		5.0
Carbon Tetrachloride	U		1.0
Chlorobenzene	U		1.0
Chloroethane	U		5.0
Chloroform	U		1.0
Chloromethane	U		5.0
2-Chlorotoluene	U		5.0
1,2-Dibromo-3-chloropropane (SIM)	U		1.0
Dibromochloromethane	U		5.0
Dibromomethane	U		5.0
1,2-Dichlorobenzene	U		1.0
1,3-Dichlorobenzene	U		1.0
1,4-Dichlorobenzene	U		1.0
Dichlorodifluoromethane	U		5.0
1,1-Dichloroethane	U		1.0
1,2-Dichloroethane	U		1.0
1,1-Dichloroethene	U		1.0
cis-1,2-Dichloroethene	U		1.0
trans-1,2-Dichloroethene	U		1.0

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VI24B05B: Method Blank (MB)
EPA 8260D

Run Time: VI24B05B.MB 02/05/2024 13:11 [VI24B05B]

Analyte	MB Result	MB Qualifier	MB RDL
µg/L			µg/L
1,2-Dichloropropane	U		1.0
cis-1,3-Dichloropropene	U		0.50
trans-1,3-Dichloropropene	U		0.50
Ethylbenzene	U		1.0
Ethylene Dibromide	U		1.0
2-Hexanone	U		50
Isopropylbenzene	U		5.0
4-Methyl-2-pentanone	U		50
Methylene Chloride	U		5.0
2-Methylnaphthalene	U		5.0
MTBE	U		5.0
Naphthalene	U		5.0
n-Propylbenzene	U		1.0
Styrene	U		1.0
1,1,1,2-Tetrachloroethane	U		1.0
1,1,2,2-Tetrachloroethane	U		1.0
Tetrachloroethene	U		1.0
Toluene	U		1.0
1,2,4-Trichlorobenzene	U		5.0
1,1,1-Trichloroethane	U		1.0
1,1,2-Trichloroethane	U		1.0
Trichloroethene	U		1.0
Trichlorofluoromethane	U		1.0
1,2,3-Trichloropropane	U		1.0
1,2,3-Trimethylbenzene	U		1.0
1,2,4-Trimethylbenzene	U		1.0
1,3,5-Trimethylbenzene	U		1.0
Vinyl Chloride	U		1.0
m&p-Xylene	U		2.0
o-Xylene	U		1.0
4-Bromofluorobenzene(S)	100		80-120

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VI24B05B: Method Blank (MB)

EPA 8260D

Run Time: VI24B05B.MB 02/05/2024 13:11 [VI24B05B]

	MB Result	MB Qualifier	MB RDL
Analyte	$\mu\text{g/L}$		$\mu\text{g/L}$
<i>Dibromofluoromethane(S)</i>	96		80-120
<i>1,2-Dichloroethane-d4(S)</i>	95		80-120
<i>Toluene-d8(S)</i>	103		80-120

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VI24B05B: Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD)

EPA 8260D

Run Time: VI24B05B.LCS: 02/05/2024 11:50 [VI24B05B] VI24B05B.LCSD: 02/05/2024 12:17 [VI24B05B]

Analyte	LCS	LCS Result	LCS Rec.	Rec. Limits	LCS	LCSD	LCSD	LCSD	LCSD	RPD	RPD Limits	RPD
	Spike Amount				Qualifier	Spike Amount	Result	Rec.	Qualifier	%	%	Qualifier
	µg/L	µg/L	%	%		µg/L	µg/L	%		%		
Acetone	50.0	27.0	54	40-130		50.0	29.0	58		7	20	
Acrylonitrile	50.0	44.9	90	70-130		50.0	47.4	95		5	20	
Benzene	50.0	54.6	109	80-120		50.0	57.3	115		5	20	
Bromobenzene	50.0	58.0	116	75-125		50.0	61.4	123		6	20	
Bromochloromethane	50.0	56.9	114	70-130		50.0	60.3	121		6	20	
Bromodichloromethane	50.0	51.7	103	75-120		50.0	56.1	112		8	20	
Bromoform (SIM)	50.0	47.7	95	70-130		50.0	52.1	104		9	20	
Bromomethane	50.0	53.6	107	68-135		50.0	55.9	112		5	20	
2-Butanone	50.0	33.4	67	40-129		50.0	35.0	70		4	20	
n-Butylbenzene	50.0	60.6	121	70-133		50.0	62.1	124		2	20	
sec-Butylbenzene	50.0	57.7	115	70-125		50.0	58.7	117		2	20	
tert-Butylbenzene	50.0	56.0	112	70-130		50.0	57.0	114		2	20	
Carbon Disulfide	50.0	58.5	117	70-130		50.0	60.1	120		3	20	
Carbon Tetrachloride	50.0	51.5	103	70-130		50.0	54.6	109		6	20	
Chlorobenzene	50.0	52.9	106	80-120		50.0	56.6	113		6	20	
Chloroethane	50.0	61.3	123	61-130		50.0	63.7	127		3	20	
Chloroform	50.0	51.0	102	80-120		50.0	54.2	108		6	20	
Chloromethane	50.0	58.5	117	67-125		50.0	61.5	123		5	20	
2-Chlorotoluene	50.0	58.3	117	75-125		50.0	60.3	121		3	20	
1,2-Dibromo-3-chloropropane (SIM)	50.0	40.3	81	70-130		50.0	42.8	86		6	20	
Dibromochloromethane	50.0	47.4	95	70-130		50.0	51.5	103		8	20	
Dibromomethane	50.0	42.4	85	75-125		50.0	46.8	94		10	20	
1,2-Dichlorobenzene	50.0	54.4	109	70-120		50.0	56.8	114		4	20	
1,3-Dichlorobenzene	50.0	55.0	110	75-125		50.0	57.7	115		4	20	
1,4-Dichlorobenzene	50.0	53.9	108	75-125		50.0	56.0	112		4	20	
Dichlorodifluoromethane	50.0	61.3	123	70-136		50.0	63.5	127		3	20	
1,1-Dichloroethane	50.0	53.3	107	70-130		50.0	55.5	111		4	20	
1,2-Dichloroethane	50.0	48.5	97	70-130		50.0	52.3	105		8	20	
1,1-Dichloroethene	50.0	52.1	104	78-120		50.0	54.0	108		4	20	
cis-1,2-Dichloroethene	50.0	54.4	109	70-125		50.0	57.0	114		4	20	
trans-1,2-Dichloroethene	50.0	54.1	108	70-130		50.0	56.6	113		5	20	

