

DRAFT

FILL MATERIAL SAMPLING REPORT

8221 MARCUS AVENUE
DETROIT, WAYNE COUNTY, MICHIGAN 48213



OCTOBER 28, 2025
REVISED DECEMBER 11, 2025

PREPARED FOR:
THE CITY OF DETROIT DEMOLITION DEPARTMENT
1301 THIRD STREET, SUITE 606
DETROIT, MICHIGAN 48226



FILL MATERIAL SAMPLING REPORT

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DETROIT, WAYNE COUNTY, MICHIGAN 48213

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EXECUTIVE SUMMARY

The Mannik & Smith Group, Inc. (MSG) was retained by the City of Detroit (COD) to perform sampling and analysis of fill materials at the property commonly addressed as 8221 Marcus Avenue, Detroit, Wayne County, Michigan (hereinafter, the "Site"). The Site location, as referenced to nearby roads and major geographic features, is shown on Figure 1, *Site Location Map*. Figure 2, *Site Layout*, depicts the current layout of the Site.

This Executive Summary is provided to summarize the results of the work performed at the Site. The Executive Summary is general in nature and should not be used to replace or be considered apart from the entirety of this report.

The purpose of the work was to assist the COD's blight remediation efforts with the sampling and analysis of fill material at the Site through soil sample collection from pre-determined depths, as described in the COD's *Sampling and Analysis of Fill Materials Scope of Services*, dated June 17, 2025. Sample analyses associated with this work included volatile organic compounds (VOCs); semivolatile organic compounds (SVOCs); polychlorinated biphenyls (PCBs); arsenic, barium, cadmium, chromium, copper, lead, mercury, selenium, silver, and zinc (10 Michigan metals); chloride; herbicides; and pesticides. Analytical results were compared to the current generic residential cleanup criteria (GRCC) promulgated under Part 201 of the *Natural Resources and Environmental Protection Act* (NREPA), 1994 P.A. 451, as amended (Part 201).

Pursuant to a request by the COD, MSG has completed sampling and analysis of fill material at the Site, as described in the COD's *Sampling and Analysis of Fill Materials Scope of Services*, dated June 17, 2025. Results of this work, which are subject to the limitations presented in *Appendix A, Limitations*, incorporated by reference herewith, revealed the following:

- The stratigraphy encountered during soil boring advancement of 8221 SB01, 8221 SB02, and 8221 SB03 generally consisted of two to five feet of tan sand underlain by silty clay to six feet below ground surface (bgs), the maximum depth explored for this investigation. Field photoionization detector (PID) readings of the recovered soil cores ranged from 0.0 to 0.9 parts per million (ppm). There were no visual (staining) and/or olfactory (e.g., petroleum-like odors) indications of contamination observed during soil sampling activities; however, brick and/or concrete debris were observed in 8221 SB02 and 8221 SB03.
- Concentrations of arsenic were detected in soil sample 8221 SB03 (5-6') in excess of its respective Part 201 drinking water protection criteria (DWPC) and groundwater surface water interface protection criteria (GSIPC).
- Concentrations of barium, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, bis(2-ethylhexyl) phthalate, butyl benzyl phthalate, chromium (Total), chrysene, copper, di-n-butyl fluoranthene, indeno(1,2,3-cd)pyrene, lead, mercury, phenanthrene, phthalate, pyrene, and zinc were detected in soil samples 8221 SB01 (1-2'), 8221 SB02 (3-4'), and/or 8221 SB03 (5-6') at concentrations above laboratory method detection limits; however, detected concentrations were below their respective Part 201 GRCC and/or Statewide Default Background Levels.
- Toxicity Characteristic Leaching Procedure (TCLP) laboratory analytical results revealed that concentrations of arsenic were not in excess of 40 C.F.R. § 261.24 Title 40 - *Protection of Environment, Chapter I - Environmental Protection Agency, Subchapter I - Solid Wastes, Part 261- Identification and Listing of Hazardous Waste, Subpart C - Characteristics of Hazardous Waste*.
- VOCs, PCBs, pesticides, and herbicides were not detected above laboratory method detection reporting limits.
- Groundwater was not encountered during soil boring activities completed as part of this investigation. Groundwater is not utilized as drinking water at or near the Site, as municipal water is supplied via the COD, and the general geology of the Site and surrounding area consists of fill materials underlain by clay overlying bedrock. Therefore, the drinking water (DW) exposure pathway can be considered not applicable. Additionally, groundwater was not encountered during this investigation to transport contaminants to either storm sewers or surface water and the clay layer also inhibits migration. Therefore, the groundwater surface water exposure pathway can be considered not applicable.

MSG has evaluated the analytical results of the fill material. Based upon the analytical results, we have determined that the material is contaminated above the state's Part 201 GRCC, as applicable.

MSG warrants that no substantive information or documentation was deleted, omitted, or changed that would otherwise cause the MSG to reach a different conclusion. Furthermore, MSG understands that the COD and its agencies and authorities may rely upon the overall completeness, accuracy, and conclusions in this report and hereby provides reliance on the contents presented herein.

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TABLE OF CONTENTS

Executive Summary	ES-1
1.0 Introduction	1
2.0 Purpose and Scope of Work	1
3.0 Site Assessment Methodology.....	1
3.1 Preliminary Site Work Activities	1
3.2 Soil Sample Collection.....	2
3.3 Toxicity Characteristic Leaching Procedure (TCLP) Soil Sample Collection	2
3.4 Decontamination.....	2
3.5 Analytical Methods	3
3.6 Quality Assurance/Quality Control.....	3
4.0 Summary of results	3
4.1 Site Geology and Hydrogeology	3
4.2 Soil Sample Analytical Results	3
4.3 TCLP Analytical Results	4
4.4 Exposure Evaluation.....	4
5.0 Findings	4
Figures	
Figure 1	Site Location Map
Figure 2	Site Layout
Tables	
Table 1	Soil Sample Analytical Detection Summary
Table 2	TCLP Analytical Detection Summary
Appendices	
Appendix A	Limitations
Appendix B	Daily Field Reports
Appendix C	Investigation Photographs
Appendix D	Soil Boring Logs
Appendix E	Laboratory Analytical Reports and Chain of Custody Forms

1.0 INTRODUCTION

The Mannik & Smith Group, Inc. (MSG) was retained by the City of Detroit (COD) to conduct sampling and analysis of fill materials at the property commonly addressed as 8221 Marcus Avenue, Detroit, Wayne County, Michigan (hereinafter, the "Site"). The Site location as referenced to nearby roads and major geographic features is presented as *Figure 1, Site Location Map*. *Figure 2, Site Layout*, depicts the current layout of the Site.

The purpose of this work was to assist the COD's blight remediation efforts with the sampling and analysis of fill material at the Site through soil sample collection from pre-determined depths. The scope of work for this investigation was performed in general accordance with the COD's *Sampling and Analysis of Fill Materials Scope of Services*, dated June 17, 2025. This report presents the findings of this investigation. Soil samples were collected by MSG on September 4, 2025. The findings of this report are valid as of the report date, subject to the limitations presented in *Appendix A, Limitations*.

At the time of this investigation, the Site was vacant and formerly occupied by residential structures. Former Site building(s) had been demolished as part of the Blight Removal Program prior to commencement of this work.

2.0 PURPOSE AND SCOPE OF WORK

The purpose of the work was to assist the COD's blight remediation efforts with the sampling and analysis of fill material at the Site through soil sample collection from pre-determined depths, as described in the COD's *Sampling and Analysis of Fill Materials Scope of Services*, dated June 17, 2025, and modified in the field (when necessary) based on encountered conditions and professional judgment of the MSG field geologist.

MSG performed the following scope of work in general accordance with the COD's *Sampling and Analysis of Fill Materials Scope of Services*, dated June 17, 2025:

- Advanced three (3) onsite soil borings to a maximum depth of six feet below ground surface (bgs) utilizing a direct push drill rig at the locations depicted on Figure 2.
- Collected one (1) discrete soil sample for laboratory analysis from each soil boring at a depth of 1-2 feet bgs, 3-4 feet bgs, or 5-6 feet bgs, depending on the soil boring.
- Submitted soil samples to an independent analytical laboratory for chemical analysis.
- Prepared this report summarizing the activities and results of this work.

Per the COD's *Sampling and Analysis of Fill Materials Scope of Services*, dated June 17, 2025, sample analyses included volatile organic compounds (VOCs); semi-volatile organic compounds (SVOCs); polychlorinated biphenyls (PCBs); arsenic, barium, cadmium, chromium, copper, lead, mercury, selenium, silver, and zinc (10 Michigan metals); chloride; herbicides; and pesticides. Soil sample analytical results were compared to the current generic residential cleanup criteria (GRCC) promulgated under Part 201 of the *Natural Resources and Environmental Protection Act* (NREPA), 1994 P.A. 451, as amended (Part 201).

3.0 SITE ASSESSMENT METHODOLOGY

The following subsections describe the methodologies employed by MSG at the Site during sampling activities that were conducted on September 4, 2025 and October 13, 2025. Daily field activity reports prepared by MSG are presented in *Appendix B, Daily Field Reports*.

3.1 Preliminary Site Work Activities

Prior to conducting subsurface soil sampling activities, MSG contacted the MISSDIG utility locating system to identify and physically mark underground utilities. If necessary, proposed soil boring locations were modified based on the results of the utility markings. Additionally, MSG reviewed readily available Site building records

or documents to ensure that this scope of work was conducted on the correct property and in the areas of the former Site structure.

3.2 Soil Sample Collection

The sampling plan for the Site was based on the COD's *Sampling and Analysis of Fill Materials Scope of Services*, dated June 17, 2025, and modified in the field (if necessary) based on encountered conditions and professional judgment of MSG's field personnel. MSG advanced three (3) soil borings, designated 8221 SB01, 8221 SB02, and 8221 SB03, using a direct push drill rig at the locations depicted on Figure 2. Photographs collected during completion of this work are provided in *Appendix C, Investigation Photographs*.

Soils were continuously profiled at each soil boring location from the ground surface to the termination depth of six feet bgs using a 5-foot long, closed-piston Macro-Core® sampling device. A new disposable high-density polyethylene (HDPE) liner was placed within the sampler between each 5-foot sample interval. The recovered soil samples were examined and logged in the field by the MSG field geologist. The soils were classified by MSG's field geologist in general accordance with *ASTM D 2488, Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)*. Soil descriptions were based on visual examination and interpretation by the field geologist.

Soil samples were examined for visual and olfactory indications of impact in accordance with the COD's *Sampling and Analysis of Fill Materials Scope of Services*, dated June 17, 2025, and were continuously screened upon retrieval of each sample interval with a MiniRAE 10.6 electron volt (eV) photoionization detector (PID) calibrated with isobutylene span gas. The PID measures the concentration of airborne ionizable gasses and vapors and automatically displays any detected concentrations in parts per million (PPM). The PID measures total concentrations of VOC vapors present and cannot distinguish between individual VOC constituents. PID readings for each sample interval were recorded on the individual soil boring logs, which are included in *Appendix D, Soil Boring Logs*.

Soil samples were collected in general accordance with the COD's *Sampling and Analysis of Fill Materials Scope of Services*, dated June 17, 2025. The soil samples were placed into appropriate pre-preserved and unpreserved laboratory-supplied sample containers, as appropriate for the associated laboratory analyses. Soil samples collected for VOC analysis were placed in laboratory supplied pre-tared 40-milliliter (ml) vials with septum sealed threaded caps that were pre-preserved with methanol provided by the analytical laboratory. Groundwater was not encountered during the investigation.

3.3 Toxicity Characteristic Leaching Procedure (TCLP) Soil Sample Collection

On October 13, 2025, MSG mobilized to the Site to collect an additional soil sample based on request from the COD. Sample location and analyte(s) were based on the laboratory results of the initial soil investigation. MSG personnel advanced one soil boring in the immediate vicinity of the soil boring location that exhibited the highest laboratory result(s) in excess of Part 201 GRCC. Soils were continuously profiled from the ground surface to the termination depth of six feet bgs using a direct push drill rig. These soils were homogenized in a stainless-steel bowl (or equivalent) to produce a single, composite soil sample. The composite soil sample was placed into unpreserved laboratory-supplied sample containers, as appropriate for the associated laboratory analyses.

The composite soil sample was collected to create a single, representative sample to provide a laboratory result that includes the overlying and/or underlying soils in the area of concern to comprehensively represent the backfill soils that may be removed.

3.4 Decontamination

Before initiation of sampling and drilling activities and between each sampling/soil boring, equipment was cleaned to avoid the potential for cross-contamination during field activities. Pertinent equipment and tooling

were thoroughly cleaned using a phosphate-free soap to remove chemical residue and caked-on soils. After sample collection was completed, each soil boring location was abandoned with the soil cuttings generated at each soil boring location and finished to match the original surface.

3.5 Analytical Methods

A total of three (3) soil samples designated 8221 SB01 (1-2'), 8221 SB02 (3-4'), and 8221 SB03 (5-6'), and one (1) composite soil sample designated 8221 Marcus SB3 (0'-6') Comp were collected as part of this investigation. These soil samples were submitted to ALS Environmental Laboratory (ALS) in Holland, Michigan for laboratory analysis of the following parameters per the requested parameters as described in the COD's *Sampling and Analysis of Fill Materials Scope of Services*, dated June 17, 2025, and individual TCLP analysis:

- VOCs by United States Environmental Protection Agency (USEPA) Method SW8260D;
- SVOCs by USEPA Method SW8270E;
- PCBs by USEPA Method SW8082A;
- 10 Michigan metals by USEPA Method SW6020B and SW7471B;
- Chloride by USEPA Method SW9056A;
- Herbicides by USEPA Method SW8151A; and
- Pesticides by USEPA Method SW8081B.

3.6 Quality Assurance/Quality Control

Quality assurance and quality control (QA/QC) was achieved in the field by using MSG's standard operating procedures (SOPs) for sample collection, sample screening, sample preservation, and chain-of-custody protocols to ensure sample integrity. Per the COD's *Sampling and Analysis of Fill Materials Scope of Services*, dated June 17, 2025, duplicate soil samples and field blanks were not collected.

Laboratory QC was achieved by using standard analytical methods, the analyses of spiked and laboratory quality control samples, and the use of internal laboratory quality assurance protocols. Review of the laboratory's QC data indicated the validity of the data and that it is able to be used for assessing soil samples collected during this work.

4.0 SUMMARY OF RESULTS

The following subsections include a discussion of the soil samples that were collected from the Site on September 4, 2025 and October 13, 2025.

4.1 Site Geology and Hydrogeology

The stratigraphy encountered during soil boring advancement of 8221 SB01, 8221 SB02, and 8221 SB03 generally consisted of two to five feet of tan sand underlain by silty clay to six feet bgs, the maximum depth explored for this investigation. Field PID readings of the recovered soil cores ranged from 0.0 to 0.9 ppm. There were no visual (staining) and/or olfactory (e.g., petroleum-like odors) indications of contamination observed during soil sampling activities; however, brick and/or concrete debris were observed in 8221 SB02 and 8221 SB03.

Groundwater was not encountered during soil boring activities completed as part of this investigation.

4.2 Soil Sample Analytical Results

Three (3) soil samples, designated 8221 SB01 (1-2'), 8221 SB02 (3-4'), and 8221 SB03 (5-6'), were collected from the Site and submitted to ALS for laboratory analysis of VOCs, SVOCs, PCBs, Michigan 10 Metals, chloride, herbicides, and pesticides.

The analytical results and comparisons to applicable Part 201 GRCC are summarized in *Table 1, Soil Sample Analytical Detection Summary*. Copies of the laboratory analytical data reports and chain of custody forms are included in *Appendix E, Laboratory Analytical Reports and Chain of Custody Forms*.

A summary of the soil sample analytical detections in excess of Part 201 GRCC is provided below:

Chemical	CAS Number	Soil Sample (feet bgs)	Part 201 GRCC Exceeded / Concentration (µg/kg ¹)	Maximum Detected Concentration (µg/kg)
Arsenic	7440-38-2	8221 SB03 (5-6')	GSIPC ² / 4,600 DWPC ³ / 4,600	6,000

¹µg/kg – micrograms per kilogram;

²GSIPC – Groundwater Surface Water Interface Protection Criteria

³DWPC – Drinking Water Protection Criteria

4.3 TCLP Analytical Results

Arsenic was analyzed following leach testing using USEPA method EPA 6020 B. Laboratory results are summarized and compared to 40 C.F.R. § 261.24 Title 40 - Protection of Environment, Chapter I - Environmental Protection Agency, Subchapter I - Solid Wastes, Part 261 - Identification and Listing of Hazardous Waste, Subpart C - Characteristics of Hazardous Waste in *Table 2, TCLP Analytical Detection Summary Table*. Upon comparison, the laboratory analytical results following TCLP testing were below laboratory method detection limits.

Copies of the laboratory analytical data report and chain of custody forms are included in Appendix E.

4.4 Exposure Evaluation

MSG has completed a preliminary evaluation for the Site and associated exposure pathways. Cleanup criteria are applicable if it is reasonable and relevant for the corresponding exposure pathway to be or become complete.

Groundwater was not encountered during soil boring activities completed as part of this investigation. Groundwater is not utilized as drinking water at or near the Site, as municipal water is supplied via the COD, and the general geology of the Site and surrounding area consists of fill materials underlain by clay overlying bedrock. Therefore, the drinking water (DW) exposure pathway can be considered not applicable. Additionally, groundwater was not encountered during this investigation to transport contaminants to either storm sewers or surface water and the clay layer also inhibits migration, therefore, the groundwater surface water exposure pathway can be considered not applicable.

5.0 FINDINGS

MSG has evaluated the analytical results of the fill material samples collected at the Site in general accordance with the COD's *Sampling and Analysis of Fill Materials Scope of Services*, dated June 17, 2025. The findings of this investigation are presented below:

- The stratigraphy encountered during soil boring advancement of 8221 SB01, 8221 SB02, and 8221 SB03 generally consisted of two to five feet of tan sand underlain by silty clay to six feet bgs, the maximum depth explored for this investigation. Field PID readings of the recovered soil cores ranged from 0.0 to 0.9 ppm. There were no visual (staining) and/or olfactory (e.g., petroleum-like odors) indications of contamination observed during soil sampling activities; however brick and/or concrete debris were observed in 8221 SB02 and 8221 SB03.
- Concentrations of arsenic were detected in soil sample 8221 SB03 (5-6') in excess of its respective Part 201 DWPC and GSIPC.

- Concentrations of barium, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, bis(2-ethylhexyl) phthalate, butyl benzyl phthalate, chromium (Total), chrysene, copper, di-n-butyl fluoranthene, indeno(1,2,3-cd)pyrene, lead, mercury, phenanthrene, phthalate, pyrene, and zinc were detected in soil samples 8221 SB01 (1-2'), 8221 SB02 (3-4'), and/or 8221 SB03 (5-6') at concentrations above laboratory method detection limits; however, detected concentrations were below their respective Part 201 GRCC and/or Statewide Default Background Levels.
- TCLP laboratory analytical results revealed that concentrations of arsenic were not in excess of 40 C.F.R. § 261.24 Title 40 - Protection of Environment, Chapter I - Environmental Protection Agency, Subchapter I - Solid Wastes, Part 261- Identification and Listing of Hazardous Waste, Subpart C - Characteristics of Hazardous Waste.
- VOCs, PCBs, pesticides, and herbicides were not detected above laboratory method detection reporting limits.
- Groundwater was not encountered during soil boring activities completed as part of this investigation. Groundwater is not utilized as drinking water at or near the Site, as municipal water is supplied via the COD, and the general geology of the Site and surrounding area consists of fill materials underlain by clay overlying bedrock. Therefore, the DW exposure pathway can be considered not applicable. Additionally, groundwater was not encountered during this investigation to transport contaminants to either storm sewers or surface water and the clay layer also inhibits migration. Therefore, the groundwater surface water exposure pathway can be considered not applicable.

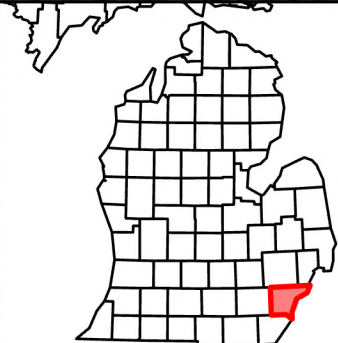
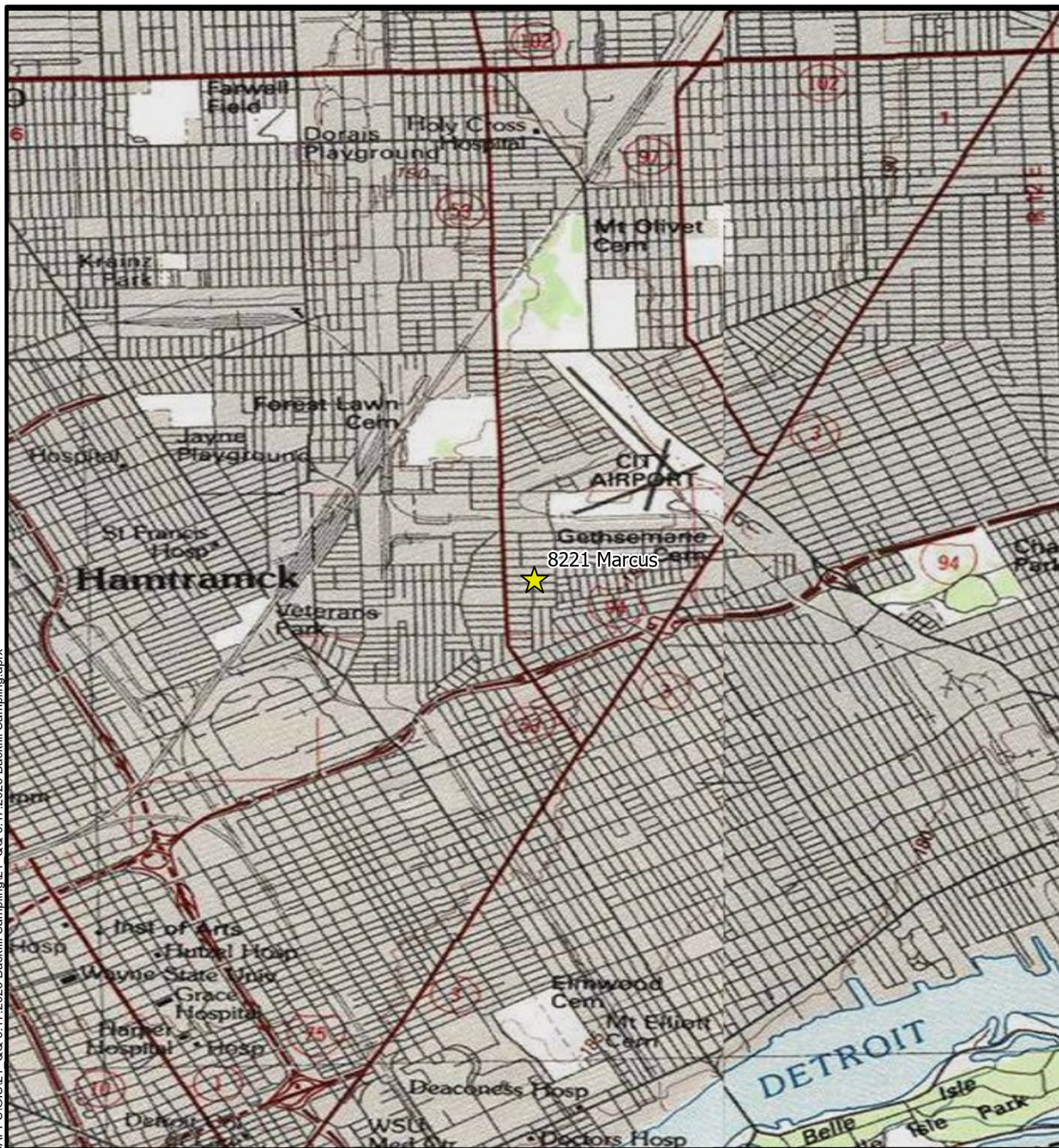
MSG has evaluated the analytical results of the fill material. Based upon the analytical results, we have determined that the material is contaminated above the state's Part 201 GRCC, as applicable.

MSG warrants that no substantive information or documentation was deleted, omitted, or changed that would otherwise cause the MSG to reach a different conclusion. Furthermore, MSG understands that the COD and its agencies and authorities may rely upon the overall completeness, accuracy, and conclusions in this report and hereby provides reliance on the contents presented herein.

FIGURES



Date Saved: 9/22/2025 8:38 PM Coordinate System: GCS WGS 1984
Path: W:\Projects\Projects A-E\DETROIT\060\ENG\APPS\GIS\21_QQ 6.17.2025 Backfill Sampling\21_QQ 6.17.2025 Backfill Sampling.aprx



★ Site Location



FIGURE 1
SITE LOCATION

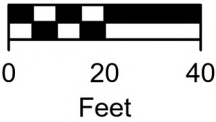
8221 Marcus, Detroit, MI

DATE
9/23/2025

DRAWN BY
JWW

DESIGNED BY
JWW

PROJECT NO.
DETRO060



-  Sample Locations
-  Parcels (Current)
-  Subject Property

Notes
• Parcel boundaries are approximate
• Basemap Credits: Wayne - 2020 - 6in - 4-band:



FIGURE 2
Site Layout

8221 Marcus, Detroit, MI

DATE 9/22/2025	DRAWN BY JWW	DESIGNED BY KRB	PROJECT NO. DETR0060
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TABLES



Table 1
Soil Sample Analytical Detection Summary

Table 1
Soil Sample
Analytical Detection Summary

Detroit Backfill Sampling
8221 Marcus, Detroit, Michigan

SOIL: Part 201/213 Generic Residential Cleanup Criteria Revised October 12, 2023 Units: µg/kg			Volatile Organic Compounds (VOCs)	Semivolatile Organic Compounds (SVOCs)												Michigan 10 Metals												Pesticides/Herbicides	Polychlorinated Biphenyls (PCBs)	Inorganic Anions/Ions
				Benzo(a)anthracene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(g,h,i)perylene	Benzo(a)pyrene	Bis(2-ethylhexyl) phthalate	Butyl Benzyl Phthalate	Chrysene	Di-n-butyl Phthalate	Fluoranthene	Indeno(1,2,3-cd)pyrene	Phenanthrene	Pyrene	Arsenic	Barium (B)	Cadmium (B)	Chromium (Total)	Copper (B)	Lead (B)	Mercury (B,Z)	Selenium (B)	Silver (B)	Zinc (B)	Chloride			
CAS Number	56-55-3	205-99-2		207-08-9	191-24-2	50-32-8	117-81-7	85-68-7	218-01-9	84-74-2	206-44-0	193-39-5	85-01-8	129-00-0	7440-38-2	7440-39-3	7440-43-9	7440-47-3	7440-50-8	7439-92-1	7439-97-6	7782-49-2	7440-22-4	7440-66-6	16887006					
Statewide Default Background Levels	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5,800	75,000	1,200	18,000	32,000	21,000	130	410	1,000	47,000	NA					
Drinking Water Protection Criteria (DWPC)	NLL	NLL		NLL	NLL	NLL	NLL	3.1E+05	NLL	7.6E+05 (C)	7.3E+05	NLL	56,000	4.8E+05	4,600	1.3E+06	6,000	30,000	5.8E+06	7.0E+05	1,700	4,000	4,500	2.4E+06	5.00E+06					
Groundwater Surface Water Interface Protection Criteria (GSIPC)	NLL	NLL		NLL	NLL	NLL	NLL	1.2E+05 (X)	NLL	11,000	5,500	NLL	2,100	ID	4,600	(G)	(G,X)	3,300	(G)	(G,X)	50 (M); 1.2	400	100 (M); 27	(G)	(X)					
Soil Volatilization to Indoor Air Inhalation (SVIIC)	NLV	ID		NLV	NLV	NLV	NLV	NLV	ID	NLV	1.0E+09 (D)	NLV	2.8E+06	1.0E+09 (D)	NLV	NLV	NLV	NLV	NLV	NLV	48,000	NLV	NLV	NLV	NLV					
Soil Volatilization to Indoor Air Pathway (SVIAP)	1.6E+05 (MM)	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	1,700	2.5E+07	NA	NA	NA	-	NA	NA	22 (M)	NA	NA	NA	-					
Infinite Source Volatile Soil Inhalation Criteria (VSIC)	NLV	ID		NLV	NLV	NLV	NLV	NLV	ID	NLV	7.4E+08	NLV	1.6E+05	6.5E+08	NLV	NLV	NLV	NLV	NLV	NLV	52,000	NLV	NLV	NLV	NLV					
Finite Source Volatile Soil Inhalation Criteria (5 m) (VSIC 5m)	NLV	ID		NLV	NLV	NLV	NLV	NLV	ID	NLV	7.4E+08	NLV	1.6E+05	6.5E+08	NLV	NLV	NLV	NLV	NLV	NLV	52,000	NLV	NLV	NLV	NLV					
Finite Source Volatile Soil Inhalation Criteria (2 m) (VSIC 2m)	NLV	ID		NLV	NLV	NLV	NLV	NLV	ID	NLV	7.4E+08	NLV	1.6E+05	6.5E+08	NLV	NLV	NLV	NLV	NLV	NLV	52,000	NLV	NLV	NLV	NLV					
Particulate Soil Inhalation Criteria (PSIC)	ID	ID		ID	8.0E+08	1.5E+06	7.0E+08	4.7E+10	ID	3.3E+09	9.3E+09	ID	6.7E+06	6.7E+09	7.2E+05	3.3E+08	1.7E+06	2.6E+05	1.3E+08	1.0E+08	2.0E+07	1.3E+08	6.7E+06	ID	ID					
Direct Contact Criteria (DCC)	20,000	20,000		2.0E+05	2.5E+06	2,000	2.8E+06	3.1E+05 (C)	2.0E+06	7.6E+05 (C)	4.6E+07	20,000	1.6E+06	2.9E+07	7,600	3.7E+07	5.5E+05	2.5E+06	2.0E+07	4.0E+05	1.6E+05	2.6E+06	2.5E+06	1.7E+08	5.0E+5 (F)					
Soil Saturation Concentration Screening Levels (C _{sat})	NA	NA		NA	NA	NA	1.0E+07	3.1E+05	NA	7.6E+05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					
Recommended Interim Action Screening Level (RIASL)	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.7E-02	NA	NA	NA	--					
SAMPLE ID	DEPTH	SAMPLE DATE																												
8221 SB01	1-2	9/4/2025	ND	15.2	17.8	8.59	7.27	13.9	34.4	413	14.5	86.6	31.0	10.6	19.2	27.8	<3,040	12,200	<1,220	3,730	5,750	7,920	20.1	<3,040	<3,040	28,700	ND	ND	<10,500	
8221 SB02	3-4	9/4/2025	ND	<18.6	20.4	<18.6	<18.6	22.3	<92.0	<186	<18.6	<92.0	22.3	<18.6	<18.6	20.4	4,190	22,700	<1,400	5,270	8,840	20,500	64.8	<3,500	<3,500	51,300	ND	ND	<11,900	
8221 SB03	5-6	9/4/2025	ND	<7.17	<7.17	<7.17	<7.17	<7.17	<35.5	<71.7	<7.17	<35.5	<7.17	<7.17	<7.17	<7.17	6,000	57,000	<1,230	15,900	15,200	7,240	<20.0	<3,070	<3,070	43,300	ND	ND	<11,100	

Notes:
Bold indicates concentration above laboratory reporting limits.
Exceeds DWPC
Exceeds GSIPC
Exceeds Applicable Soil Vapor Inhalation screening level
Exceeds Two or More DWPC, GSIPC, and/or Applicable Soil Vapor Inhalation screening levels
Exceeds PSIC, DCC, and/or Csat, likely exceeds others
ND = Not Detected above laboratory reporting limits
NS = Not Sampled or Not Analyzed
NR = Not Reported (Data missing from provided report)
Notes in parentheses and standard abbreviations from Part 201 Rules 299.1 through 299.50, updated October 12, 2023
VIAP Screening Levels and notes from EGLE Guidance Document For The Vapor Intrusion Pathway, Appendix D.1 Vapor Intrusion Screening Values, May 2013, updated February 26, 2024

Table 2
TCLP Analytical Detection Summary

Detroit Backfill Sampling
8221 Marcus, Detroit, Michigan

40 C.F.R. § 261.24 Code of Federal Regulations Title 40 - Protection of Environment Chapter I - Environmental Protection Agency Subchapter I - Solid Wastes Part 261- Identification and Listing of Hazardous Waste Subpart C - Characteristics of Hazardous Waste <i>Units: mg/L</i>		TCLP Metals
Maximum Concentration of Contaminants for the Toxicity Characteristic		5.00
SAMPLE ID	SAMPLE DATE	
8221 Marcus SB3 (0'-6') Comp	10/13/2025	<0.00190

Notes:
Bold indicates concentration above method detection limits.
Exceeds Maximum Concentration of Contaminates for the Toxicity Characteristic

APPENDIX A

LIMITATIONS



LIMITATIONS

This investigation and related documentation are site-specific, which means they pertain to the environmental conditions of the Site only.

The Mannik & Smith Group, Inc. (MSG) performed its services associated with the investigation in conformance with the care and skill ordinarily used by other reputable environmental consulting firms practicing under similar conditions, at the same time, and in the same or similar locality. In preparing this report, MSG may have relied on information obtained from or provided by others. MSG makes no representation or warranty regarding the accuracy or completeness of this information gathered through outside sources or subcontracted services. No warranty, guarantee, or certification of any kind, expressed or implied, at common law or created by statute, is extended, made, or intended by rendering these environmental consulting services or by furnishing this written report. Environmental conditions and regulations are subject to constant change and reinterpretation. One should not assume that any on-site conditions and/or regulatory statutes or rules will remain constant after MSG has completed the scope of work for this project. Furthermore, because the facts stated in these reports are subject to professional interpretation, differing conclusions could be reached by other environmental professionals.

Contaminants may be hidden in subsurface material, covered by pavement, vegetation, or other substances. Additionally, contamination may not be present in predictable locations. MSG has prepared a logical investigation program to reduce the client's risk of discovering unknown contamination. This risk may be reduced by more extensive exploration on the Site. Even with additional exploration, it is not possible to completely eliminate the risk of discovering contamination on the Site. It can not be assumed that samples collected and conditions observed are representative of an area that has not been sampled and/or tested.

Some environmental assessments are undertaken to satisfy "due diligence", "all appropriate inquiry," or other regulatory requirements provided in federal, state, or local law. Although MSG strives to investigate a site in accordance with the scope of work as defined by written agreement with a client, it cannot warrant that the work undertaken for this report will satisfy "due diligence", "all appropriate inquiry," or any other similar standard under any federal, state, or local law.

Due to changing environmental regulatory conditions and potential on-site activities after the completion of investigation, the client may rely upon the conditions within this investigation report for a period of six months from the report's issuance date.