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VI24B05B: Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD)

EPA 8260D

Run Time: VI24B05B.LCS: 02/05/2024 11:50 [VI24B05B] VI24B05B.LCSD: 02/05/2024 12:17 [VI24B05B]

Analyte	LCS	LCS Result	LCS Rec.	Rec. Limits	LCS	LCSD	LCSD	LCSD	LCSD	RPD	RPD Limits	RPD
	Spike Amount				Qualifier	Spike Amount	Result	Rec.	Qualifier	%	%	Qualifier
	µg/L	µg/L	%	%		µg/L	µg/L	%		%	%	
1,2-Dichloropropane	50.0	55.0	110	80-121		50.0	59.5	119		8	20	
cis-1,3-Dichloropropene	50.0	53.2	106	70-130		50.0	56.6	113		6	20	
trans-1,3-Dichloropropene	50.0	50.0	100	70-132		50.0	53.2	106		6	20	
Ethylbenzene	50.0	55.8	112	80-120		50.0	59.0	118		5	20	
Ethylene Dibromide	50.0	42.9	86	80-120		50.0	46.5	93		8	20	
2-Hexanone	50.0	35.2	70	50-130		50.0	35.6	71		1	20	
Isopropylbenzene	50.0	54.5	109	75-125		50.0	57.9	116		6	20	
4-Methyl-2-pentanone	50.0	41.4	83	70-130		50.0	45.3	91		9	20	
Methylene Chloride	50.0	53.4	107	70-130		50.0	56.7	113		5	20	
2-Methylnaphthalene	50.0	46.3	93	70-130		50.0	48.9	98		5	20	
MTBE	50.0	49.6	99	70-125		50.0	52.6	105		6	20	
Naphthalene	50.0	45.9	92	70-130		50.0	48.1	96		4	20	
n-Propylbenzene	50.0	59.7	119	70-130		50.0	61.0	122		2	20	
Styrene	50.0	54.7	109	70-130		50.0	59.3	119		9	20	
1,1,1,2-Tetrachloroethane	50.0	51.9	104	80-130		50.0	55.7	111		7	20	
1,1,2,2-Tetrachloroethane	50.0	49.7	99	70-130		50.0	52.3	105		6	20	
Tetrachloroethene	50.0	47.3	95	70-130		50.0	49.9	100		5	20	
Toluene	50.0	54.9	110	80-120		50.0	57.3	115		4	20	
1,2,4-Trichlorobenzene	50.0	50.6	101	70-130		50.0	53.7	107		6	20	
1,1,1-Trichloroethane	50.0	54.1	108	70-130		50.0	56.1	112		4	20	
1,1,2-Trichloroethane	50.0	48.5	97	75-125		50.0	52.2	104		7	20	
Trichloroethene	50.0	50.1	100	71-125		50.0	52.5	105		5	20	
Trichlorofluoromethane	50.0	57.5	115	70-133		50.0	59.1	118		3	20	
1,2,3-Trichloropropane	50.0	40.9	82	75-125		50.0	44.8	90		9	20	
1,2,3-Trimethylbenzene	50.0	54.4	109	70-130		50.0	56.7	113		4	20	
1,2,4-Trimethylbenzene	50.0	58.4	117	75-130		50.0	59.9	120		3	20	
1,3,5-Trimethylbenzene	50.0	57.0	114	75-130		50.0	58.2	116		2	20	
Vinyl Chloride	50.0	62.1	124	74-125		50.0	64.4	129	*	4	20	
m&p-Xylene	100	112	112	75-130		100	119	119		6	20	
o-Xylene	50.0	54.3	109	80-120		50.0	58.1	116		6	20	
4-Bromofluorobenzene(S)			98	80-120				101				

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VI24B05B: Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD)
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Run Time: VI24B05B.LCS: 02/05/2024 11:50 [VI24B05B] VI24B05B.LCSD: 02/05/2024 12:17 [VI24B05B]

Analyte	LCS Spike Amount µg/L	LCS Result µg/L	LCS Rec. %	Rec. Limits %	LCS Qualifier	LCSD Spike Amount µg/L	LCSD Result µg/L	LCSD Rec. %	LCSD Qualifier	RPD %	RPD Limits %	RPD Qualifier
Dibromofluoromethane(S)			95	80-120				96				
1,2-Dichloroethane-d4(S)			94	80-120				96				
Toluene-d8(S)			100	80-120				100				

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VP24B02A: Method Blank (MB)
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Run Time: VP24B02A.MB 02/02/2024 10:31 [VP24B02A]