APPENDIX B

DAILY FIELD REPORTS





DAILY FIELD REPORT

Client: City of Detroit Demolition Department
Project: Sampling and Analysis of Fill Material

Report No.: 1
Job No.: DETR0060

Date: <u>09/04/2025</u>	Day: <u>Thursday</u>	Temp: <u>50 ° F</u> (AM) <u>N/A</u> (PM)	
MSG Personnel: <u>SRK, BM</u>		Cloud Cover: <u>80%</u> (AM) <u>N/A</u> (PM)	
		Precip.: <u>N/A</u> (AM) <u>N/A</u> (PM)	
Personnel: <u>MSG</u>			
MSG Hours On-Site: <u>~ 1 hours</u>			

Contractors Information		
Contractor: <u>MSG</u>	No. Men and Type: <u>2; Operator/Geologist</u>	Equipment Type: <u>Geoprobe 7822DT</u>

Summary of Work Performed:
- Advanced three (3) onsite soil borings to a maximum depth of 6 feet below ground surface (bgs) - Collected soil samples from each soil boring (from the interval with the greatest potential to be impacted based on field indicators).

Field Notes:
0825 – SRK onsite (8221 Marcus Avenue) 0828 – Marked out boring locations. 0830 – BM onsite 0835 – Unloaded and prepared equipment. Safety meeting. 0855 – Began drilling SB01 0857 – Finished drilling SB01 0900 – Began drilling SB02 0902 – Finished drilling SB02 0904 – Began drilling SB03 0906 – Finished drilling SB03 0906 – Sampled 8221 SB01 (1-2') 0918 – Sampled 8221 SB02 (3-4') 0932 – Sampled 8221 SB03 (5-6') 0938 – Packed up equipment 0945 – MSG off site

Supporting Documentation					
Photograph Taken	Yes ☒	No ☐	Samples Collected	Yes ☒	No ☐
Photo Log Attached	Yes ☒	No ☐	COC Attached	Yes ☒	No ☐
				Boring/MW Logs	Yes ☒ No ☐
				Field Note Book Taken	Yes ☒ No ☐
Problem Identification and Corrective Measures					
N/A					
Resolved? Yes ☐ No ☐					



DAILY FIELD REPORT

Client: City of Detroit Demolition Department
Project: Sampling and Analysis of Fill Material – 8221 Marcus

Report No.: 2
Job No.: DETR0060

Date: 10/13/2025	Day: Monday	Temp: 57° F (AM) 69° F (PM)
MSG Personnel: EMB, BSM		Cloud Cover: 0% (AM) 10% (PM)
		Precip.: None (AM) None (PM)
Personnel: MSG		Wind: 6 mph NE (AM) 8 mph ENE (PM)
MSG Hours On-Site: ~0.75 hours		
Contractors Information		
Contractor: MSG	No. Men and Type: 2; Helper/Geologist/Driller	Equipment Type: Geoprobe 7822DT
Summary of Work Performed:		
- Advanced one (1) onsite soil boring to a maximum depth of 6 feet below ground surface (bgs) - Collected a composite soil sample from the soil boring from 0'-6'.		
Field Notes:		
1152 – MSG onsite (8221 Marcus). 1225 - Collected composite sample from SB-3 from 0'-6'. 8221 Marcus SB-3 (0'-6") Comp. - MSG GPS'd SB location. 1230 – MSG off site.		

Supporting Documentation								
Photograph Taken	Yes ☒	No ☐	Samples Collected	Yes ☒	No ☐	Boring/MW Logs	Yes ☒	No ☐
Photo Log Attached	☐	☒	COC Attached	☒	☐	Field Note Book Taken	☒	☐
Problem Identification and Corrective Measures								
N/A								
Resolved? Yes ☐ No ☐								

APPENDIX C

INVESTIGATION PHOTOGRAPHS





Photo 1: Viewing Site at the time of initial soil boring activities

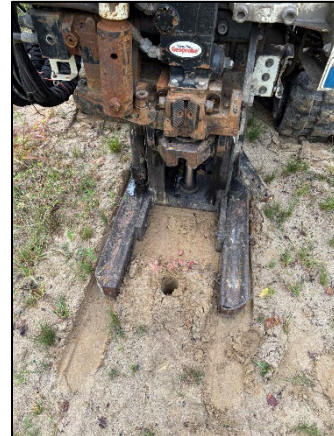


Photo 2: Viewing 8221 SB01 Drilling, Facing North.



Photo 3: Viewing 8221 SB01 Soils, Facing North.



Photo 4: Viewing 8221 SB02 Drilling, Facing North.



Photo 5: Viewing 8221 SB02 Soils, Facing North.



Photo 6: Viewing 8221 SB03 Drilling, Facing North.



Photo 7: Viewing 8221 SB03 Soils, Facing North.



Photo 8: View of the Site at the time of TCLP sampling activities



Photo 9: View of soil recovery during TCLP sampling



Photo 10: Viewing TCLP soil boring location

APPENDIX D

SOIL BORING LOGS





The Mannik & Smith Group, Inc.
2365 Haggerty Rd South Canton, MI 48188
ph: 734-397-3100 fax: 734-397-3131
www.manniksmithgroup.com

BORING ID: SB01

PAGE 1 OF 1

CLIENT <u>City of Detroit</u>	PROJECT NAME <u>8221 Marcus</u>
PROJECT NUMBER <u>DETR0060</u>	PROJECT LOCATION <u>8221 Marcus Ave, Detroit, Michigan</u>
DATE STARTED <u>9/4/25</u> COMPLETED <u>9/4/25</u>	BORING DIAMETER: <u>3.25 inches</u>
DRILLING CONTRACTOR <u>MSG</u>	SURVEY COORDINATES: <u>N/A</u>
DRILLING METHOD <u>Direct Push</u>	GROUND SURFACE ELEV.: <u>N/A</u>
LOGGED BY <u>SRK</u> CHECKED BY <u>PDH</u>	GROUND WATER ENCOUNTERED DURING DRILLING: <u>Not Encountered</u>
NOTES	WATER LEVEL AFTER DRILLING: <u>N/A</u>

ENV BORING LOG (PID) - GINT STD US LAB.GDT - 9/8/25 14:30 - W:\PROJECTS\PROJECTS A-EIDETRO060\ADMIN\24 QQ 7.25.2025 BACKFILL SAMPLING (8 SITES)\8221 MARCUS\BORING LOGS\IDETRO060_8221.GPJ

DEPTH (FEET)	SAMPLE TYPE NUMBER	RECOVERY (FEET)	GRAPHIC LOG	DEPTH (FEET)	MATERIAL DESCRIPTION	PID (ppm)	LABORATORY SAMPLE	REMARKS
0								
					Tan SAND, trace gravel, dry	0.4		
						0.0		Collected soil sample 8221 SB01 (1-2) at 9:06
						0.0		
						0.0		
					Becomes moist at 4 feet bgs	0.0		
5				5.0		0.0		
					Brown and Gray Silty CLAY, trace gravel, moist	0.0		
				6.0	Becomes dry at 5.5 feet bgs	0.0		
					Bottom of borehole at 6.0 feet.			

APPENDIX E
LABORATORY ANALYTICAL REPORTS AND CHAIN OF CUSTODY FORMS





right solutions.
right partner.

CERTIFICATE OF ANALYSIS

Work Order

HN2512778

Client

The Mannik & Smith Group, Inc.

Project

8221_Marcus

Project Date

September 05, 2025

Reporting Contact

Ryan Montri



right solutions.
right partner.

September 22, 2025

Ryan Montri
The Mannik & Smith Group, Inc.
2365 Haggerty Road South
Suite 100
Canton, MI 48188

Re: **8221_Marcus**

Date Received: **09/05/2025**

Work Order: **HN2512778**

Dear Ryan,

Enclosed are the results of the sample(s) submitted to our laboratory.

The analytical data provided relates directly to the samples received by ALS Environmental - Holland and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to contact me:

ADDRESS: 3352 128th Avenue, Holland, MI, USA PHONE: +1 (616) 399-6070 FAX: +1 (616) 399-6185

Bill Carey

/S/ **BILL CAREY**

Project Manager



Client: The Mannik & Smith Group, Inc.
Project: 8221_Marcus

Work Order: HN2512778
Date Received: 05-Sep-2025

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier II level requested by the client.

Sample Receipt

3 soil/solid samples were received for analysis at ALS Environmental on 05-Sep-2025. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

Organics

EPA 8260D-FULL HN-5035A-10mL-S

Run ID: 3484571

The MSD recovery was above the upper control limit. The corresponding result in the parent sample was non-detect, therefore no qualification is necessary. tetrachloroethene, trichloroethane

The MSD recovery was below the lower control limit. The corresponding result in the parent sample may be biased low for the following analyte(s): 1,1,2,2-tetrachloroethane, chloroethane

The MS recovery was above the upper control limit. The corresponding result in the parent sample was non-detect, therefore no qualification is necessary: tetrachloroethene, trichloroethane

The MS recovery was below the lower control limit. The corresponding result in the parent sample may be biased low for this analyte: 1,1,2,2-tetrachloroethane, chloroethane

Run ID: 3484265

The MSD recovery was above the upper control limit. The corresponding result in the parent sample was non-detect, therefore no qualification is necessary. see qc

The MSD recovery was below the lower control limit. The corresponding result in the parent sample may be biased low for the following analyte(s): 1,1,2,2-tetrachloroethane, chloroethane

The MS recovery was above the upper control limit. The corresponding result in the parent sample was non-detect, therefore no qualification is necessary: see qc

The MS recovery was below the lower control limit. The corresponding result in the parent sample may be biased low for this analyte: 1,1,2,2-tetrachloroethane, chloroethane

EPA 8081B-3546-S (High)

Run ID: 3499942

QC-2217472-001: The Continuing Calibration Verification did not meet acceptance criteria with low bias. Instrument sensitivity was verified as sufficient through the analysis of a low-level standard. The following non-detects are reported without qualification: Methoxychlor

QC-2217472-002/005/006: The Continuing Calibration Verification did not meet method acceptance criteria for the following analytes, results are to be considered estimated: Methoxychlor

The MS recovery was above the upper control limit. The corresponding result in the parent sample was non-detect, therefore no qualification is necessary: Endrin aldehyde

HN2512778-001: The Continuing Calibration Verification did not meet acceptance criteria with low bias. Instrument sensitivity was verified as sufficient through the analysis of a low-level standard. The following non-detects are reported without qualification: Methoxychlor

HN2512778-003: The Continuing Calibration Verification did not meet acceptance criteria with low bias. Instrument sensitivity was verified as sufficient through the analysis of a low-level standard. The following non-detects are reported without qualification: Methoxychlor



Client: The Mannik & Smith Group, Inc.
Project: 8221_Marcus

Work Order: HN2512778
Date Received: 05-Sep-2025

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier II level requested by the client.

Run ID: 3507861

HN2512778-002: The Continuing Calibration Verification did not meet acceptance criteria with high bias, however, the sample results were non-detect for the following analytes: Methoxychlor

EPA 8082A-3546-S (High)

Run ID: 3496503

HN2512778-001: The Continuing Calibration Verification did not meet method acceptance criteria for the following analytes, results are to be considered estimated: DCB

HN2512778-002: The Continuing Calibration Verification did not meet method acceptance criteria for the following analytes, results are to be considered estimated: DCB

HN2512778-003: The Continuing Calibration Verification did not meet method acceptance criteria for the following analytes, results are to be considered estimated: DCB

Metals

EPA 6020B-3050B-S

Run ID: 3482195

The MS recovery was below the lower control limit. The corresponding result in the parent sample may be biased low for this analyte:Ba Pb batch 2209268

The MSD recovery was below the lower control limit. The corresponding result in the parent sample may be biased low for the following analyte(s):Ba Pb batch 2209268

The MSD recovery was outside of the control limit; however, the result in the parent sample is greater than 4x the spike amount. No qualification is required for this analyte:Zn batch 2209268

The MS recovery was outside of the control limit; however, the result in the parent sample is greater than 4x the spike amount. No qualification is required for this analyte:Zn batch 2209268

HN2512778-001: Arsenic - The reporting limit is elevated due to dilution for high concentrations of non-target analytes.As Cd Se Ag

HN2512778-002: Cadmium - The reporting limit is elevated due to dilution for high concentrations of non-target analytes.Cd Se Ag

HN2512778-003: Cadmium - The reporting limit is elevated due to dilution for high concentrations of non-target analytes.Cd Se Ag

Inorganics

EPA 9056A-S (High)

Run ID: 3468479

The MS recovery was above the upper control limit. The corresponding result in the parent sample may be biased high for this analyte: Bromide

The MSD recovery was above the upper control limit. The corresponding result in the parent sample may be biased high for this analyte: Bromide

The LCS recovery was above the upper control limit. The sample results for this batch may be biased high for this analyte: Fluoride

SAMPLE DETECTION SUMMARY

This form includes only detections above the limits as presented.

For a full listing of sample results, continue to the Sample Results section of this Report.



CLIENT ID: 8221 SB01 (1-2)	Lab ID: HN2512778-001
-----------------------------------	------------------------------

Analyte	Results	Flag	MRL	Units	Method
Barium	12.2	S	3.04	mg/kg	EPA 6020B
Benzo(a)anthracene	15.2		6.67	µg/kg	EPA 8270E
Benzo(a)pyrene	13.9		6.67	µg/kg	EPA 8270E
Benzo(b)fluoranthene	17.8		6.67	µg/kg	EPA 8270E
Benzo(g,h,i)perylene	7.27		6.67	µg/kg	EPA 8270E
Benzo(k)fluoranthene	8.59		6.67	µg/kg	EPA 8270E
Butyl benzyl phthalate	413		67.0	µg/kg	EPA 8270E
Chromium	3.73		3.04	mg/kg	EPA 6020B
Chrysene	14.5		6.67	µg/kg	EPA 8270E
Copper	5.75		3.04	mg/kg	EPA 6020B
Di(2-ethylhexyl) phthalate (bis(2-Ethylhexyl) phthalate, DEHP)	34.4		33.0	µg/kg	EPA 8270E
Di-n-butyl phthalate	86.6		33.0	µg/kg	EPA 8270E
Fluoranthene	31.0		6.67	µg/kg	EPA 8270E
Indeno(1,2,3-cd) pyrene	10.6		6.67	µg/kg	EPA 8270E
Lead	7.92	S	3.04	mg/kg	EPA 6020B
Mercury	0.0201		0.0200	mg/kg	EPA 7471B
Percent Moisture	4.7		0.1	%	EPA 3550C
Phenanthrene	19.2		6.67	µg/kg	EPA 8270E
Pyrene	27.8		6.67	µg/kg	EPA 8270E
Zinc	28.7		6.09	mg/kg	EPA 6020B

CLIENT ID: 8221 SB02 (3-4)	Lab ID: HN2512778-002
-----------------------------------	------------------------------

Analyte	Results	Flag	MRL	Units	Method
Arsenic	4.19		3.50	mg/kg	EPA 6020B
Barium	22.7		3.50	mg/kg	EPA 6020B
Benzo(a)pyrene	22.3		18.6	µg/kg	EPA 8270E
Benzo(b)fluoranthene	20.4		18.6	µg/kg	EPA 8270E
Chromium	5.27		3.50	mg/kg	EPA 6020B
Copper	8.84		3.50	mg/kg	EPA 6020B
Fluoranthene	22.3		18.6	µg/kg	EPA 8270E
Lead	20.5		3.50	mg/kg	EPA 6020B
Mercury	0.0648		0.0200	mg/kg	EPA 7471B
Percent Moisture	15.6		0.1	%	EPA 3550C
Pyrene	20.4		18.6	µg/kg	EPA 8270E
Zinc	51.3		7.00	mg/kg	EPA 6020B

CLIENT ID: 8221 SB03 (5-6)	Lab ID: HN2512778-003
-----------------------------------	------------------------------

Analyte	Results	Flag	MRL	Units	Method
Arsenic	6.00		3.07	mg/kg	EPA 6020B
Barium	57.0		3.07	mg/kg	EPA 6020B
Chromium	15.9		3.07	mg/kg	EPA 6020B

SAMPLE DETECTION SUMMARY

This form includes only detections above the limits as presented.

For a full listing of sample results, continue to the Sample Results section of this Report.



CLIENT ID: 8221 SB03 (5-6)			Lab ID: HN2512778-003		
Analyte	Results	Flag	MRL	Units	Method
Copper	15.2		3.07	mg/kg	EPA 6020B
Lead	7.24		3.07	mg/kg	EPA 6020B
Percent Moisture	10.6		0.1	%	EPA 3550C
Zinc	43.3		6.14	mg/kg	EPA 6020B

SAMPLE SUMMARY



Client: The Mannik & Smith Group, Inc.
Project: 8221_Marcus
Workorder: HN2512778

Laboratory Sample ID	Client Sample ID	Sample Matrix	Collection Date	Date Received
HN2512778-001	8221 SB01 (1-2)	SOIL/SOLID	09/04/25 09:06	09/05/25 08:00
HN2512778-002	8221 SB02 (3-4)	SOIL/SOLID	09/04/25 09:18	09/05/25 08:00
HN2512778-003	8221 SB03 (5-6)	SOIL/SOLID	09/04/25 09:32	09/05/25 08:00



ALS Environmental

Laboratory location:

Chain of Custody Form

Page 1 of 1

Customer Information		Project Information		Parameter/Method Request for Analysis														
Purchase Order		Project Name	8221_Marcus	A	VOCs (U.S. EPA Method 8260C (or Method 8260))													
Work Order		Project Number	DETR0060	B	SVOCs (U.S. EPA Method 8270D (or Method 8270))													
Company Name	The Mannik and Smith Group	Bill To Company	The Mannik and Smith Group	C	PCBs (U.S. EPA Method 8082)													
Send Report To	Ryan Montri	Invoice Attn		D	MI 10 Metals (U.S. EPA 6000/7000 Series Methods)													
Address	2365 Haggerty Rd South Suite 100	Address	2365 Haggerty Rd South Suite 100	E	Chorides (U.S. EPA Method 9056A)													
				F	Pesticides (U.S. EPA Method 8081B (or Method 8081))													
City/State/Zip	Canton, MI 48188	City/State/Zip	Canton, MI 48188	G	Herbicides (U.S. EPA Method 8151A (or Method 8151))													
Phone	734-397-3100	Phone	734-397-3100	H														
Fax		Fax		I														
e-Mail Address	RMontri@manna-smithgroup.com	e-Mail Address		J														
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold	
1	8221 SB01 (1-2)	9/4/25	9:06	Soil	7	3	X	X	X	X	X	X	X					
2	8221 SB02 (3-4)	↓	9:18	Soil	7	3	X	X	X	X	X	X	X					
3	8221 SB03 (5-6)	↓	9:32	Soil	7	3	X	X	X	X	X	X	X					
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Sampler(s): Please Print & Sign <i>Shannon Kaczmarek</i>		Shipment Method:		Required Turnaround Time: ☐ STD 10 Wk Days ☒ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour		Other _____		
Relinquished by: <i>Shannon Kaczmarek</i>	Date: 9/4/25	Time: 7:18	Received by: <i>Colin</i>		Notes:		Quote# HN-061825-M&S-MA	
Relinquished by: <i>[Signature]</i>	Date: 9/4/25	Time: 7:00	Received by (Laboratory): <i>[Signature]</i>		Cooler Temp.		QC Package: (Check Box Below)	
Logged by (Laboratory): <i>[Signature]</i>		Date: 9/5/25	Time: 7:00	Checked by (Laboratory): <i>[Signature]</i>		Level II: Standard QC		TRRP-Checklist
Preservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035						Level III: Std QC + Raw Data		TRRP Level IV
						Level IV: SW846 CLP-Like		
						Other: _____		

Environmental Division
Holland
Work Order Reference
HN2512778

Telephone : +1 616 399 6070

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.
Signature denotes acceptance of ALS Group USA, Corp. Terms and Conditions - Please click the link below for detailed Terms & Conditions:

<https://www.alsglobal.com/ALSGroupUSACorpTC>

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ALS Holland Sample Receiving Checklist

Received by: _____

Date/Time: _____

Carrier Name: _____

Shipping container/cooler in good condition?

Yes / No / Not Present

Custody seals intact on shipping container/cooler?

Yes / No / Not Present

Custody seals intact on sample bottles?

Yes / No / Not Present

Chain of Custody present?

Yes / No

COC signed when relinquished and received?

Yes / No

COC agrees with sample labels?

Yes / No

Samples in proper container/bottle?

Yes / No

Sample containers intact?

Yes / No

Sufficient sample volume for indicated test?

Yes / No

All samples received within holding time?

Yes / No

Container/Temp Blank temperature in compliance?

Yes / No

Temperature(s) (°C): _____

Thermometer(s): _____

Sample(s) received on ice?

Yes / No

Matrix/Matrices: _____

Cooler(s)/Kit(s): _____

Date/Time sample(s) sent to storage: _____

Water – VOA vials have zero headspace?

Yes / No / No Vials

Water – pH acceptable upon receipt?

Yes / No / N/A

pH strip lot #: _____ < 2 _____ > 12 _____ Other _____

pH adjusted (note adjustments below)?

Yes / No / N/A

pH adjusted by: _____

Login Notes:

REPORT QUALIFIERS AND DEFINITIONS

*	Value exceeds Regulatory Limit (if MCL displayed)
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
NC	Not Calculated
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
V	The Continuing Calibration Verification was outside of control criteria
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

Holland Laboratory Certifications¹

Agency	Type	ID	Issued	Expires
Alabama	Drinking Water (Secondary)	42500	12/17/2024	12/31/2025
Colorado	UST		07/01/2025	06/30/2026
Connecticut	Drinking Water (Secondary)	PH-0155	12/10/2024	12/31/2026
Florida	NELAP (Primary)	E871106	07/01/2025	06/30/2026
Illinois	NELAP (Secondary)	200076	11/14/2024	12/31/2025
Indiana	Drinking Water (Secondary)	C-MI-08	12/31/2024	09/04/2026
Iowa	State Specific	403	09/18/2023	09/01/2025
Kansas	NELAP (Secondary)	E-10411	07/09/2024	07/31/2025
Kentucky	Waste Water	KY98004	12/20/2024	12/31/2025
Kentucky	UST	120474	06/24/2024	06/30/2025
Michigan	Drinking Water (Primary)	0022	12/19/2023	09/04/2026
Minnesota	NELAP (Secondary)	026-999-449	12/17/2024	12/31/2025
Missouri	Drinking Water (Secondary)	01262	11/14/2024	12/30/2027
New Jersey	NELAP (Secondary)	MI015	07/01/2024	6/30/2025
New York	NELAP (Secondary)	12128	04/01/2025	04/01/2026
North Dakota	State Specific	R-192	11/18/2024	06/30/2025
Ohio	Drinking Water (Secondary)	87783	06/26/2025	6/30/2026
Pennsylvania	NELAP (Secondary)	68-03827	06/14/2024	07/31/2025
Texas	NELAP (Secondary)	T104704494	02/12/2025	01/31/2026
USDA	Domestic CA	Soil-MI-007	02/06/2025	08/07/2026
USDA	Soil Import	525-23-62-77572	03/03/2023	03/03/2026
West Virginia	State Specific	355	06/07/2025	08/31/2026
Wisconsin	State Specific	399084510	08/15/2024	08/31/2025

¹ - Scope available upon request

ANALYST SUMMARY



Client: The Mannik & Smith Group, Inc.
Project: 8221_Marcus

Work Order: HN2512778

Sample Name: 8221 SB01 (1-2)
Laboratory Code: HN2512778-001
Sample Matrix: SOIL/SOLID

Date Collected: 09/04/25
Date Received: 09/05/25

Analysis Method	Preparation Method	Container ID	Preparation Lot	Prepared By	Analysis Lot	Analyzed By
EPA 3550C		001-AA	2201191		3466157	Jacob Foley
EPA 6020B	EPA 3050B	001-AA	2209268	Weston Kotecki	3482195	Denise Coffey
EPA 7471B	Method	001-AA	2211818	Maxx Richey	3488236	Maxx Richey
EPA 8081B	EPA 3546	001-AA	2217472	Rachel Plantinga	3499942	Madison VandenBer
EPA 8082A	EPA 3546	001-AA	2212793	Rachel Plantinga	3496503	Nathaniel Dietlin
EPA 8151A	Method	001-AA	2217494	Willow Julien	3500433	Kathy Malmyga
EPA 8260D	EPA 5035A	001-AB	2202316	Jonathan Vazquez	3484265	John Garvale
EPA 8270E	EPA 3546	001-AA	2215327	Rachel Plantinga	3512737	Sam Bruzan
EPA 9056A	EPA 9056A	001-AA	2202102	Quoc Nguyen	3468479	Quoc Nguyen

Sample Name: 8221 SB02 (3-4)
Laboratory Code: HN2512778-002
Sample Matrix: SOIL/SOLID

Date Collected: 09/04/25
Date Received: 09/05/25

Analysis Method	Preparation Method	Container ID	Preparation Lot	Prepared By	Analysis Lot	Analyzed By
EPA 3550C		002-AA	2201191		3466157	Jacob Foley
EPA 6020B	EPA 3050B	002-AA	2209268	Weston Kotecki	3482195	Denise Coffey
EPA 7471B	Method	002-AA	2211818	Maxx Richey	3488236	Maxx Richey
EPA 8081B	EPA 3546	002-AA	2217472	Rachel Plantinga	3503436	Madison VandenBer
EPA 8081B	EPA 3546	002-AA	2217472	Rachel Plantinga	3507861	Madison VandenBer
EPA 8082A	EPA 3546	002-AA	2212793	Rachel Plantinga	3496503	Nathaniel Dietlin
EPA 8151A	Method	002-AA	2217494	Willow Julien	3500433	Kathy Malmyga
EPA 8260D	EPA 5035A	002-AB	2202316	Jonathan Vazquez	3484265	John Garvale
EPA 8270E	EPA 3546	002-AA	2215327	Rachel Plantinga	3512737	Sam Bruzan
EPA 9056A	EPA 9056A	002-AA	2202102	Quoc Nguyen	3468479	Quoc Nguyen

ANALYST SUMMARY



Client: The Mannik & Smith Group, Inc.
Project: 8221_Marcus

Work Order: HN2512778

Sample Name: 8221 SB03 (5-6)
Laboratory Code: HN2512778-003
Sample Matrix: SOIL/SOLID

Date Collected: 09/04/25
Date Received: 09/05/25

Analysis Method	Preparation Method	Container ID	Preparation Lot	Prepared By	Analysis Lot	Analyzed By
EPA 3550C		003-AA	2201191		3466157	Jacob Foley
EPA 6020B	EPA 3050B	003-AA	2209268	Weston Kotecki	3482195	Denise Coffey
EPA 7471B	Method	003-AA	2211818	Maxx Richey	3488236	Maxx Richey
EPA 8081B	EPA 3546	003-AA	2217472	Rachel Plantinga	3499942	Madison VandenBer
EPA 8082A	EPA 3546	003-AA	2212793	Rachel Plantinga	3496503	Nathaniel Dietlin
EPA 8151A	Method	003-AA	2217494	Willow Julien	3500433	Kathy Malmyga
EPA 8260D	EPA 5035A	003-AB	2202316	Jonathan Vazquez	3484571	John Garvale
EPA 8270E	EPA 3546	003-AA	2215327	Rachel Plantinga	3512737	Sam Bruzan
EPA 9056A	EPA 9056A	003-AA	2202102	Quoc Nguyen	3468479	Quoc Nguyen

Analytical Report



Client: The Mannik & Smith Group, Inc.
Project: 8221_Marcus
Matrix: SOIL/SOLID

Work Order: HN2512778
Date Collected: 09/04/25 09:06
Date Received: 09/05/25 08:00

CLIENT ID: 8221 SB01 (1-2) **Lab ID: HN2512778-001**

Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
General Chemistry Parameters								
Percent Moisture	EPA 3550C	4.7		%	0.1	1	09/05/25 13:36	NA
Chloride	EPA 9056A	ND		mg/kg	10.5	1	09/05/25 18:53	09/05/25 13:54
Metals								
Arsenic	EPA 6020B	ND		mg/kg	3.04	10	09/10/25 16:32	09/10/25 11:27
Barium	EPA 6020B	12.2	S	mg/kg	3.04	10	09/10/25 16:32	09/10/25 11:27
Cadmium	EPA 6020B	ND		mg/kg	1.22	10	09/10/25 16:32	09/10/25 11:27
Chromium	EPA 6020B	3.73		mg/kg	3.04	10	09/10/25 16:32	09/10/25 11:27
Copper	EPA 6020B	5.75		mg/kg	3.04	10	09/10/25 16:32	09/10/25 11:27
Lead	EPA 6020B	7.92	S	mg/kg	3.04	10	09/10/25 16:32	09/10/25 11:27
Selenium	EPA 6020B	ND		mg/kg	3.04	10	09/10/25 16:32	09/10/25 11:27
Silver	EPA 6020B	ND		mg/kg	3.04	10	09/10/25 16:32	09/10/25 11:27
Zinc	EPA 6020B	28.7		mg/kg	6.09	10	09/10/25 16:32	09/10/25 11:27
Mercury	EPA 7471B	0.0201		mg/kg	0.0200	1	09/12/25 09:28	09/12/25 08:10
Organochlorine Pesticides by GC/ECD								
4,4'-DDD	EPA 8081B	ND		µg/kg	16.4	1	09/16/25 09:43	09/15/25 11:32
4,4'-DDE	EPA 8081B	ND		µg/kg	16.4	1	09/16/25 09:43	09/15/25 11:32
4,4'-DDT	EPA 8081B	ND		µg/kg	16.4	1	09/16/25 09:43	09/15/25 11:32
Aldrin	EPA 8081B	ND		µg/kg	16.4	1	09/16/25 09:43	09/15/25 11:32
alpha-BHC	EPA 8081B	ND		µg/kg	16.4	1	09/16/25 09:43	09/15/25 11:32
beta-BHC	EPA 8081B	ND		µg/kg	16.4	1	09/16/25 09:43	09/15/25 11:32
Chlordane, Technical	EPA 8081B	ND		µg/kg	40.9	1	09/16/25 09:43	09/15/25 11:32
cis-Chlordane	EPA 8081B	ND		µg/kg	16.4	1	09/16/25 09:43	09/15/25 11:32
delta-BHC	EPA 8081B	ND		µg/kg	16.4	1	09/16/25 09:43	09/15/25 11:32
Dieldrin	EPA 8081B	ND		µg/kg	16.4	1	09/16/25 09:43	09/15/25 11:32
Endosulfan I	EPA 8081B	ND		µg/kg	16.4	1	09/16/25 09:43	09/15/25 11:32
Endosulfan II	EPA 8081B	ND		µg/kg	16.4	1	09/16/25 09:43	09/15/25 11:32
Endosulfan sulfate	EPA 8081B	ND		µg/kg	16.4	1	09/16/25 09:43	09/15/25 11:32
Endrin	EPA 8081B	ND		µg/kg	16.4	1	09/16/25 09:43	09/15/25 11:32
Endrin aldehyde	EPA 8081B	ND		µg/kg	16.4	1	09/16/25 09:43	09/15/25 11:32
Endrin ketone	EPA 8081B	ND		µg/kg	16.4	1	09/16/25 09:43	09/15/25 11:32
gamma-BHC (Lindane)	EPA 8081B	ND		µg/kg	16.4	1	09/16/25 09:43	09/15/25 11:32

Analytical Report



Client: The Mannik & Smith Group, Inc.
Project: 8221_Marcus
Matrix: SOIL/SOLID

Work Order: HN2512778
Date Collected: 09/04/25 09:06
Date Received: 09/05/25 08:00

CLIENT ID: 8221 SB01 (1-2)	Lab ID: HN2512778-001
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Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
Heptachlor	EPA 8081B	ND		µg/kg	16.4	1	09/16/25 09:43	09/15/25 11:32
Heptachlor epoxide	EPA 8081B	ND		µg/kg	16.4	1	09/16/25 09:43	09/15/25 11:32
Methoxychlor	EPA 8081B	ND		µg/kg	16.4	1	09/16/25 09:43	09/15/25 11:32
Toxaphene	EPA 8081B	ND		µg/kg	98.2	1	09/16/25 09:43	09/15/25 11:32
trans-Chlordane	EPA 8081B	ND		µg/kg	16.4	1	09/16/25 09:43	09/15/25 11:32
<i>Surr: Decachlorobiphenyl</i>	<i>EPA 8081B</i>	129		%REC	53-151	1	09/16/25 09:43	09/15/25 11:32
<i>Surr: Tetrachloro-m-xylene</i>	<i>EPA 8081B</i>	91.7		%REC	67-127	1	09/16/25 09:43	09/15/25 11:32

Semivolatile Organic Compounds by GC

Aroclor 1016	EPA 8082A	ND		µg/kg	67.5	1	09/15/25 13:09	09/12/25 09:18
Aroclor 1221	EPA 8082A	ND		µg/kg	67.5	1	09/15/25 13:09	09/12/25 09:18
Aroclor 1232	EPA 8082A	ND		µg/kg	67.5	1	09/15/25 13:09	09/12/25 09:18
Aroclor 1242	EPA 8082A	ND		µg/kg	67.5	1	09/15/25 13:09	09/12/25 09:18
Aroclor 1248	EPA 8082A	ND		µg/kg	67.5	1	09/15/25 13:09	09/12/25 09:18
Aroclor 1254	EPA 8082A	ND		µg/kg	67.5	1	09/15/25 13:09	09/12/25 09:18
Aroclor 1260	EPA 8082A	ND		µg/kg	67.5	1	09/15/25 13:09	09/12/25 09:18
Aroclor 1262	EPA 8082A	ND		µg/kg	67.5	1	09/15/25 13:09	09/12/25 09:18
Aroclor 1268	EPA 8082A	ND		µg/kg	67.5	1	09/15/25 13:09	09/12/25 09:18
Total PCB	EPA 8082A	ND		µg/kg	67.5	1	09/15/25 13:09	09/12/25 09:18
<i>Surr: Decachlorobiphenyl</i>	<i>EPA 8082A</i>	89.5		%REC	54-146	1	09/15/25 13:09	09/12/25 09:18
<i>Surr: Tetrachloro-m-xylene</i>	<i>EPA 8082A</i>	100		%REC	58-140	1	09/15/25 13:09	09/12/25 09:18
2,4,5-T	EPA 8151A	ND		µg/kg	6.73	1	09/17/25 21:53	09/16/25 15:45
2,4,5-TP (Silvex)	EPA 8151A	ND		µg/kg	6.73	1	09/17/25 21:53	09/16/25 15:45
2,4-D	EPA 8151A	ND		µg/kg	13.5	1	09/17/25 21:53	09/16/25 15:45
<i>Surr: DCAA</i>	<i>EPA 8151A</i>	52.0		%REC	10-116	1	09/17/25 21:53	09/16/25 15:45

Semivolatile Organic Compounds by GC-MS

1,1'-Biphenyl (BZ-0)	EPA 8270E	ND		µg/kg	33.0	1	09/19/25 12:28	09/12/25 14:42
1,2,4,5-Tetrachlorobenzene	EPA 8270E	ND		µg/kg	333	1	09/19/25 12:28	09/12/25 14:42
1,4-Dioxane (1,4-Diethyleneoxide)	EPA 8270E	ND		µg/kg	167	1	09/19/25 12:28	09/12/25 14:42
1-Methylnaphthalene	EPA 8270E	ND		µg/kg	6.67	1	09/19/25 12:28	09/12/25 14:42
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methylethyl) ether	EPA 8270E	ND		µg/kg	33.0	1	09/19/25 12:28	09/12/25 14:42

Analytical Report



Client: The Mannik & Smith Group, Inc.
Project: 8221_Marcus
Matrix: SOIL/SOLID

Work Order: HN2512778
Date Collected: 09/04/25 09:06
Date Received: 09/05/25 08:00