Analyte	MB Result	MB Qualifier	MB RDL
	µg/kg		µg/kg
Acetone	U		1000
Acrylonitrile	U		100
Benzene	U		50
Bromobenzene	U		100
Bromochloromethane	U		100
Bromodichloromethane	U		100
Bromoform	U		100
Bromomethane	U		200
2-Butanone	U		750
n-Butylbenzene	U		50
sec-Butylbenzene	U		50
tert-Butylbenzene	U		50
Carbon Disulfide	U		250
Carbon Tetrachloride	U		50
Chlorobenzene	U		50
Chloroethane	U		250
Chloroform	U		50
Chloromethane	U		250
2-Chlorotoluene	U		50
1,2-Dibromo-3-chloropropane (SIM)	U		250
Dibromochloromethane	U		100
Dibromomethane	U		250
1,2-Dichlorobenzene	U		100
1,3-Dichlorobenzene	U		100
1,4-Dichlorobenzene	U		100
Dichlorodifluoromethane	U		250
1,1-Dichloroethane	U		50
1,2-Dichloroethane	U		50
1,1-Dichloroethene	U		50
cis-1,2-Dichloroethene	U		50
trans-1,2-Dichloroethene	U		50

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VP24B02A: Method Blank (MB)
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Run Time: VP24B02A.MB 02/02/2024 10:31 [VP24B02A]

Analyte	MB Result	MB Qualifier	MB RDL
	µg/kg		µg/kg
1,2-Dichloropropane	U		50
cis-1,3-Dichloropropene	U		50
trans-1,3-Dichloropropene	U		50
Ethylbenzene	U		50
Ethylene Dibromide	U		50
2-Hexanone	U		2500
Isopropylbenzene	U		250
4-Methyl-2-pentanone	U		2500
Methylene Chloride	U		100
2-Methylnaphthalene	U		330
MTBE	U		250
Naphthalene	U		330
n-Propylbenzene	U		100
Styrene	U		50
1,1,1,2-Tetrachloroethane	U		100
1,1,2,2-Tetrachloroethane	U		50
Tetrachloroethene	U		50
Toluene	U		50
1,2,4-Trichlorobenzene	U		250
1,1,1-Trichloroethane	U		50
1,1,2-Trichloroethane	U		50
Trichloroethene	U		50
Trichlorofluoromethane	U		100
1,2,3-Trichloropropane	U		100
1,2,3-Trimethylbenzene	U		100
1,2,4-Trimethylbenzene	U		100
1,3,5-Trimethylbenzene	U		100
Vinyl Chloride	U		40
m&p-Xylene	U		100
o-Xylene	U		50
4-Bromofluorobenzene(S)	94		76-127

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VP24B02A: Method Blank (MB)

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Run Time: VP24B02A.MB 02/02/2024 10:31 [VP24B02A]

Analyte	MB Result	MB Qualifier	MB RDL
Dibromofluoromethane(S)	94		76-126
1,2-Dichloroethane-d4(S)	97		75-120
Toluene-d8(S)	100		80-120

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VP24B02A: Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD)

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Run Time: VP24B02A.LCS: 02/02/2024 09:13 [VP24B02A] VP24B02A.LCSD: 02/02/2024 09:39 [VP24B02A]

Analyte	LCS	LCS Result	LCS Rec.	Rec. Limits	LCS	LCSD	LCSD	LCSD	LCSD	RPD	RPD Limits	RPD
	Spike Amount				Qualifier	Spike Amount	Result	Rec.	Qualifier	%	%	Qualifier
	µg/kg	µg/kg	%	%		µg/kg	µg/kg	%		%		
Acetone	2500	3140	126	50-149		2500	2410	96		27	20	*
Acrylonitrile	2500	2490	100	70-130		2500	2420	97		3	20	
Benzene	2500	2410	96	75-125		2500	2340	94		2	20	
Bromobenzene	2500	2490	100	70-120		2500	2440	98		2	20	
Bromochloromethane	2500	2430	97	70-125		2500	2380	95		2	20	
Bromodichloromethane	2500	2910	116	70-130		2500	2840	114		2	20	
Bromoform	2500	2990	120	70-130		2500	2940	118		2	20	
Bromomethane	2500	2750	110	66-134		2500	2680	107		3	20	
2-Butanone	2500	2810	113	67-131		2500	2210	89		24	20	*
n-Butylbenzene	2500	2430	97	70-130		2500	2370	95		2	20	
sec-Butylbenzene	2500	2500	100	70-130		2500	2440	98		2	20	
tert-Butylbenzene	2500	2490	100	70-130		2500	2460	99		1	20	
Carbon Disulfide	2500	2840	114	70-130		2500	2670	107		6	20	
Carbon Tetrachloride	2500	3490	140	70-130	*	2500	3390	136	*	3	20	
Chlorobenzene	2500	2550	102	75-125		2500	2490	99		3	20	
Chloroethane	2500	3190	128	70-141		2500	3150	126		2	20	
Chloroform	2500	2420	97	80-120		2500	2370	95		2	20	
Chloromethane	2500	2220	89	63-130		2500	2120	85		5	20	
2-Chlorotoluene	2500	2400	96	70-130		2500	2350	94		2	20	
1,2-Dibromo-3-chloropropane (SIM)	2500	2570	103	70-130		2500	2520	101		2	20	
Dibromochloromethane	2500	2850	114	70-130		2500	2840	114		0	20	
Dibromomethane	2500	2930	117	70-130		2500	2850	114		3	20	
1,2-Dichlorobenzene	2500	2510	100	75-120		2500	2460	98		2	20	
1,3-Dichlorobenzene	2500	2600	104	70-125		2500	2550	102		2	20	
1,4-Dichlorobenzene	2500	2590	104	70-125		2500	2540	102		2	20	
Dichlorodifluoromethane	2500	2690	107	65-135		2500	2540	102		5	20	
1,1-Dichloroethane	2500	2350	94	75-125		2500	2290	91		3	20	
1,2-Dichloroethane	2500	2390	95	70-130		2500	2330	93		2	20	
1,1-Dichloroethene	2500	2260	90	58-104		2500	2150	86		5	20	
cis-1,2-Dichloroethene	2500	2330	93	70-125		2500	2290	92		1	20	
trans-1,2-Dichloroethene	2500	2350	94	70-130		2500	2260	90		4	20	