CLIENT ID: 8221 SB01 (1-2) **Lab ID: HN2512778-001**

Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
2,3,4,6-Tetrachlorophenol	EPA 8270E	ND		µg/kg	67.0	1	09/19/25 12:28	09/12/25 14:42
2,4,5-Trichlorophenol	EPA 8270E	ND		µg/kg	33.0	1	09/19/25 12:28	09/12/25 14:42
2,4,6-Trichlorophenol	EPA 8270E	ND		µg/kg	33.0	1	09/19/25 12:28	09/12/25 14:42
2,4-Dichlorophenol	EPA 8270E	ND		µg/kg	33.0	1	09/19/25 12:28	09/12/25 14:42
2,4-Dimethylphenol	EPA 8270E	ND		µg/kg	33.0	1	09/19/25 12:28	09/12/25 14:42
2,4-Dinitrophenol	EPA 8270E	ND		µg/kg	333	1	09/19/25 12:28	09/12/25 14:42
2,4-Dinitrotoluene (2,4-DNT)	EPA 8270E	ND		µg/kg	33.0	1	09/19/25 12:28	09/12/25 14:42
2,6-Dinitrotoluene (2,6-DNT)	EPA 8270E	ND		µg/kg	33.0	1	09/19/25 12:28	09/12/25 14:42
2-Chloronaphthalene	EPA 8270E	ND		µg/kg	6.67	1	09/19/25 12:28	09/12/25 14:42
2-Chlorophenol	EPA 8270E	ND		µg/kg	33.0	1	09/19/25 12:28	09/12/25 14:42
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	EPA 8270E	ND		µg/kg	33.0	1	09/19/25 12:28	09/12/25 14:42
2-Methylnaphthalene	EPA 8270E	ND		µg/kg	6.67	1	09/19/25 12:28	09/12/25 14:42
2-Methylphenol (o-Cresol)	EPA 8270E	ND		µg/kg	33.0	1	09/19/25 12:28	09/12/25 14:42
2-Nitroaniline	EPA 8270E	ND		µg/kg	33.0	1	09/19/25 12:28	09/12/25 14:42
2-Nitrophenol	EPA 8270E	ND		µg/kg	33.0	1	09/19/25 12:28	09/12/25 14:42
3&4-Methylphenol	EPA 8270E	ND		µg/kg	33.0	1	09/19/25 12:28	09/12/25 14:42
3,3'-Dichlorobenzidine	EPA 8270E	ND		µg/kg	167	1	09/19/25 12:28	09/12/25 14:42
3-Nitroaniline	EPA 8270E	ND		µg/kg	33.0	1	09/19/25 12:28	09/12/25 14:42
4-Bromophenyl phenyl ether (BDE-3)	EPA 8270E	ND		µg/kg	33.0	1	09/19/25 12:28	09/12/25 14:42
4-Chloro-3-methylphenol	EPA 8270E	ND		µg/kg	33.0	1	09/19/25 12:28	09/12/25 14:42
4-Chloroaniline	EPA 8270E	ND		µg/kg	67.0	1	09/19/25 12:28	09/12/25 14:42
4-Chlorophenyl phenylether	EPA 8270E	ND		µg/kg	33.0	1	09/19/25 12:28	09/12/25 14:42
4-Nitroaniline	EPA 8270E	ND		µg/kg	167	1	09/19/25 12:28	09/12/25 14:42
4-Nitrophenol	EPA 8270E	ND		µg/kg	333	1	09/19/25 12:28	09/12/25 14:42
Acenaphthene	EPA 8270E	ND		µg/kg	6.67	1	09/19/25 12:28	09/12/25 14:42
Acenaphthylene	EPA 8270E	ND		µg/kg	6.67	1	09/19/25 12:28	09/12/25 14:42
Acetophenone	EPA 8270E	ND		µg/kg	33.0	1	09/19/25 12:28	09/12/25 14:42
Anthracene	EPA 8270E	ND		µg/kg	6.67	1	09/19/25 12:28	09/12/25 14:42
Atrazine	EPA 8270E	ND		µg/kg	33.0	1	09/19/25 12:28	09/12/25 14:42
Benzaldehyde	EPA 8270E	ND		µg/kg	67.0	1	09/19/25 12:28	09/12/25 14:42

Analytical Report



Client: The Mannik & Smith Group, Inc.
Project: 8221_Marcus
Matrix: SOIL/SOLID

Work Order: HN2512778
Date Collected: 09/04/25 09:06
Date Received: 09/05/25 08:00

CLIENT ID: 8221 SB01 (1-2)	Lab ID: HN2512778-001
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Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
Benzo(a)anthracene	EPA 8270E	15.2		µg/kg	6.67	1	09/19/25 12:28	09/12/25 14:42
Benzo(a)pyrene	EPA 8270E	13.9		µg/kg	6.67	1	09/19/25 12:28	09/12/25 14:42
Benzo(b)fluoranthene	EPA 8270E	17.8		µg/kg	6.67	1	09/19/25 12:28	09/12/25 14:42
Benzo(g,h,i)perylene	EPA 8270E	7.27		µg/kg	6.67	1	09/19/25 12:28	09/12/25 14:42
Benzo(k)fluoranthene	EPA 8270E	8.59		µg/kg	6.67	1	09/19/25 12:28	09/12/25 14:42
bis(2-Chloroethoxy) methane	EPA 8270E	ND		µg/kg	33.0	1	09/19/25 12:28	09/12/25 14:42
bis(2-Chloroethyl) ether	EPA 8270E	ND		µg/kg	33.0	1	09/19/25 12:28	09/12/25 14:42
Butyl benzyl phthalate	EPA 8270E	413		µg/kg	67.0	1	09/19/25 12:28	09/12/25 14:42
Caprolactam	EPA 8270E	ND		µg/kg	33.0	1	09/19/25 12:28	09/12/25 14:42
Carbazole	EPA 8270E	ND		µg/kg	33.0	1	09/19/25 12:28	09/12/25 14:42
Chrysene	EPA 8270E	14.5		µg/kg	6.67	1	09/19/25 12:28	09/12/25 14:42
Di(2-ethylhexyl) phthalate (bis(2-Ethylhexyl) phthalate, DEHP)	EPA 8270E	34.4		µg/kg	33.0	1	09/19/25 12:28	09/12/25 14:42
Dibenz(a,h) anthracene	EPA 8270E	ND		µg/kg	33.0	1	09/19/25 12:28	09/12/25 14:42
Dibenzofuran	EPA 8270E	ND		µg/kg	33.0	1	09/19/25 12:28	09/12/25 14:42
Diethyl phthalate	EPA 8270E	ND		µg/kg	33.0	1	09/19/25 12:28	09/12/25 14:42
Dimethyl phthalate	EPA 8270E	ND		µg/kg	33.0	1	09/19/25 12:28	09/12/25 14:42
Di-n-butyl phthalate	EPA 8270E	86.6		µg/kg	33.0	1	09/19/25 12:28	09/12/25 14:42
Di-n-octyl phthalate	EPA 8270E	ND		µg/kg	33.0	1	09/19/25 12:28	09/12/25 14:42
Fluoranthene	EPA 8270E	31.0		µg/kg	6.67	1	09/19/25 12:28	09/12/25 14:42
Fluorene	EPA 8270E	ND		µg/kg	6.67	1	09/19/25 12:28	09/12/25 14:42
Hexachlorobenzene	EPA 8270E	ND		µg/kg	33.0	1	09/19/25 12:28	09/12/25 14:42
Hexachlorobutadiene	EPA 8270E	ND		µg/kg	33.0	1	09/19/25 12:28	09/12/25 14:42
Hexachlorocyclopentadiene	EPA 8270E	ND		µg/kg	33.0	1	09/19/25 12:28	09/12/25 14:42
Hexachloroethane	EPA 8270E	ND		µg/kg	33.0	1	09/19/25 12:28	09/12/25 14:42
Indeno(1,2,3-cd) pyrene	EPA 8270E	10.6		µg/kg	6.67	1	09/19/25 12:28	09/12/25 14:42
Isophorone	EPA 8270E	ND		µg/kg	167	1	09/19/25 12:28	09/12/25 14:42
Methylphenol, Total	EPA 8270E	ND		µg/kg	67.0	1	09/19/25 12:28	09/12/25 14:42
Naphthalene	EPA 8270E	ND		µg/kg	6.67	1	09/19/25 12:28	09/12/25 14:42
Nitrobenzene	EPA 8270E	ND		µg/kg	167	1	09/19/25 12:28	09/12/25 14:42
n-Nitrosodi-n-propylamine	EPA 8270E	ND		µg/kg	33.0	1	09/19/25 12:28	09/12/25 14:42
N-Nitrosodiphenylamine	EPA 8270E	ND		µg/kg	33.0	1	09/19/25 12:28	09/12/25 14:42

Analytical Report



Client: The Mannik & Smith Group, Inc.
Project: 8221_Marcus
Matrix: SOIL/SOLID

Work Order: HN2512778
Date Collected: 09/04/25 09:06
Date Received: 09/05/25 08:00

CLIENT ID: 8221 SB01 (1-2) **Lab ID: HN2512778-001**

Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
Pentachlorophenol	EPA 8270E	ND		µg/kg	33.0	1	09/19/25 12:28	09/12/25 14:42
Phenanthrene	EPA 8270E	19.2		µg/kg	6.67	1	09/19/25 12:28	09/12/25 14:42
Phenol	EPA 8270E	ND		µg/kg	33.0	1	09/19/25 12:28	09/12/25 14:42
Pyrene	EPA 8270E	27.8		µg/kg	6.67	1	09/19/25 12:28	09/12/25 14:42
Pyridine	EPA 8270E	ND		µg/kg	167	1	09/19/25 12:28	09/12/25 14:42
Surr: 2,4,6-Tribromophenol	EPA 8270E	42.5	S	%REC	48-94	1	09/19/25 12:28	09/12/25 14:42
Surr: 2-Fluorobiphenyl	EPA 8270E	43.8	S	%REC	50-103	1	09/19/25 12:28	09/12/25 14:42
Surr: 2-Fluorophenol	EPA 8270E	44.0		%REC	43-105	1	09/19/25 12:28	09/12/25 14:42
Surr: 4-Terphenyl-d14	EPA 8270E	50.1	S	%REC	55-111	1	09/19/25 12:28	09/12/25 14:42
Surr: Nitrobenzene-d5	EPA 8270E	39.4	S	%REC	47-100	1	09/19/25 12:28	09/12/25 14:42
Surr: Phenol-d6	EPA 8270E	45.0	S	%REC	49-110	1	09/19/25 12:28	09/12/25 14:42

Volatile Organic Compounds by GC-MS

1,1,1-Trichloroethane	EPA 8260D	ND		µg/kg	33.4	1	09/10/25 18:04	09/05/25 15:26
1,1,2,2-Tetrachloroethane	EPA 8260D	ND		µg/kg	33.4	1	09/10/25 18:04	09/05/25 15:26
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	EPA 8260D	ND		µg/kg	33.4	1	09/10/25 18:04	09/05/25 15:26
1,1,2-Trichloroethane	EPA 8260D	ND		µg/kg	33.4	1	09/10/25 18:04	09/05/25 15:26
1,1-Dichloroethane	EPA 8260D	ND		µg/kg	33.4	1	09/10/25 18:04	09/05/25 15:26
1,1-Dichloroethylene	EPA 8260D	ND		µg/kg	33.4	1	09/10/25 18:04	09/05/25 15:26
1,2,3-Trichlorobenzene	EPA 8260D	ND		µg/kg	111	1	09/10/25 18:04	09/05/25 15:26
1,2,3-Trichloropropane	EPA 8260D	ND		µg/kg	33.4	1	09/10/25 18:04	09/05/25 15:26
1,2,4-Trichlorobenzene	EPA 8260D	ND		µg/kg	111	1	09/10/25 18:04	09/05/25 15:26
1,2,4-Trimethylbenzene	EPA 8260D	ND		µg/kg	33.4	1	09/10/25 18:04	09/05/25 15:26
1,2-Dibromo-3-chloropropane (DBCP)	EPA 8260D	ND		µg/kg	111	1	09/10/25 18:04	09/05/25 15:26
1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 8260D	ND		µg/kg	33.4	1	09/10/25 18:04	09/05/25 15:26
1,2-Dichlorobenzene (o-Dichlorobenzene)	EPA 8260D	ND		µg/kg	33.4	1	09/10/25 18:04	09/05/25 15:26
1,2-Dichloroethane (Ethylene dichloride)	EPA 8260D	ND		µg/kg	111	1	09/10/25 18:04	09/05/25 15:26
1,2-Dichloropropane	EPA 8260D	ND		µg/kg	33.4	1	09/10/25 18:04	09/05/25 15:26
1,3,5-Trimethylbenzene	EPA 8260D	ND		µg/kg	111	1	09/10/25 18:04	09/05/25 15:26
1,3-Dichlorobenzene (m-Dichlorobenzene)	EPA 8260D	ND		µg/kg	33.4	1	09/10/25 18:04	09/05/25 15:26
1,3-Dichloropropene	EPA 8260D	ND		µg/kg	66.7	1	09/10/25 18:04	09/05/25 15:26

Analytical Report



Client: The Mannik & Smith Group, Inc.
Project: 8221_Marcus
Matrix: SOIL/SOLID

Work Order: HN2512778
Date Collected: 09/04/25 09:06
Date Received: 09/05/25 08:00

CLIENT ID: 8221 SB01 (1-2)	Lab ID: HN2512778-001
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Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
1,4-Dichlorobenzene (p-Dichlorobenzene)	EPA 8260D	ND		µg/kg	33.4	1	09/10/25 18:04	09/05/25 15:26
2-Butanone (Methyl ethyl ketone, MEK)	EPA 8260D	ND		µg/kg	222	1	09/10/25 18:04	09/05/25 15:26
2-Hexanone	EPA 8260D	ND		µg/kg	33.4	1	09/10/25 18:04	09/05/25 15:26
4-Methyl-2-pentanone (MIBK)	EPA 8260D	ND		µg/kg	33.4	1	09/10/25 18:04	09/05/25 15:26
Acetone	EPA 8260D	ND		µg/kg	111	1	09/10/25 18:04	09/05/25 15:26
Benzene	EPA 8260D	ND		µg/kg	33.4	1	09/10/25 18:04	09/05/25 15:26
Bromochloromethane	EPA 8260D	ND		µg/kg	33.4	1	09/10/25 18:04	09/05/25 15:26
Bromodichloromethane	EPA 8260D	ND		µg/kg	33.4	1	09/10/25 18:04	09/05/25 15:26
Bromoform	EPA 8260D	ND		µg/kg	33.4	1	09/10/25 18:04	09/05/25 15:26
Carbon disulfide	EPA 8260D	ND		µg/kg	33.4	1	09/10/25 18:04	09/05/25 15:26
Carbon tetrachloride	EPA 8260D	ND		µg/kg	33.4	1	09/10/25 18:04	09/05/25 15:26
Chlorobenzene	EPA 8260D	ND		µg/kg	33.4	1	09/10/25 18:04	09/05/25 15:26
Chlorodibromomethane	EPA 8260D	ND		µg/kg	33.4	1	09/10/25 18:04	09/05/25 15:26
Chloroethane (Ethyl chloride)	EPA 8260D	ND		µg/kg	111	1	09/10/25 18:04	09/05/25 15:26
Chloroform	EPA 8260D	ND		µg/kg	33.4	1	09/10/25 18:04	09/05/25 15:26
cis & trans-1,2-Dichloroethene	EPA 8260D	ND		µg/kg	66.7	1	09/10/25 18:04	09/05/25 15:26
cis-1,2-Dichloroethylene	EPA 8260D	ND		µg/kg	33.4	1	09/10/25 18:04	09/05/25 15:26
cis-1,3-Dichloropropene	EPA 8260D	ND		µg/kg	33.4	1	09/10/25 18:04	09/05/25 15:26
Cyclohexane	EPA 8260D	ND		µg/kg	111	1	09/10/25 18:04	09/05/25 15:26
Dichlorodifluoromethane (Freon-12)	EPA 8260D	ND		µg/kg	111	1	09/10/25 18:04	09/05/25 15:26
Ethylbenzene	EPA 8260D	ND		µg/kg	33.4	1	09/10/25 18:04	09/05/25 15:26
Isopropylbenzene	EPA 8260D	ND		µg/kg	33.4	1	09/10/25 18:04	09/05/25 15:26
m+p-Xylene	EPA 8260D	ND		µg/kg	66.7	1	09/10/25 18:04	09/05/25 15:26
Methyl acetate	EPA 8260D	ND		µg/kg	278	1	09/10/25 18:04	09/05/25 15:26
Methyl bromide (Bromomethane)	EPA 8260D	ND		µg/kg	111	1	09/10/25 18:04	09/05/25 15:26
Methyl chloride (Chloromethane)	EPA 8260D	ND		µg/kg	111	1	09/10/25 18:04	09/05/25 15:26
Methyl tert-butyl ether (MTBE)	EPA 8260D	ND		µg/kg	33.4	1	09/10/25 18:04	09/05/25 15:26
Methylcyclohexane	EPA 8260D	ND		µg/kg	33.4	1	09/10/25 18:04	09/05/25 15:26
Methylene chloride (Dichloromethane)	EPA 8260D	ND		µg/kg	278	1	09/10/25 18:04	09/05/25 15:26

Analytical Report



Client: The Mannik & Smith Group, Inc.
Project: 8221_Marcus
Matrix: SOIL/SOLID

Work Order: HN2512778
Date Collected: 09/04/25 09:06
Date Received: 09/05/25 08:00

CLIENT ID: 8221 SB01 (1-2) **Lab ID: HN2512778-001**

Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
o-Xylene	EPA 8260D	ND		µg/kg	33.4	1	09/10/25 18:04	09/05/25 15:26
Styrene	EPA 8260D	ND		µg/kg	33.4	1	09/10/25 18:04	09/05/25 15:26
Tetrachloroethylene (Perchloroethylene)	EPA 8260D	ND		µg/kg	33.4	1	09/10/25 18:04	09/05/25 15:26
Toluene	EPA 8260D	ND		µg/kg	33.4	1	09/10/25 18:04	09/05/25 15:26
Total Xylene	EPA 8260D	ND		µg/kg	100	1	09/10/25 18:04	09/05/25 15:26
trans-1,2-Dichloroethylene	EPA 8260D	ND		µg/kg	33.4	1	09/10/25 18:04	09/05/25 15:26
trans-1,3-Dichloropropylene	EPA 8260D	ND		µg/kg	33.4	1	09/10/25 18:04	09/05/25 15:26
Trichloroethene (Trichloroethylene)	EPA 8260D	ND		µg/kg	33.4	1	09/10/25 18:04	09/05/25 15:26
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	EPA 8260D	ND		µg/kg	33.4	1	09/10/25 18:04	09/05/25 15:26
Vinyl chloride (Chloroethene)	EPA 8260D	ND		µg/kg	33.4	1	09/10/25 18:04	09/05/25 15:26
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>EPA 8260D</i>	94.6		%REC	80-120	1	09/10/25 18:04	09/05/25 15:26
<i>Surr: 4-Bromofluorobenzene</i>	<i>EPA 8260D</i>	96.8		%REC	80-120	1	09/10/25 18:04	09/05/25 15:26
<i>Surr: Dibromofluoromethane</i>	<i>EPA 8260D</i>	90.7		%REC	72-120	1	09/10/25 18:04	09/05/25 15:26
<i>Surr: Toluene-d8</i>	<i>EPA 8260D</i>	107		%REC	80-120	1	09/10/25 18:04	09/05/25 15:26

Analytical Report



Client: The Mannik & Smith Group, Inc.
Project: 8221_Marcus
Matrix: SOIL/SOLID

Work Order: HN2512778
Date Collected: 09/04/25 09:18
Date Received: 09/05/25 08:00

CLIENT ID: 8221 SB02 (3-4)	Lab ID: HN2512778-002
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Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
General Chemistry Parameters								
Percent Moisture	EPA 3550C	15.6		%	0.1	1	09/05/25 13:36	NA
Chloride	EPA 9056A	ND		mg/kg	11.9	1	09/05/25 19:01	09/05/25 13:54
Metals								
Arsenic	EPA 6020B	4.19		mg/kg	3.50	10	09/10/25 16:40	09/10/25 11:27
Barium	EPA 6020B	22.7		mg/kg	3.50	10	09/10/25 16:40	09/10/25 11:27
Cadmium	EPA 6020B	ND		mg/kg	1.40	10	09/10/25 16:40	09/10/25 11:27
Chromium	EPA 6020B	5.27		mg/kg	3.50	10	09/10/25 16:40	09/10/25 11:27
Copper	EPA 6020B	8.84		mg/kg	3.50	10	09/10/25 16:40	09/10/25 11:27
Lead	EPA 6020B	20.5		mg/kg	3.50	10	09/10/25 16:40	09/10/25 11:27
Selenium	EPA 6020B	ND		mg/kg	3.50	10	09/10/25 16:40	09/10/25 11:27
Silver	EPA 6020B	ND		mg/kg	3.50	10	09/10/25 16:40	09/10/25 11:27
Zinc	EPA 6020B	51.3		mg/kg	7.00	10	09/10/25 16:40	09/10/25 11:27
Mercury	EPA 7471B	0.0648		mg/kg	0.0200	1	09/12/25 09:35	09/12/25 08:10
Organochlorine Pesticides by GC/ECD								
4,4'-DDD	EPA 8081B	ND		µg/kg	19.7	1	09/18/25 05:57	09/15/25 11:32
4,4'-DDE	EPA 8081B	ND		µg/kg	19.7	1	09/18/25 05:57	09/15/25 11:32
4,4'-DDT	EPA 8081B	ND		µg/kg	19.7	1	09/18/25 05:57	09/15/25 11:32
Aldrin	EPA 8081B	ND		µg/kg	19.7	1	09/16/25 21:13	09/15/25 11:32
alpha-BHC	EPA 8081B	ND		µg/kg	19.7	1	09/16/25 21:13	09/15/25 11:32
beta-BHC	EPA 8081B	ND		µg/kg	19.7	1	09/16/25 21:13	09/15/25 11:32
Chlordane, Technical	EPA 8081B	ND		µg/kg	49.2	1	09/16/25 21:13	09/15/25 11:32
cis-Chlordane	EPA 8081B	ND		µg/kg	19.7	1	09/16/25 21:13	09/15/25 11:32
delta-BHC	EPA 8081B	ND		µg/kg	19.7	1	09/16/25 21:13	09/15/25 11:32
Dieldrin	EPA 8081B	ND		µg/kg	19.7	1	09/16/25 21:13	09/15/25 11:32
Endosulfan I	EPA 8081B	ND		µg/kg	19.7	1	09/16/25 21:13	09/15/25 11:32
Endosulfan II	EPA 8081B	ND		µg/kg	19.7	1	09/16/25 21:13	09/15/25 11:32
Endosulfan sulfate	EPA 8081B	ND		µg/kg	19.7	1	09/16/25 21:13	09/15/25 11:32
Endrin	EPA 8081B	ND		µg/kg	19.7	1	09/16/25 21:13	09/15/25 11:32
Endrin aldehyde	EPA 8081B	ND		µg/kg	19.7	1	09/16/25 21:13	09/15/25 11:32
Endrin ketone	EPA 8081B	ND		µg/kg	19.7	1	09/16/25 21:13	09/15/25 11:32
gamma-BHC (Lindane)	EPA 8081B	ND		µg/kg	19.7	1	09/16/25 21:13	09/15/25 11:32

Analytical Report



Client: The Mannik & Smith Group, Inc.
Project: 8221_Marcus
Matrix: SOIL/SOLID

Work Order: HN2512778
Date Collected: 09/04/25 09:18
Date Received: 09/05/25 08:00

CLIENT ID: 8221 SB02 (3-4)	Lab ID: HN2512778-002
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Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
Heptachlor	EPA 8081B	ND		µg/kg	19.7	1	09/16/25 21:13	09/15/25 11:32
Heptachlor epoxide	EPA 8081B	ND		µg/kg	19.7	1	09/16/25 21:13	09/15/25 11:32
Methoxychlor	EPA 8081B	ND		µg/kg	19.7	1	09/16/25 21:13	09/15/25 11:32
Toxaphene	EPA 8081B	ND		µg/kg	118	1	09/16/25 21:13	09/15/25 11:32
trans-Chlordane	EPA 8081B	ND		µg/kg	19.7	1	09/16/25 21:13	09/15/25 11:32
<i>Surr: Decachlorobiphenyl</i>	<i>EPA 8081B</i>	121		%REC	53-151	1	09/16/25 21:13	09/15/25 11:32
<i>Surr: Tetrachloro-m-xylene</i>	<i>EPA 8081B</i>	89.8		%REC	67-127	1	09/16/25 21:13	09/15/25 11:32

Semivolatile Organic Compounds by GC

Aroclor 1016	EPA 8082A	ND		µg/kg	171	1	09/15/25 13:21	09/12/25 09:18
Aroclor 1221	EPA 8082A	ND		µg/kg	171	1	09/15/25 13:21	09/12/25 09:18
Aroclor 1232	EPA 8082A	ND		µg/kg	171	1	09/15/25 13:21	09/12/25 09:18
Aroclor 1242	EPA 8082A	ND		µg/kg	171	1	09/15/25 13:21	09/12/25 09:18
Aroclor 1248	EPA 8082A	ND		µg/kg	171	1	09/15/25 13:21	09/12/25 09:18
Aroclor 1254	EPA 8082A	ND		µg/kg	171	1	09/15/25 13:21	09/12/25 09:18
Aroclor 1260	EPA 8082A	ND		µg/kg	171	1	09/15/25 13:21	09/12/25 09:18
Aroclor 1262	EPA 8082A	ND		µg/kg	171	1	09/15/25 13:21	09/12/25 09:18
Aroclor 1268	EPA 8082A	ND		µg/kg	171	1	09/15/25 13:21	09/12/25 09:18
Total PCB	EPA 8082A	ND		µg/kg	171	1	09/15/25 13:21	09/12/25 09:18
<i>Surr: Decachlorobiphenyl</i>	<i>EPA 8082A</i>	85.4		%REC	54-146	1	09/15/25 13:21	09/12/25 09:18
<i>Surr: Tetrachloro-m-xylene</i>	<i>EPA 8082A</i>	95.4		%REC	58-140	1	09/15/25 13:21	09/12/25 09:18
2,4,5-T	EPA 8151A	ND		µg/kg	17.3	1	09/17/25 22:06	09/16/25 15:45
2,4,5-TP (Silvex)	EPA 8151A	ND		µg/kg	17.3	1	09/17/25 22:06	09/16/25 15:45
2,4-D	EPA 8151A	ND		µg/kg	34.6	1	09/17/25 22:06	09/16/25 15:45
<i>Surr: DCAA</i>	<i>EPA 8151A</i>	50.0		%REC	10-116	1	09/17/25 22:06	09/16/25 15:45

Semivolatile Organic Compounds by GC-MS

1,1'-Biphenyl (BZ-0)	EPA 8270E	ND		µg/kg	92.0	1	09/19/25 12:49	09/12/25 14:42
1,2,4,5-Tetrachlorobenzene	EPA 8270E	ND		µg/kg	928	1	09/19/25 12:49	09/12/25 14:42
1,4-Dioxane (1,4-Diethyleneoxide)	EPA 8270E	ND		µg/kg	465	1	09/19/25 12:49	09/12/25 14:42
1-Methylnaphthalene	EPA 8270E	ND		µg/kg	18.6	1	09/19/25 12:49	09/12/25 14:42
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methylethyl) ether	EPA 8270E	ND		µg/kg	92.0	1	09/19/25 12:49	09/12/25 14:42

Analytical Report



Client: The Mannik & Smith Group, Inc.
Project: 8221_Marcus
Matrix: SOIL/SOLID

Work Order: HN2512778
Date Collected: 09/04/25 09:18
Date Received: 09/05/25 08:00

CLIENT ID: 8221 SB02 (3-4) **Lab ID: HN2512778-002**

Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
2,3,4,6-Tetrachlorophenol	EPA 8270E	ND		µg/kg	186	1	09/19/25 12:49	09/12/25 14:42
2,4,5-Trichlorophenol	EPA 8270E	ND		µg/kg	92.0	1	09/19/25 12:49	09/12/25 14:42
2,4,6-Trichlorophenol	EPA 8270E	ND		µg/kg	92.0	1	09/19/25 12:49	09/12/25 14:42
2,4-Dichlorophenol	EPA 8270E	ND		µg/kg	92.0	1	09/19/25 12:49	09/12/25 14:42
2,4-Dimethylphenol	EPA 8270E	ND		µg/kg	92.0	1	09/19/25 12:49	09/12/25 14:42
2,4-Dinitrophenol	EPA 8270E	ND		µg/kg	928	1	09/19/25 12:49	09/12/25 14:42
2,4-Dinitrotoluene (2,4-DNT)	EPA 8270E	ND		µg/kg	92.0	1	09/19/25 12:49	09/12/25 14:42
2,6-Dinitrotoluene (2,6-DNT)	EPA 8270E	ND		µg/kg	92.0	1	09/19/25 12:49	09/12/25 14:42
2-Chloronaphthalene	EPA 8270E	ND		µg/kg	18.6	1	09/19/25 12:49	09/12/25 14:42
2-Chlorophenol	EPA 8270E	ND		µg/kg	92.0	1	09/19/25 12:49	09/12/25 14:42
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	EPA 8270E	ND		µg/kg	92.0	1	09/19/25 12:49	09/12/25 14:42
2-Methylnaphthalene	EPA 8270E	ND		µg/kg	18.6	1	09/19/25 12:49	09/12/25 14:42
2-Methylphenol (o-Cresol)	EPA 8270E	ND		µg/kg	92.0	1	09/19/25 12:49	09/12/25 14:42
2-Nitroaniline	EPA 8270E	ND		µg/kg	92.0	1	09/19/25 12:49	09/12/25 14:42
2-Nitrophenol	EPA 8270E	ND		µg/kg	92.0	1	09/19/25 12:49	09/12/25 14:42
3&4-Methylphenol	EPA 8270E	ND		µg/kg	92.0	1	09/19/25 12:49	09/12/25 14:42
3,3'-Dichlorobenzidine	EPA 8270E	ND		µg/kg	465	1	09/19/25 12:49	09/12/25 14:42
3-Nitroaniline	EPA 8270E	ND		µg/kg	92.0	1	09/19/25 12:49	09/12/25 14:42
4-Bromophenyl phenyl ether (BDE-3)	EPA 8270E	ND		µg/kg	92.0	1	09/19/25 12:49	09/12/25 14:42
4-Chloro-3-methylphenol	EPA 8270E	ND		µg/kg	92.0	1	09/19/25 12:49	09/12/25 14:42
4-Chloroaniline	EPA 8270E	ND		µg/kg	186	1	09/19/25 12:49	09/12/25 14:42
4-Chlorophenyl phenylether	EPA 8270E	ND		µg/kg	92.0	1	09/19/25 12:49	09/12/25 14:42
4-Nitroaniline	EPA 8270E	ND		µg/kg	465	1	09/19/25 12:49	09/12/25 14:42
4-Nitrophenol	EPA 8270E	ND		µg/kg	928	1	09/19/25 12:49	09/12/25 14:42
Acenaphthene	EPA 8270E	ND		µg/kg	18.6	1	09/19/25 12:49	09/12/25 14:42
Acenaphthylene	EPA 8270E	ND		µg/kg	18.6	1	09/19/25 12:49	09/12/25 14:42
Acetophenone	EPA 8270E	ND		µg/kg	92.0	1	09/19/25 12:49	09/12/25 14:42
Anthracene	EPA 8270E	ND		µg/kg	18.6	1	09/19/25 12:49	09/12/25 14:42
Atrazine	EPA 8270E	ND		µg/kg	92.0	1	09/19/25 12:49	09/12/25 14:42
Benzaldehyde	EPA 8270E	ND		µg/kg	186	1	09/19/25 12:49	09/12/25 14:42

Analytical Report



Client: The Mannik & Smith Group, Inc.
Project: 8221_Marcus
Matrix: SOIL/SOLID

Work Order: HN2512778
Date Collected: 09/04/25 09:18
Date Received: 09/05/25 08:00

CLIENT ID: 8221 SB02 (3-4)	Lab ID: HN2512778-002
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Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
Benzo(a)anthracene	EPA 8270E	ND		µg/kg	18.6	1	09/19/25 12:49	09/12/25 14:42
Benzo(a)pyrene	EPA 8270E	22.3		µg/kg	18.6	1	09/19/25 12:49	09/12/25 14:42
Benzo(b)fluoranthene	EPA 8270E	20.4		µg/kg	18.6	1	09/19/25 12:49	09/12/25 14:42
Benzo(g,h,i)perylene	EPA 8270E	ND		µg/kg	18.6	1	09/19/25 12:49	09/12/25 14:42
Benzo(k)fluoranthene	EPA 8270E	ND		µg/kg	18.6	1	09/19/25 12:49	09/12/25 14:42
bis(2-Chloroethoxy) methane	EPA 8270E	ND		µg/kg	92.0	1	09/19/25 12:49	09/12/25 14:42
bis(2-Chloroethyl) ether	EPA 8270E	ND		µg/kg	92.0	1	09/19/25 12:49	09/12/25 14:42
Butyl benzyl phthalate	EPA 8270E	ND		µg/kg	186	1	09/19/25 12:49	09/12/25 14:42
Caprolactam	EPA 8270E	ND		µg/kg	92.0	1	09/19/25 12:49	09/12/25 14:42
Carbazole	EPA 8270E	ND		µg/kg	92.0	1	09/19/25 12:49	09/12/25 14:42
Chrysene	EPA 8270E	ND		µg/kg	18.6	1	09/19/25 12:49	09/12/25 14:42
Di(2-ethylhexyl) phthalate (bis(2-Ethylhexyl) phthalate, DEHP)	EPA 8270E	ND		µg/kg	92.0	1	09/19/25 12:49	09/12/25 14:42
Dibenz(a,h) anthracene	EPA 8270E	ND		µg/kg	92.0	1	09/19/25 12:49	09/12/25 14:42
Dibenzofuran	EPA 8270E	ND		µg/kg	92.0	1	09/19/25 12:49	09/12/25 14:42
Diethyl phthalate	EPA 8270E	ND		µg/kg	92.0	1	09/19/25 12:49	09/12/25 14:42
Dimethyl phthalate	EPA 8270E	ND		µg/kg	92.0	1	09/19/25 12:49	09/12/25 14:42
Di-n-butyl phthalate	EPA 8270E	ND		µg/kg	92.0	1	09/19/25 12:49	09/12/25 14:42
Di-n-octyl phthalate	EPA 8270E	ND		µg/kg	92.0	1	09/19/25 12:49	09/12/25 14:42
Fluoranthene	EPA 8270E	22.3		µg/kg	18.6	1	09/19/25 12:49	09/12/25 14:42
Fluorene	EPA 8270E	ND		µg/kg	18.6	1	09/19/25 12:49	09/12/25 14:42
Hexachlorobenzene	EPA 8270E	ND		µg/kg	92.0	1	09/19/25 12:49	09/12/25 14:42
Hexachlorobutadiene	EPA 8270E	ND		µg/kg	92.0	1	09/19/25 12:49	09/12/25 14:42
Hexachlorocyclopentadiene	EPA 8270E	ND		µg/kg	92.0	1	09/19/25 12:49	09/12/25 14:42
Hexachloroethane	EPA 8270E	ND		µg/kg	92.0	1	09/19/25 12:49	09/12/25 14:42
Indeno(1,2,3-cd) pyrene	EPA 8270E	ND		µg/kg	18.6	1	09/19/25 12:49	09/12/25 14:42
Isophorone	EPA 8270E	ND		µg/kg	465	1	09/19/25 12:49	09/12/25 14:42
Methylphenol, Total	EPA 8270E	ND		µg/kg	92.0	1	09/19/25 12:49	09/12/25 14:42
Naphthalene	EPA 8270E	ND		µg/kg	18.6	1	09/19/25 12:49	09/12/25 14:42
Nitrobenzene	EPA 8270E	ND		µg/kg	465	1	09/19/25 12:49	09/12/25 14:42
n-Nitrosodi-n-propylamine	EPA 8270E	ND		µg/kg	92.0	1	09/19/25 12:49	09/12/25 14:42
N-Nitrosodiphenylamine	EPA 8270E	ND		µg/kg	92.0	1	09/19/25 12:49	09/12/25 14:42