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VP24B02A: Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD)

EPA 8260D

Run Time: VP24B02A.LCS: 02/02/2024 09:13 [VP24B02A] VP24B02A.LCSD: 02/02/2024 09:39 [VP24B02A]

Analyte	LCS	LCS Result	LCS Rec.	Rec. Limits	LCS	LCSD	LCSD	LCSD	LCSD	RPD	RPD Limits	RPD
	Spike Amount				Qualifier	Spike Amount	Result	Rec.	Qualifier	%	%	Qualifier
	µg/kg	µg/kg	%	%		µg/kg	µg/kg	%		%		
1,2-Dichloropropane	2500	2540	101	80-120		2500	2500	100		1	20	
cis-1,3-Dichloropropene	2500	2830	113	70-125		2500	2770	111		2	20	
trans-1,3-Dichloropropene	2500	2820	113	70-125		2500	2800	112		1	20	
Ethylbenzene	2500	2520	101	80-120		2500	2430	97		4	20	
Ethylene Dibromide	2500	2490	99	70-125		2500	2480	99		0	20	
2-Hexanone	2500	2960	118	70-130		2500	2140	85		33	20	*
Isopropylbenzene	2500	2570	103	75-130		2500	2470	99		4	20	
4-Methyl-2-pentanone	2500	3040	122	70-130		2500	2930	117		4	20	
Methylene Chloride	2500	2190	88	70-130		2500	2110	85		3	20	
2-Methylnaphthalene	2500	2560	103	61-136		2500	2350	94		9	20	
MTBE	2500	2450	98	70-130		2500	2430	97		1	20	
Naphthalene	2500	2340	94	70-125		2500	2310	93		1	20	
n-Propylbenzene	2500	2570	103	70-130		2500	2490	100		3	20	
Styrene	2500	2580	103	75-125		2500	2490	100		3	20	
1,1,1,2-Tetrachloroethane	2500	2870	115	75-125		2500	2810	112		3	20	
1,1,2,2-Tetrachloroethane	2500	2780	111	70-130		2500	2740	110		1	20	
Tetrachloroethene	2500	2630	105	70-130		2500	2570	103		2	20	
Toluene	2500	2530	101	80-120		2500	2480	99		2	20	
1,2,4-Trichlorobenzene	2500	2490	99	70-130		2500	2430	97		2	20	
1,1,1-Trichloroethane	2500	2590	104	70-130		2500	2530	101		3	20	
1,1,2-Trichloroethane	2500	2600	104	70-125		2500	2560	102		2	20	
Trichloroethene	2500	2390	95	75-125		2500	2310	92		3	20	
Trichlorofluoromethane	2500	3420	137	50-150		2500	3200	128		7	20	
1,2,3-Trichloropropane	2500	2980	119	70-130		2500	2860	114		4	20	
1,2,3-Trimethylbenzene	2500	2400	96	70-130		2500	2350	94		2	20	
1,2,4-Trimethylbenzene	2500	2570	103	70-130		2500	2520	101		2	20	
1,3,5-Trimethylbenzene	2500	2600	104	70-130		2500	2560	103		1	20	
Vinyl Chloride	2500	2600	104	69-120		2500	2490	99		5	20	
m&p-Xylene	5000	5000	100	80-125		5000	4810	96		4	20	
o-Xylene	2500	2430	97	75-125		2500	2340	94		3	20	
4-Bromofluorobenzene(S)			98	76-127				97				

 1914 Holloway Drive
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 8660 S. Mackinaw Trail

 Holt, MI 48842
 Brighton, MI 48116
 Cadillac, MI 49601

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 T: (810) 220-3300
 T: (231) 775-8368

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 F: (231) 775-8584

Quality Control Report
Laboratory Project Number: A19453

 Order ID: A19453
 Page: 25 of 26
 Date: 02/13/24

VP24B02A: Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD)
EPA 8260D

Run Time: VP24B02A.LCS: 02/02/2024 09:13 [VP24B02A] VP24B02A.LCSD: 02/02/2024 09:39 [VP24B02A]

Analyte	LCS Spike Amount µg/kg	LCS Result µg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier	LCSD Spike Amount µg/kg	LCSD Result µg/kg	LCSD Rec. %	LCSD Qualifier	RPD %	RPD Limits %	RPD Qualifier
Dibromofluoromethane(S)			100	76-126				100				
1,2-Dichloroethane-d4(S)			95	75-120				99				
Toluene-d8(S)			101	80-120				101				

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Definitions/ Qualifiers:

- U:** The analyte was not detected at or above the Reporting Limit (RL).
- *:** Value reported is outside QC limits

Exception Summary:

Exceptions have been properly noted on reported results or affected samples have been scheduled for reanalysis when appropriate.

Report Generated By:



By Sue Ricketts at 1:13 PM, Feb 13, 2024

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Geoprobe
 11766 E. Grand River Rd.
 Brighton, MI 48116
 Phone: 810 220 3300
 Fax: 810 220 3311

Chain of Custody #
215609
 PAGE 1 of 1

Client Name: SME			PARAMETERS										Matrix Code			Deliverables	
Contact Person: Casey Smith													S Soil			GW Ground Water	
Project Name/ Number: 095284.00.003			A Air			SW Surface Water			<input type="checkbox"/> Level 3								
Email distribution list: Casey Smith			O Oil			WW Waste Water			<input type="checkbox"/> Level 4								
Quote#			P Wipe			X Other: Specify			<input type="checkbox"/> EDD								
Purchase Order#			HOLD SAMPLE										Remarks:				
Date Time Sample # Client Sample Descriptor															MATRIX (SEE RIGHT CORNER FOR CODE)	# OF CONTAINERS	VOC
1/30/24 13:15			GW	5	X	X	X				Received By Lab						
Trip Blank			GW	3	X												
10:25			S	2	X	X	X				JAN 31 2024						
11:00			GW	6	X	X	X										
Dup GW			GW	6	X	X	X				Initials: <i>LM</i>						
11:20			GW	5	X	X	X										
11:20			GW	5	X	X	X										
13:00			GW	6	X	X											
Comments: * Hold Filtered																	
Sampled/Relinquished By: <i>Spencer Stenkiewicz</i>				Date/ Time 1/30/24 16:25				Received By: SME Cold Storage									
Relinquished By: SME Cold Storage				Date/ Time 1-31-24 10:56				Received By: <i>[Signature]</i>									
Relinquished By: <i>[Signature]</i>				Date/ Time 1-3-24 14:28				Received By Laboratory: <i>[Signature]</i>									
Turnaround Time ALL RESULTS WILL BE SENT BY THE END OF THE BUSINESS DAY										LAB USE ONLY							
<input checked="" type="checkbox"/> 1 bus. day <input type="checkbox"/> 2 bus. days <input type="checkbox"/> 3 bus. days <input type="checkbox"/> 4 bus. days <input checked="" type="checkbox"/> 5-7 bus. days (standard) Other (specify time/date requirement): _____										Fibertec project number: A19453 Temperature upon receipt at Lab: 3.2°C <div style="border: 2px solid red; padding: 5px; display: inline-block; color: red; font-weight: bold;">Received On Ice</div>							
Please see back for terms and conditions																	

APPENDIX C

SAMPLING AND ANALYSIS PLAN



SAMPLING AND ANALYSIS PLAN

1633 SOUTH HANOVER STREET
HASTINGS, MICHIGAN 49058

SME Project Number: 095284.00.003
January 5, 2024

Prepared for: Barry County, Michigan, CA # BF-00E03547-0



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FIGURES

FIGURE 1: PROPERTY LOCATION MAP

FIGURE 2: PROPERTY FEATURES AND PROPOSED SAMPLE LOCATION DIAGRAM

TABLE

TABLE 1: PROPOSED SAMPLE COLLECTION AND ANALYSES

1. INTRODUCTION

SME's project team prepared this Sampling and Analysis Plan (SAP) as a requirement of the United States Environmental Protection Agency (USEPA) brownfields grant program prior to using assessment grant funds for environmental assessment. Barry County intends to use its grant funds (USEPA CA # BF-00E03547-0) to conduct a limited environmental assessment of the Property located at 1633 South Hanover Street in Hastings, Michigan (the Property). The general location of the Property is shown on Figure 1. The Property was determined to be eligible for the use of Barry County's USEPA grant funds on December 19, 2023. The Quality Assurance Project Plan (QAPP) submitted to the USEPA on December 21, 2023 and was pending approval by the USEPA at the time this SAP was prepared. SME will not conduct the activities described in this SAP until the USEPA approves the QAPP.

The objective of the proposed environmental assessment is to further evaluate soil in the area of the floor drain and in-ground hydraulic hoist in the building for the purpose of supporting environmental due diligence and liability management for the Property purchaser. Descriptions of the Property history and current environmental conditions; strategies and procedures for soil and groundwater sampling; chemical analyses of collected soil and groundwater samples; data evaluation and reporting; and the estimated project schedule are presented in the following sections.

2. PROPERTY HISTORY, CURRENT CONDITIONS, ENVIRONMENTAL CONDITIONS, AND PLANNED PROPERTY ASSESSMENT

A summary of the Property history, current Property conditions, and environmental concerns are presented in the following subsections. The planned Property assessment is also summarized.

2.1 PROPERTY HISTORY

The Property history and current conditions were obtained from a November 10, 2023 Phase I ESA report completed by SES Environmental (SES) for the Property. The Phase I ESA included the Property and a south-adjointing parcel.

SES indicated that the Property was developed as agricultural land from at least 1938 through 1955. Between 1955 and 1961, a drive-in restaurant was constructed on the western portion of the Property. The restaurant was converted into an office building occupied by Larry Poll Realty in 1978. A second building was constructed to the east of the office building in 1985. The building structures were later combined into a single building with an addition in 1997. Art Meade Auto Sales was identified as the occupant of the Property from 1983 through 2014. Art Meade Auto Sales' operations included used car sales and automotive service/maintenance. Subsequent occupants of the subject building included Great Lakes Pipe & Supply and the current occupant RB Excavating.

SES identified the following recognized environmental condition (REC) in their report:

- The Property was formerly occupied by an automotive service garage from the mid-1980s through the mid-2010s. The historic operations included the use of a floor drain, a recessed hydraulic hoist, two trench drains, and a vaulted used/waste oil tank. In addition, the building was formerly served by a private septic system. Previous sampling completed at the Property was sufficient to dismiss concerns with the trench drains, used/waste oil tank, and septic field; however, in SES's opinion, the sampling was insufficient to dismiss the floor drain or the recessed hydraulic hoist. The potential exists for the floor drain and the former recessed hydraulic hoist to be a source of subsurface contamination.

SME collected a soil sample from near the floor drain and hoist during a Phase II ESA of the Property in 2014. However, in SES' opinion, the soil sample collected for evaluation of the drain and hoist was collected too deep (collected from 8.0-8.5 feet below ground surface [bgs]). SES opined that because groundwater at this location was identified at a depth of 6 feet bgs, the soil sample would have been saturated and was not representative of soil conditions. Additionally, they opined that based on the presence of tetrachloroethene (PCE) in groundwater in other areas of the Property, there is the potential for higher concentrations of PCE or other contaminants to be present in this location.

2.2 CURRENT CONDITIONS

SES indicated the Property consists of 2.41 acres of land developed with a single-story commercial building. A concrete slab is located to the south of the building and asphalt paved areas surround the building.