Analytical Report



Client: The Mannik & Smith Group, Inc.
Project: 8221_Marcus
Matrix: SOIL/SOLID

Work Order: HN2512778
Date Collected: 09/04/25 09:18
Date Received: 09/05/25 08:00

CLIENT ID: 8221 SB02 (3-4) **Lab ID: HN2512778-002**

Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
Pentachlorophenol	EPA 8270E	ND		µg/kg	92.0	1	09/19/25 12:49	09/12/25 14:42
Phenanthrene	EPA 8270E	ND		µg/kg	18.6	1	09/19/25 12:49	09/12/25 14:42
Phenol	EPA 8270E	ND		µg/kg	92.0	1	09/19/25 12:49	09/12/25 14:42
Pyrene	EPA 8270E	20.4		µg/kg	18.6	1	09/19/25 12:49	09/12/25 14:42
Pyridine	EPA 8270E	ND		µg/kg	465	1	09/19/25 12:49	09/12/25 14:42
Surr: 2,4,6-Tribromophenol	EPA 8270E	58.2		%REC	48-94	1	09/19/25 12:49	09/12/25 14:42
Surr: 2-Fluorobiphenyl	EPA 8270E	63.3		%REC	50-103	1	09/19/25 12:49	09/12/25 14:42
Surr: 2-Fluorophenol	EPA 8270E	66.8		%REC	43-105	1	09/19/25 12:49	09/12/25 14:42
Surr: 4-Terphenyl-d14	EPA 8270E	67.5		%REC	55-111	1	09/19/25 12:49	09/12/25 14:42
Surr: Nitrobenzene-d5	EPA 8270E	59.7		%REC	47-100	1	09/19/25 12:49	09/12/25 14:42
Surr: Phenol-d6	EPA 8270E	69.7		%REC	49-110	1	09/19/25 12:49	09/12/25 14:42

Volatile Organic Compounds by GC-MS

1,1,1-Trichloroethane	EPA 8260D	ND		µg/kg	42.8	1	09/10/25 18:23	09/05/25 15:26
1,1,2,2-Tetrachloroethane	EPA 8260D	ND		µg/kg	42.8	1	09/10/25 18:23	09/05/25 15:26
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	EPA 8260D	ND		µg/kg	42.8	1	09/10/25 18:23	09/05/25 15:26
1,1,2-Trichloroethane	EPA 8260D	ND		µg/kg	42.8	1	09/10/25 18:23	09/05/25 15:26
1,1-Dichloroethane	EPA 8260D	ND		µg/kg	42.8	1	09/10/25 18:23	09/05/25 15:26
1,1-Dichloroethylene	EPA 8260D	ND		µg/kg	42.8	1	09/10/25 18:23	09/05/25 15:26
1,2,3-Trichlorobenzene	EPA 8260D	ND		µg/kg	143	1	09/10/25 18:23	09/05/25 15:26
1,2,3-Trichloropropane	EPA 8260D	ND		µg/kg	42.8	1	09/10/25 18:23	09/05/25 15:26
1,2,4-Trichlorobenzene	EPA 8260D	ND		µg/kg	143	1	09/10/25 18:23	09/05/25 15:26
1,2,4-Trimethylbenzene	EPA 8260D	ND		µg/kg	42.8	1	09/10/25 18:23	09/05/25 15:26
1,2-Dibromo-3-chloropropane (DBCP)	EPA 8260D	ND		µg/kg	143	1	09/10/25 18:23	09/05/25 15:26
1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 8260D	ND		µg/kg	42.8	1	09/10/25 18:23	09/05/25 15:26
1,2-Dichlorobenzene (o-Dichlorobenzene)	EPA 8260D	ND		µg/kg	42.8	1	09/10/25 18:23	09/05/25 15:26
1,2-Dichloroethane (Ethylene dichloride)	EPA 8260D	ND		µg/kg	143	1	09/10/25 18:23	09/05/25 15:26
1,2-Dichloropropane	EPA 8260D	ND		µg/kg	42.8	1	09/10/25 18:23	09/05/25 15:26
1,3,5-Trimethylbenzene	EPA 8260D	ND		µg/kg	143	1	09/10/25 18:23	09/05/25 15:26
1,3-Dichlorobenzene (m-Dichlorobenzene)	EPA 8260D	ND		µg/kg	42.8	1	09/10/25 18:23	09/05/25 15:26
1,3-Dichloropropene	EPA 8260D	ND		µg/kg	85.6	1	09/10/25 18:23	09/05/25 15:26

Analytical Report



Client: The Mannik & Smith Group, Inc.
Project: 8221_Marcus
Matrix: SOIL/SOLID

Work Order: HN2512778
Date Collected: 09/04/25 09:18
Date Received: 09/05/25 08:00

CLIENT ID: 8221 SB02 (3-4) **Lab ID: HN2512778-002**

Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
1,4-Dichlorobenzene (p-Dichlorobenzene)	EPA 8260D	ND		µg/kg	42.8	1	09/10/25 18:23	09/05/25 15:26
2-Butanone (Methyl ethyl ketone, MEK)	EPA 8260D	ND		µg/kg	285	1	09/10/25 18:23	09/05/25 15:26
2-Hexanone	EPA 8260D	ND		µg/kg	42.8	1	09/10/25 18:23	09/05/25 15:26
4-Methyl-2-pentanone (MIBK)	EPA 8260D	ND		µg/kg	42.8	1	09/10/25 18:23	09/05/25 15:26
Acetone	EPA 8260D	ND		µg/kg	143	1	09/10/25 18:23	09/05/25 15:26
Benzene	EPA 8260D	ND		µg/kg	42.8	1	09/10/25 18:23	09/05/25 15:26
Bromochloromethane	EPA 8260D	ND		µg/kg	42.8	1	09/10/25 18:23	09/05/25 15:26
Bromodichloromethane	EPA 8260D	ND		µg/kg	42.8	1	09/10/25 18:23	09/05/25 15:26
Bromoform	EPA 8260D	ND		µg/kg	42.8	1	09/10/25 18:23	09/05/25 15:26
Carbon disulfide	EPA 8260D	ND		µg/kg	42.8	1	09/10/25 18:23	09/05/25 15:26
Carbon tetrachloride	EPA 8260D	ND		µg/kg	42.8	1	09/10/25 18:23	09/05/25 15:26
Chlorobenzene	EPA 8260D	ND		µg/kg	42.8	1	09/10/25 18:23	09/05/25 15:26
Chlorodibromomethane	EPA 8260D	ND		µg/kg	42.8	1	09/10/25 18:23	09/05/25 15:26
Chloroethane (Ethyl chloride)	EPA 8260D	ND		µg/kg	143	1	09/10/25 18:23	09/05/25 15:26
Chloroform	EPA 8260D	ND		µg/kg	42.8	1	09/10/25 18:23	09/05/25 15:26
cis & trans-1,2-Dichloroethene	EPA 8260D	ND		µg/kg	85.6	1	09/10/25 18:23	09/05/25 15:26
cis-1,2-Dichloroethylene	EPA 8260D	ND		µg/kg	42.8	1	09/10/25 18:23	09/05/25 15:26
cis-1,3-Dichloropropene	EPA 8260D	ND		µg/kg	42.8	1	09/10/25 18:23	09/05/25 15:26
Cyclohexane	EPA 8260D	ND		µg/kg	143	1	09/10/25 18:23	09/05/25 15:26
Dichlorodifluoromethane (Freon-12)	EPA 8260D	ND		µg/kg	143	1	09/10/25 18:23	09/05/25 15:26
Ethylbenzene	EPA 8260D	ND		µg/kg	42.8	1	09/10/25 18:23	09/05/25 15:26
Isopropylbenzene	EPA 8260D	ND		µg/kg	42.8	1	09/10/25 18:23	09/05/25 15:26
m+p-Xylene	EPA 8260D	ND		µg/kg	85.6	1	09/10/25 18:23	09/05/25 15:26
Methyl acetate	EPA 8260D	ND		µg/kg	356	1	09/10/25 18:23	09/05/25 15:26
Methyl bromide (Bromomethane)	EPA 8260D	ND		µg/kg	143	1	09/10/25 18:23	09/05/25 15:26
Methyl chloride (Chloromethane)	EPA 8260D	ND		µg/kg	143	1	09/10/25 18:23	09/05/25 15:26
Methyl tert-butyl ether (MTBE)	EPA 8260D	ND		µg/kg	42.8	1	09/10/25 18:23	09/05/25 15:26
Methylcyclohexane	EPA 8260D	ND		µg/kg	42.8	1	09/10/25 18:23	09/05/25 15:26
Methylene chloride (Dichloromethane)	EPA 8260D	ND		µg/kg	356	1	09/10/25 18:23	09/05/25 15:26

Analytical Report



Client: The Mannik & Smith Group, Inc.
Project: 8221_Marcus
Matrix: SOIL/SOLID

Work Order: HN2512778
Date Collected: 09/04/25 09:18
Date Received: 09/05/25 08:00

CLIENT ID: 8221 SB02 (3-4) **Lab ID: HN2512778-002**

Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
o-Xylene	EPA 8260D	ND		µg/kg	42.8	1	09/10/25 18:23	09/05/25 15:26
Styrene	EPA 8260D	ND		µg/kg	42.8	1	09/10/25 18:23	09/05/25 15:26
Tetrachloroethylene (Perchloroethylene)	EPA 8260D	ND		µg/kg	42.8	1	09/10/25 18:23	09/05/25 15:26
Toluene	EPA 8260D	ND		µg/kg	42.8	1	09/10/25 18:23	09/05/25 15:26
Total Xylene	EPA 8260D	ND		µg/kg	128	1	09/10/25 18:23	09/05/25 15:26
trans-1,2-Dichloroethylene	EPA 8260D	ND		µg/kg	42.8	1	09/10/25 18:23	09/05/25 15:26
trans-1,3-Dichloropropylene	EPA 8260D	ND		µg/kg	42.8	1	09/10/25 18:23	09/05/25 15:26
Trichloroethene (Trichloroethylene)	EPA 8260D	ND		µg/kg	42.8	1	09/10/25 18:23	09/05/25 15:26
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	EPA 8260D	ND		µg/kg	42.8	1	09/10/25 18:23	09/05/25 15:26
Vinyl chloride (Chloroethene)	EPA 8260D	ND		µg/kg	42.8	1	09/10/25 18:23	09/05/25 15:26
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>EPA 8260D</i>	96.6		%REC	80-120	1	09/10/25 18:23	09/05/25 15:26
<i>Surr: 4-Bromofluorobenzene</i>	<i>EPA 8260D</i>	97.8		%REC	80-120	1	09/10/25 18:23	09/05/25 15:26
<i>Surr: Dibromofluoromethane</i>	<i>EPA 8260D</i>	88.2		%REC	72-120	1	09/10/25 18:23	09/05/25 15:26
<i>Surr: Toluene-d8</i>	<i>EPA 8260D</i>	104		%REC	80-120	1	09/10/25 18:23	09/05/25 15:26

Analytical Report



Client: The Mannik & Smith Group, Inc.
Project: 8221_Marcus
Matrix: SOIL/SOLID

Work Order: HN2512778
Date Collected: 09/04/25 09:32
Date Received: 09/05/25 08:00

CLIENT ID: 8221 SB03 (5-6) **Lab ID: HN2512778-003**

Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
General Chemistry Parameters								
Percent Moisture	EPA 3550C	10.6		%	0.1	1	09/05/25 13:36	NA
Chloride	EPA 9056A	ND		mg/kg	11.1	1	09/05/25 19:09	09/05/25 13:54
Metals								
Arsenic	EPA 6020B	6.00		mg/kg	3.07	10	09/10/25 16:45	09/10/25 11:27
Barium	EPA 6020B	57.0		mg/kg	3.07	10	09/10/25 16:45	09/10/25 11:27
Cadmium	EPA 6020B	ND		mg/kg	1.23	10	09/10/25 16:45	09/10/25 11:27
Chromium	EPA 6020B	15.9		mg/kg	3.07	10	09/10/25 16:45	09/10/25 11:27
Copper	EPA 6020B	15.2		mg/kg	3.07	10	09/10/25 16:45	09/10/25 11:27
Lead	EPA 6020B	7.24		mg/kg	3.07	10	09/10/25 16:45	09/10/25 11:27
Selenium	EPA 6020B	ND		mg/kg	3.07	10	09/10/25 16:45	09/10/25 11:27
Silver	EPA 6020B	ND		mg/kg	3.07	10	09/10/25 16:45	09/10/25 11:27
Zinc	EPA 6020B	43.3		mg/kg	6.14	10	09/10/25 16:45	09/10/25 11:27
Mercury	EPA 7471B	ND		mg/kg	0.0200	1	09/12/25 09:45	09/12/25 08:10
Organochlorine Pesticides by GC/ECD								
4,4'-DDD	EPA 8081B	ND		µg/kg	26.3	1	09/16/25 10:11	09/15/25 11:32
4,4'-DDE	EPA 8081B	ND		µg/kg	26.3	1	09/16/25 10:11	09/15/25 11:32
4,4'-DDT	EPA 8081B	ND		µg/kg	26.3	1	09/16/25 10:11	09/15/25 11:32
Aldrin	EPA 8081B	ND		µg/kg	26.3	1	09/16/25 10:11	09/15/25 11:32
alpha-BHC	EPA 8081B	ND		µg/kg	26.3	1	09/16/25 10:11	09/15/25 11:32
beta-BHC	EPA 8081B	ND		µg/kg	26.3	1	09/16/25 10:11	09/15/25 11:32
Chlordane, Technical	EPA 8081B	ND		µg/kg	65.7	1	09/16/25 10:11	09/15/25 11:32
cis-Chlordane	EPA 8081B	ND		µg/kg	26.3	1	09/16/25 10:11	09/15/25 11:32
delta-BHC	EPA 8081B	ND		µg/kg	26.3	1	09/16/25 10:11	09/15/25 11:32
Dieldrin	EPA 8081B	ND		µg/kg	26.3	1	09/16/25 10:11	09/15/25 11:32
Endosulfan I	EPA 8081B	ND		µg/kg	26.3	1	09/16/25 10:11	09/15/25 11:32
Endosulfan II	EPA 8081B	ND		µg/kg	26.3	1	09/16/25 10:11	09/15/25 11:32
Endosulfan sulfate	EPA 8081B	ND		µg/kg	26.3	1	09/16/25 10:11	09/15/25 11:32
Endrin	EPA 8081B	ND		µg/kg	26.3	1	09/16/25 10:11	09/15/25 11:32
Endrin aldehyde	EPA 8081B	ND		µg/kg	26.3	1	09/16/25 10:11	09/15/25 11:32
Endrin ketone	EPA 8081B	ND		µg/kg	26.3	1	09/16/25 10:11	09/15/25 11:32
gamma-BHC (Lindane)	EPA 8081B	ND		µg/kg	26.3	1	09/16/25 10:11	09/15/25 11:32

Analytical Report



Client: The Mannik & Smith Group, Inc.
Project: 8221_Marcus
Matrix: SOIL/SOLID

Work Order: HN2512778
Date Collected: 09/04/25 09:32
Date Received: 09/05/25 08:00

CLIENT ID: 8221 SB03 (5-6)	Lab ID: HN2512778-003
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Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
Heptachlor	EPA 8081B	ND		µg/kg	26.3	1	09/16/25 10:11	09/15/25 11:32
Heptachlor epoxide	EPA 8081B	ND		µg/kg	26.3	1	09/16/25 10:11	09/15/25 11:32
Methoxychlor	EPA 8081B	ND		µg/kg	26.3	1	09/16/25 10:11	09/15/25 11:32
Toxaphene	EPA 8081B	ND		µg/kg	158	1	09/16/25 10:11	09/15/25 11:32
trans-Chlordane	EPA 8081B	ND		µg/kg	26.3	1	09/16/25 10:11	09/15/25 11:32
<i>Surr: Decachlorobiphenyl</i>	<i>EPA 8081B</i>	116		%REC	53-151	1	09/16/25 10:11	09/15/25 11:32
<i>Surr: Tetrachloro-m-xylene</i>	<i>EPA 8081B</i>	89.2		%REC	67-127	1	09/16/25 10:11	09/15/25 11:32