The interior of the subject building consists of 5,068-square feet of floor space and appeared in good condition. The building structure is divided into an office area in the west portion, a shop/storage area in the west-central portion, a storage area in the east-central portion, and an automotive service area in the east portion.

2.3 PLANNED PROPERTY ASSESSMENT

We designed the proposed assessment activities to further evaluate soil in the area of the floor drain and in-ground hydraulic hoist for the purpose of supporting environmental due diligence and liability management for the purchaser and their lender. The assessment will include collection and chemical analyses of soil and groundwater samples to screen for environmental impact. We selected the target analytes to be representative of, or indicator parameters for, the contaminants reasonably expected to be present in the environmental media sampled at each location and to screen for PCE that was previously found in groundwater at concentrations below the Part 201¹ Generic Residential Cleanup Criteria (Part 201 criteria) at other locations on the Property. Upon receipt of analytical testing results, soil and groundwater data will be compared to Part 201 criteria to assess if the Property is a "facility" as defined in Part 201. We will also compare the analytical results to the Michigan Department of Environment, Great Lakes, and Energy (EGLE) Volatilization to Indoor Air Pathway (VIAP) screening levels to evaluate the vapor intrusion pathway, and will request Site-Specific Volatilization to Indoor Air Criteria (SSVIAC) from EGLE, if needed, based on the analytical results.

3. SAMPLING PLAN

The sampling plan for the assessment activities is presented in this section. The sampling plan includes a summary of the planned soil and groundwater sampling locations, rationales for sample locations, and descriptions of procedures and methods for field sampling.

3.1 SUMMARY OF SAMPLING LOCATIONS

We will advance soil borings SB101 and SB102 below the building floor slab on the Property to evaluate potential impact from hazardous substances and/or petroleum products disposed or spilled in the floor drain and potential impact from releases of hydraulic oil from the in-ground hoist. Temporary monitoring wells will be installed at SB101 and SB102 to evaluate groundwater conditions. The proposed soil and groundwater sampling locations are shown on Figure 2. Specific sampling objectives, rationales for the sample locations and depths, and target analytes are summarized in Table 1. The rationales for the selection of sample intervals at each boring are further discussed in Section 3.2.1. The proposed soil

¹ Part 201, Environmental Remediation, of the Michigan Natural Resources and Environmental Protection Act (NREPA), PA 451 of 1994, as amended.

boring locations were selected to provide samples adjacent to the floor drain and hoist in the garage area; however, it should be noted that the actual locations of the borings will be determined at the time of sampling based on access and field conditions.

3.2 SAMPLING PROCEDURES AND METHODS

Soil and groundwater sampling, quality control (QC) sampling, and waste management procedures and methods are summarized in this subsection. Sampling activities will be conducted in accordance with the approved project QAPP.

3.2.1 SOIL AND GROUNDWATER SAMPLING

SME's field representative will collect soil and groundwater samples according to the methods described in the following standard operating procedures (SOPs) that are included in the project QAPP:

- SOP 2 – Soil Sampling with a Hand Auger
- SOP 4 – Methanol Preservation
- SOP 7 – Field Measurements Using a Photoionization Detector (PID) as applicable, included in the QAPP
- SOP 9 – Decontamination of Field Equipment
- SOP 10 – Sample Labeling, Sampling Handling, and Chain of Custody

Sampling targets proposed boring depths, rationales for the sample locations and depths, and target analytes are summarized in Table 1. Our proposed sampling plan and additional details on our sample selection procedure are provided below:

- We will use a concrete coring rig to core through the floor at each boring location.
- We will collect continuous soil samples from each boring, visually classify them in the field, and note physical indicators of man-made materials and environmental contamination.
- We will field-screen the soil samples using a portable PID to identify the potential presence of volatile organic compounds (VOCs).
- We will collect soil samples for chemical analyses in accordance with the plan described in Table 1. Specifically, we will collect two soil samples from each boring. Samples will be collected from 1 to 2 feet below the concrete floor and 1 foot above encountered groundwater at each location. If evidence of impact is noted at other depth intervals, we may adjust these sampling depths in the field. Sample preference based on evidence of impact will be prioritized in the following descending order of importance: 1) elevated PID measurements, 2) olfactory evidence, or 3) visual observation of unnatural coloration or man-made debris.
- We will install temporary, 1-inch-diameter polyvinyl chloride (PVC) well assemblies fitted with 5-foot-long, pre-packed well screens in the open boreholes at borings SB101 and SB102, if groundwater is encountered. We will collect groundwater samples from the temporary wells using a peristaltic pump at low-flow sampling rates. The pH, temperature, and conductivity of the purge water will be monitored until judged stable prior to collecting a groundwater sample.
- After completion of soil and/or groundwater sampling at each boring location, we will place purge water and soil cuttings back into their respective boreholes, fill the remaining space with bentonite, and restore the concrete floor.

3.2.2 QUALITY CONTROL/QUALITY ASSURANCE

We will minimize the potential for cross-contamination by using new, disposable, nitrile sampling gloves for collection of each soil and groundwater sample; using new polyethylene and/or silicone sample tubing for collection of each groundwater sample; decontaminating the hand auger and other soil sampling equipment before each use; and calibrating field instruments in accordance with manufacturer's instructions.

SME's field representative will collect quality control (QC) samples as summarized in Table 1 in accordance with SOP 6, Field Quality Control Samples. The sample handling and custody requirements, laboratory analytical methods, analysis reporting limits, and reporting protocols will be consistent with those described in the project QAPP.

3.2.3 WASTE MANAGEMENT

We will manage investigation-derived wastes as described in SOP 12, Investigative Derived Wastes, in the QAPP.

4. ANALYSIS PLAN

An Fibertec Environment Services, Inc., a Metiri Group Company (Fibertec) will analyze soil and groundwater samples for one or more of the following analytes or analyte groups to screen for the potential presence of impact:

- Volatile organic compounds (VOCs)
- Polynuclear aromatic hydrocarbons (PAHs)
- Polychlorinated biphenyls (PCBs)
- Metals (cadmium, chromium, and lead)

The laboratory will analyze the samples using the following USEPA Methods:

- VOCs – Method 8260 for soil/groundwater
- PAHs – Method 8270 for soil/groundwater
- PCBs – Method 8082A for soil
- Cadmium, chromium, and lead – Method 6020 for soil/groundwater

If total lead is measured in soil at a concentration above 75,000 µg/kg, the soil sample may also be analyzed for fine/coarse lead fractions. In addition, if total chromium is measured in a soil sample(s) at concentrations above the most restrictive Part 201 criterion for hexavalent chromium, we may submit the soil sample from each soil type with the highest total chromium concentration for chemical analysis of hexavalent chromium using USEPA Method 7196.

Laboratory testing, analysis method reporting limits (RLs), QA/QC procedures, and reporting protocols used or performed by the laboratory will be consistent with those described in the project QAPP.

5. DATA EVALUATION AND REPORTING

We will review the data collected during this site assessment to verify/validate the data and evaluate if the data can be used for the purpose of the project (i.e., data usability). Following data review, verification, and validation, we will prepare a summary report detailing the assessment findings. The report will include details of the activities performed, procedures followed, and results. The report also will include a sampling location diagram, tabulated analytical results, soil boring logs, a copy of the laboratory analytical report for samples collected, and a copy of the chain-of-custody (COC) records.

6. ESTIMATED SCHEDULE

The environmental activities described in this SAP are to be implemented according to the estimated schedule presented below. This schedule is in weeks relative to USEPA approval of the SAP.

- Field sampling Week 1
- Laboratory analyses Weeks 2 through 3
- Data evaluation and tables/figures Weeks 3 through 5

7. ESTIMATED BUDGET

The environmental activities described in this SAP will be invoiced in accordance with our contract with Barry County for the grant.

- Project Management, SAP, and Field Sampling \$3,900
- Laboratory \$3,600
- Reporting \$2,500

TOTAL ESTIMATED BUDGET: \$10,000

8. IDENTIFICATION OF AUTHOR

This Sampling and Analysis Plan was prepared by Mr. Casey E. Smith, CPG and reviewed by Ms. Sara I. Bals, EIT.

PREPARED BY:



Casey E. Smith, CPG
Senior Consultant

REVIEWED BY:

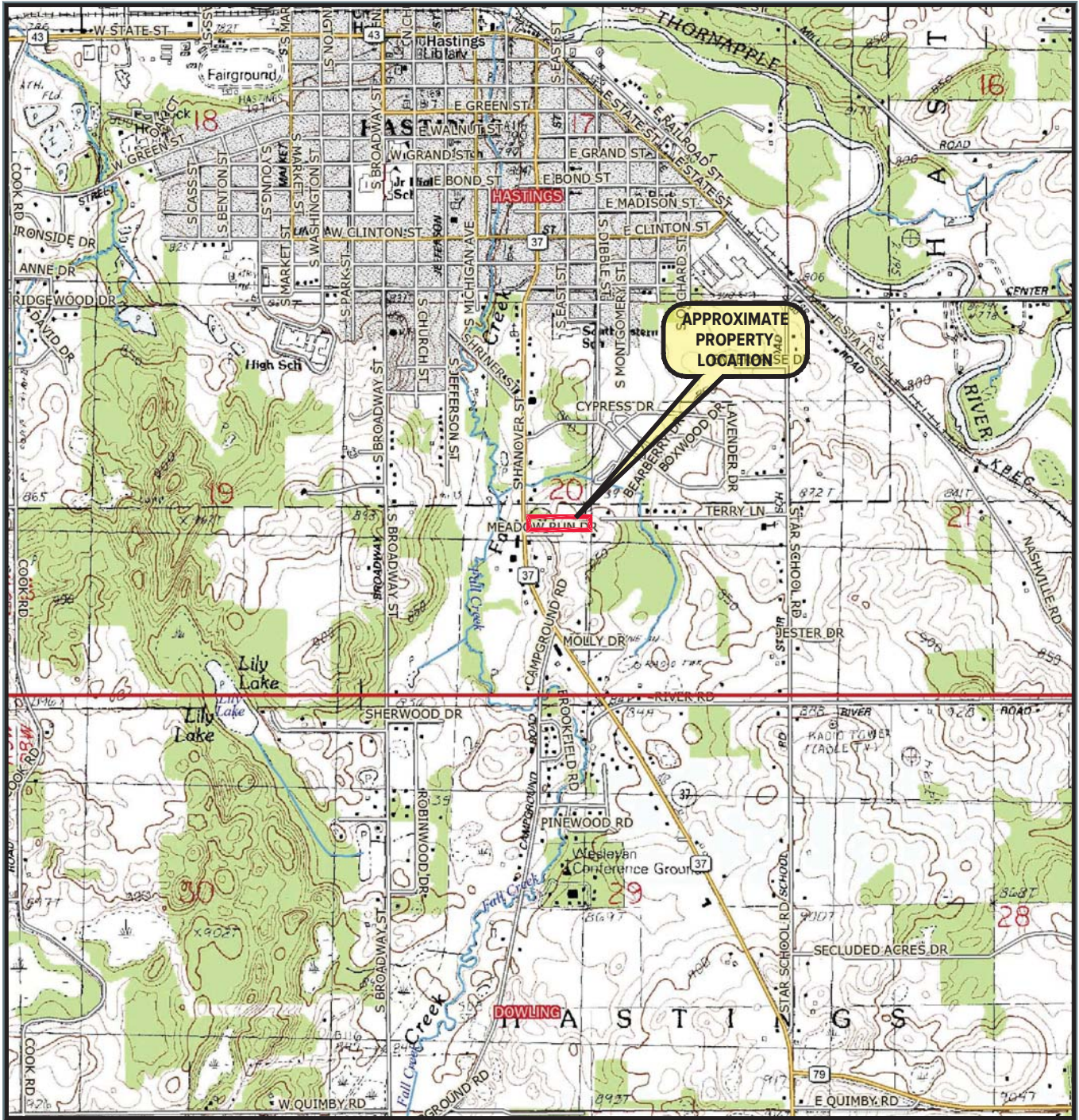


Sara I. Bals, EIT
Senior Consultant

FIGURES

FIGURE 1: PROPERTY LOCATION MAP

FIGURE 2: PROPERTY FEATURES AND PROPOSED SAMPLE LOCATION DIAGRAM



Base map obtained from ERIS®

USGS QUADRANGLE(S) REFERENCED

HASTINGS (MI) 1982
DOWLING (MI) 1982



SCALE: 1" = 2000'

No.	Revision Date	Date	12/21/2023
	Drawn By	JGR	
	Designed By	CES	
	Scale	1" = 2000'	
	Project	095284.00.003	

PROPERTY LOCATION MAP
1633 SOUTH HANOVER STREET
HASTINGS, MICHIGAN



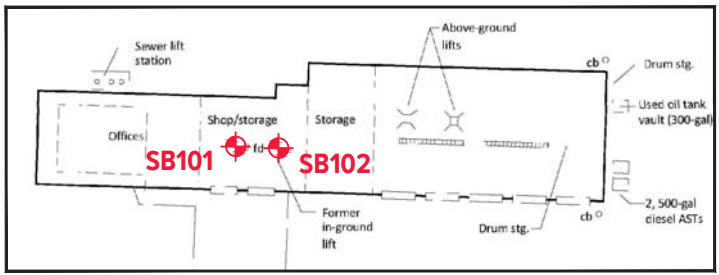
www.sme-usa.com

Figure No. 1



LEGEND

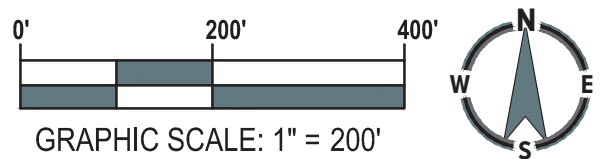
- APPROXIMATE PROPERTY BOUNDARY
- PROPOSED SOIL BORING LOCATION WITH GROUNDWATER SAMPLE



PROPOSED BORINGS IN BUILDING

Scale: 1" = 60'

- NOTE:
1. BASE DRAWING INFORMATION PROVIDED FROM A PDF/DRAWING TITLED SITE BUILDING DETAIL, PREPARED BY SES, DATED 11/01/23.
 2. AERIAL IMAGE TAKEN FROM GOOGLE EARTH PRO AND BARRY COUNTY PARCEL MAP.



No.	Revision Date	Date	12/21/2023
	Drawn By	JGR/JAB	
	Designed By	CES	
	Scale	AS NOTED	
	Project	095284.00.003	

**PROPERTY FEATURES AND
PROPOSED SAMPLE LOCATION DIAGRAM
1633 SOUTH HANOVER STREET
HASTINGS, MICHIGAN**

SME
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Figure No. 2

TABLE

TABLE 1: PROPOSED SAMPLE COLLECTION AND ANALYSES



TABLE 1
PROPOSED SAMPLE COLLECTION AND ANALYSES
1633 SOUTH HANOVER STREET
HASTINGS, MICHIGAN
SME Project No. 095284.00.003

Sample Target	Sample ID	Planned Boring Depth (feet bgs)	Target Sample		Media	ANALYTES			
			Sample Depth (feet bgs)	Rationale		VOCs ²	PAHs ²	PCBs ²	Metals ³
Evaluate soil and groundwater conditions near the floor drain.	SB101	8	1-2 feet and 1 foot above groundwater depth	To evaluate soil conditions at multiple depths below the floor drain, including immediately below the concrete and immediately above the water table.	Soil	2	2	2	2
		8/GW ¹	Depth of groundwater	Anticipated depth to groundwater.	Groundwater	1	1	0	1
Evaluate soil and groundwater conditions near the in-ground hydraulic hoist.	SB102	8	1-2 feet and 1 foot above groundwater depth	To evaluate soil conditions at multiple depths adjacent to the in-ground hydraulic hoist.	Soil	2	2	2	0
		8/GW ¹	Depth of groundwater	Anticipated depth to groundwater.	Groundwater	1	1	0	0
SUBTOTALS					Soil	4	4	4	2
					Groundwater	2	2	0	1
QC SAMPLES	Trip Blank/Methanol				Soil	1	0	0	0
					Groundwater	1	0	0	0
	Equipment Blank				Soil	0	0	0	0
					Groundwater	1	1	0	1
	Field Duplicate				Soil	1	1	1	1
					Groundwater	1	1	0	1
	Matrix Spike/ Matrix Spike Duplicate				Soil	1	1	1	1
					Groundwater	1	1	0	1
Subtotal QC Samples					Soil	3	2	2	2
					Groundwater	4	3	0	3
TOTAL SAMPLES					Soil	7	6	6	4
					Groundwater	6	5	0	4

NOTES:

¹ - The soil boring will be advanced to 8 feet below ground surface (bgs) or to groundwater, whichever is shallower. If groundwater is not encountered by 8 feet bgs, the boring may be advanced to the depth of groundwater for purposes of collecting a groundwater sample, unless refusal is encountered.

² - VOCs - Volatile Organic Compounds; PAHs - Polynuclear Aromatic Hydrocarbons; PCBs - Polychlorinated Biphenyls.

³ - Chromium, cadmium, and lead.



*Passionate People Building
and Revitalizing our World*