Semivolatile Organic Compounds by GC

Aroclor 1016	EPA 8082A	ND		µg/kg	71.7	1	09/15/25 13:33	09/12/25 09:18
Aroclor 1221	EPA 8082A	ND		µg/kg	71.7	1	09/15/25 13:33	09/12/25 09:18
Aroclor 1232	EPA 8082A	ND		µg/kg	71.7	1	09/15/25 13:33	09/12/25 09:18
Aroclor 1242	EPA 8082A	ND		µg/kg	71.7	1	09/15/25 13:33	09/12/25 09:18
Aroclor 1248	EPA 8082A	ND		µg/kg	71.7	1	09/15/25 13:33	09/12/25 09:18
Aroclor 1254	EPA 8082A	ND		µg/kg	71.7	1	09/15/25 13:33	09/12/25 09:18
Aroclor 1260	EPA 8082A	ND		µg/kg	71.7	1	09/15/25 13:33	09/12/25 09:18
Aroclor 1262	EPA 8082A	ND		µg/kg	71.7	1	09/15/25 13:33	09/12/25 09:18
Aroclor 1268	EPA 8082A	ND		µg/kg	71.7	1	09/15/25 13:33	09/12/25 09:18
Total PCB	EPA 8082A	ND		µg/kg	71.7	1	09/15/25 13:33	09/12/25 09:18
<i>Surr: Decachlorobiphenyl</i>	<i>EPA 8082A</i>	80.1		%REC	54-146	1	09/15/25 13:33	09/12/25 09:18
<i>Surr: Tetrachloro-m-xylene</i>	<i>EPA 8082A</i>	102		%REC	58-140	1	09/15/25 13:33	09/12/25 09:18
2,4,5-T	EPA 8151A	ND		µg/kg	16.8	1	09/17/25 22:31	09/16/25 15:45
2,4,5-TP (Silvex)	EPA 8151A	ND		µg/kg	16.8	1	09/17/25 22:31	09/16/25 15:45
2,4-D	EPA 8151A	ND		µg/kg	33.7	1	09/17/25 22:31	09/16/25 15:45
<i>Surr: DCAA</i>	<i>EPA 8151A</i>	46.0		%REC	10-116	1	09/17/25 22:31	09/16/25 15:45

Semivolatile Organic Compounds by GC-MS

1,1'-Biphenyl (BZ-0)	EPA 8270E	ND		µg/kg	35.5	1	09/19/25 13:10	09/12/25 14:42
1,2,4,5-Tetrachlorobenzene	EPA 8270E	ND		µg/kg	358	1	09/19/25 13:10	09/12/25 14:42
1,4-Dioxane (1,4-Diethyleneoxide)	EPA 8270E	ND		µg/kg	179	1	09/19/25 13:10	09/12/25 14:42
1-Methylnaphthalene	EPA 8270E	ND		µg/kg	7.17	1	09/19/25 13:10	09/12/25 14:42
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methylethyl) ether	EPA 8270E	ND		µg/kg	35.5	1	09/19/25 13:10	09/12/25 14:42

Analytical Report



Client: The Mannik & Smith Group, Inc.
Project: 8221_Marcus
Matrix: SOIL/SOLID

Work Order: HN2512778
Date Collected: 09/04/25 09:32
Date Received: 09/05/25 08:00

CLIENT ID: 8221 SB03 (5-6) **Lab ID: HN2512778-003**

Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
2,3,4,6-Tetrachlorophenol	EPA 8270E	ND		µg/kg	71.7	1	09/19/25 13:10	09/12/25 14:42
2,4,5-Trichlorophenol	EPA 8270E	ND		µg/kg	35.5	1	09/19/25 13:10	09/12/25 14:42
2,4,6-Trichlorophenol	EPA 8270E	ND		µg/kg	35.5	1	09/19/25 13:10	09/12/25 14:42
2,4-Dichlorophenol	EPA 8270E	ND		µg/kg	35.5	1	09/19/25 13:10	09/12/25 14:42
2,4-Dimethylphenol	EPA 8270E	ND		µg/kg	35.5	1	09/19/25 13:10	09/12/25 14:42
2,4-Dinitrophenol	EPA 8270E	ND		µg/kg	358	1	09/19/25 13:10	09/12/25 14:42
2,4-Dinitrotoluene (2,4-DNT)	EPA 8270E	ND		µg/kg	35.5	1	09/19/25 13:10	09/12/25 14:42
2,6-Dinitrotoluene (2,6-DNT)	EPA 8270E	ND		µg/kg	35.5	1	09/19/25 13:10	09/12/25 14:42
2-Chloronaphthalene	EPA 8270E	ND		µg/kg	7.17	1	09/19/25 13:10	09/12/25 14:42
2-Chlorophenol	EPA 8270E	ND		µg/kg	35.5	1	09/19/25 13:10	09/12/25 14:42
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	EPA 8270E	ND		µg/kg	35.5	1	09/19/25 13:10	09/12/25 14:42
2-Methylnaphthalene	EPA 8270E	ND		µg/kg	7.17	1	09/19/25 13:10	09/12/25 14:42
2-Methylphenol (o-Cresol)	EPA 8270E	ND		µg/kg	35.5	1	09/19/25 13:10	09/12/25 14:42
2-Nitroaniline	EPA 8270E	ND		µg/kg	35.5	1	09/19/25 13:10	09/12/25 14:42
2-Nitrophenol	EPA 8270E	ND		µg/kg	35.5	1	09/19/25 13:10	09/12/25 14:42
3&4-Methylphenol	EPA 8270E	ND		µg/kg	35.5	1	09/19/25 13:10	09/12/25 14:42
3,3'-Dichlorobenzidine	EPA 8270E	ND		µg/kg	179	1	09/19/25 13:10	09/12/25 14:42
3-Nitroaniline	EPA 8270E	ND		µg/kg	35.5	1	09/19/25 13:10	09/12/25 14:42
4-Bromophenyl phenyl ether (BDE-3)	EPA 8270E	ND		µg/kg	35.5	1	09/19/25 13:10	09/12/25 14:42
4-Chloro-3-methylphenol	EPA 8270E	ND		µg/kg	35.5	1	09/19/25 13:10	09/12/25 14:42
4-Chloroaniline	EPA 8270E	ND		µg/kg	71.7	1	09/19/25 13:10	09/12/25 14:42
4-Chlorophenyl phenylether	EPA 8270E	ND		µg/kg	35.5	1	09/19/25 13:10	09/12/25 14:42
4-Nitroaniline	EPA 8270E	ND		µg/kg	179	1	09/19/25 13:10	09/12/25 14:42
4-Nitrophenol	EPA 8270E	ND		µg/kg	358	1	09/19/25 13:10	09/12/25 14:42
Acenaphthene	EPA 8270E	ND		µg/kg	7.17	1	09/19/25 13:10	09/12/25 14:42
Acenaphthylene	EPA 8270E	ND		µg/kg	7.17	1	09/19/25 13:10	09/12/25 14:42
Acetophenone	EPA 8270E	ND		µg/kg	35.5	1	09/19/25 13:10	09/12/25 14:42
Anthracene	EPA 8270E	ND		µg/kg	7.17	1	09/19/25 13:10	09/12/25 14:42
Atrazine	EPA 8270E	ND		µg/kg	35.5	1	09/19/25 13:10	09/12/25 14:42
Benzaldehyde	EPA 8270E	ND		µg/kg	71.7	1	09/19/25 13:10	09/12/25 14:42

Analytical Report



Client: The Mannik & Smith Group, Inc.
Project: 8221_Marcus
Matrix: SOIL/SOLID

Work Order: HN2512778
Date Collected: 09/04/25 09:32
Date Received: 09/05/25 08:00

CLIENT ID: 8221 SB03 (5-6)	Lab ID: HN2512778-003
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Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
Benzo(a)anthracene	EPA 8270E	ND		µg/kg	7.17	1	09/19/25 13:10	09/12/25 14:42
Benzo(a)pyrene	EPA 8270E	ND		µg/kg	7.17	1	09/19/25 13:10	09/12/25 14:42
Benzo(b)fluoranthene	EPA 8270E	ND		µg/kg	7.17	1	09/19/25 13:10	09/12/25 14:42
Benzo(g,h,i)perylene	EPA 8270E	ND		µg/kg	7.17	1	09/19/25 13:10	09/12/25 14:42
Benzo(k)fluoranthene	EPA 8270E	ND		µg/kg	7.17	1	09/19/25 13:10	09/12/25 14:42
bis(2-Chloroethoxy) methane	EPA 8270E	ND		µg/kg	35.5	1	09/19/25 13:10	09/12/25 14:42
bis(2-Chloroethyl) ether	EPA 8270E	ND		µg/kg	35.5	1	09/19/25 13:10	09/12/25 14:42
Butyl benzyl phthalate	EPA 8270E	ND		µg/kg	71.7	1	09/19/25 13:10	09/12/25 14:42
Caprolactam	EPA 8270E	ND		µg/kg	35.5	1	09/19/25 13:10	09/12/25 14:42
Carbazole	EPA 8270E	ND		µg/kg	35.5	1	09/19/25 13:10	09/12/25 14:42
Chrysene	EPA 8270E	ND		µg/kg	7.17	1	09/19/25 13:10	09/12/25 14:42
Di(2-ethylhexyl) phthalate (bis(2-Ethylhexyl) phthalate, DEHP)	EPA 8270E	ND		µg/kg	35.5	1	09/19/25 13:10	09/12/25 14:42
Dibenz(a,h) anthracene	EPA 8270E	ND		µg/kg	35.5	1	09/19/25 13:10	09/12/25 14:42
Dibenzofuran	EPA 8270E	ND		µg/kg	35.5	1	09/19/25 13:10	09/12/25 14:42
Diethyl phthalate	EPA 8270E	ND		µg/kg	35.5	1	09/19/25 13:10	09/12/25 14:42
Dimethyl phthalate	EPA 8270E	ND		µg/kg	35.5	1	09/19/25 13:10	09/12/25 14:42
Di-n-butyl phthalate	EPA 8270E	ND		µg/kg	35.5	1	09/19/25 13:10	09/12/25 14:42
Di-n-octyl phthalate	EPA 8270E	ND		µg/kg	35.5	1	09/19/25 13:10	09/12/25 14:42
Fluoranthene	EPA 8270E	ND		µg/kg	7.17	1	09/19/25 13:10	09/12/25 14:42
Fluorene	EPA 8270E	ND		µg/kg	7.17	1	09/19/25 13:10	09/12/25 14:42
Hexachlorobenzene	EPA 8270E	ND		µg/kg	35.5	1	09/19/25 13:10	09/12/25 14:42
Hexachlorobutadiene	EPA 8270E	ND		µg/kg	35.5	1	09/19/25 13:10	09/12/25 14:42
Hexachlorocyclopentadiene	EPA 8270E	ND		µg/kg	35.5	1	09/19/25 13:10	09/12/25 14:42
Hexachloroethane	EPA 8270E	ND		µg/kg	35.5	1	09/19/25 13:10	09/12/25 14:42
Indeno(1,2,3-cd) pyrene	EPA 8270E	ND		µg/kg	7.17	1	09/19/25 13:10	09/12/25 14:42
Isophorone	EPA 8270E	ND		µg/kg	179	1	09/19/25 13:10	09/12/25 14:42
Methylphenol, Total	EPA 8270E	ND		µg/kg	67.0	1	09/19/25 13:10	09/12/25 14:42
Naphthalene	EPA 8270E	ND		µg/kg	7.17	1	09/19/25 13:10	09/12/25 14:42
Nitrobenzene	EPA 8270E	ND		µg/kg	179	1	09/19/25 13:10	09/12/25 14:42
n-Nitrosodi-n-propylamine	EPA 8270E	ND		µg/kg	35.5	1	09/19/25 13:10	09/12/25 14:42
N-Nitrosodiphenylamine	EPA 8270E	ND		µg/kg	35.5	1	09/19/25 13:10	09/12/25 14:42

Analytical Report



Client: The Mannik & Smith Group, Inc.
Project: 8221_Marcus
Matrix: SOIL/SOLID

Work Order: HN2512778
Date Collected: 09/04/25 09:32
Date Received: 09/05/25 08:00

CLIENT ID: 8221 SB03 (5-6) **Lab ID: HN2512778-003**

Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
Pentachlorophenol	EPA 8270E	ND		µg/kg	35.5	1	09/19/25 13:10	09/12/25 14:42
Phenanthrene	EPA 8270E	ND		µg/kg	7.17	1	09/19/25 13:10	09/12/25 14:42
Phenol	EPA 8270E	ND		µg/kg	35.5	1	09/19/25 13:10	09/12/25 14:42
Pyrene	EPA 8270E	ND		µg/kg	7.17	1	09/19/25 13:10	09/12/25 14:42
Pyridine	EPA 8270E	ND		µg/kg	179	1	09/19/25 13:10	09/12/25 14:42
<i>Surr: 2,4,6-Tribromophenol</i>	<i>EPA 8270E</i>	48.0		%REC	48-94	1	09/19/25 13:10	09/12/25 14:42
<i>Surr: 2-Fluorobiphenyl</i>	<i>EPA 8270E</i>	57.2		%REC	50-103	1	09/19/25 13:10	09/12/25 14:42
<i>Surr: 2-Fluorophenol</i>	<i>EPA 8270E</i>	56.9		%REC	43-105	1	09/19/25 13:10	09/12/25 14:42
<i>Surr: 4-Terphenyl-d14</i>	<i>EPA 8270E</i>	56.7		%REC	55-111	1	09/19/25 13:10	09/12/25 14:42
<i>Surr: Nitrobenzene-d5</i>	<i>EPA 8270E</i>	54.4		%REC	47-100	1	09/19/25 13:10	09/12/25 14:42
<i>Surr: Phenol-d6</i>	<i>EPA 8270E</i>	58.4		%REC	49-110	1	09/19/25 13:10	09/12/25 14:42

Volatile Organic Compounds by GC-MS

1,1,1-Trichloroethane	EPA 8260D	ND		µg/kg	37.8	1	09/10/25 18:42	09/05/25 15:26
1,1,2,2-Tetrachloroethane	EPA 8260D	ND	S	µg/kg	37.8	1	09/10/25 18:42	09/05/25 15:26
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	EPA 8260D	ND		µg/kg	37.8	1	09/10/25 18:42	09/05/25 15:26
1,1,2-Trichloroethane	EPA 8260D	ND		µg/kg	37.8	1	09/10/25 18:42	09/05/25 15:26
1,1-Dichloroethane	EPA 8260D	ND		µg/kg	37.8	1	09/10/25 18:42	09/05/25 15:26
1,1-Dichloroethylene	EPA 8260D	ND		µg/kg	37.8	1	09/10/25 18:42	09/05/25 15:26
1,2,3-Trichlorobenzene	EPA 8260D	ND		µg/kg	126	1	09/10/25 18:42	09/05/25 15:26
1,2,3-Trichloropropane	EPA 8260D	ND		µg/kg	37.8	1	09/10/25 18:42	09/05/25 15:26
1,2,4-Trichlorobenzene	EPA 8260D	ND		µg/kg	126	1	09/10/25 18:42	09/05/25 15:26
1,2,4-Trimethylbenzene	EPA 8260D	ND		µg/kg	37.8	1	09/10/25 18:42	09/05/25 15:26
1,2-Dibromo-3-chloropropane (DBCP)	EPA 8260D	ND		µg/kg	126	1	09/10/25 18:42	09/05/25 15:26
1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 8260D	ND		µg/kg	37.8	1	09/10/25 18:42	09/05/25 15:26
1,2-Dichlorobenzene (o-Dichlorobenzene)	EPA 8260D	ND		µg/kg	37.8	1	09/10/25 18:42	09/05/25 15:26
1,2-Dichloroethane (Ethylene dichloride)	EPA 8260D	ND		µg/kg	126	1	09/10/25 18:42	09/05/25 15:26
1,2-Dichloropropane	EPA 8260D	ND		µg/kg	37.8	1	09/10/25 18:42	09/05/25 15:26
1,3,5-Trimethylbenzene	EPA 8260D	ND		µg/kg	126	1	09/10/25 18:42	09/05/25 15:26
1,3-Dichlorobenzene (m-Dichlorobenzene)	EPA 8260D	ND		µg/kg	37.8	1	09/10/25 18:42	09/05/25 15:26
1,3-Dichloropropene	EPA 8260D	ND		µg/kg	75.5	1	09/10/25 18:42	09/05/25 15:26

Analytical Report



Client: The Mannik & Smith Group, Inc.
Project: 8221_Marcus
Matrix: SOIL/SOLID

Work Order: HN2512778
Date Collected: 09/04/25 09:32
Date Received: 09/05/25 08:00

CLIENT ID: 8221 SB03 (5-6)	Lab ID: HN2512778-003
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Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
1,4-Dichlorobenzene (p-Dichlorobenzene)	EPA 8260D	ND		µg/kg	37.8	1	09/10/25 18:42	09/05/25 15:26
2-Butanone (Methyl ethyl ketone, MEK)	EPA 8260D	ND		µg/kg	252	1	09/10/25 18:42	09/05/25 15:26
2-Hexanone	EPA 8260D	ND		µg/kg	37.8	1	09/10/25 18:42	09/05/25 15:26
4-Methyl-2-pentanone (MIBK)	EPA 8260D	ND		µg/kg	37.8	1	09/10/25 18:42	09/05/25 15:26
Acetone	EPA 8260D	ND		µg/kg	126	1	09/10/25 18:42	09/05/25 15:26
Benzene	EPA 8260D	ND		µg/kg	37.8	1	09/10/25 18:42	09/05/25 15:26
Bromochloromethane	EPA 8260D	ND		µg/kg	37.8	1	09/10/25 18:42	09/05/25 15:26
Bromodichloromethane	EPA 8260D	ND		µg/kg	37.8	1	09/10/25 18:42	09/05/25 15:26
Bromoform	EPA 8260D	ND		µg/kg	37.8	1	09/10/25 18:42	09/05/25 15:26
Carbon disulfide	EPA 8260D	ND		µg/kg	37.8	1	09/10/25 18:42	09/05/25 15:26
Carbon tetrachloride	EPA 8260D	ND		µg/kg	37.8	1	09/10/25 18:42	09/05/25 15:26
Chlorobenzene	EPA 8260D	ND		µg/kg	37.8	1	09/10/25 18:42	09/05/25 15:26
Chlorodibromomethane	EPA 8260D	ND		µg/kg	37.8	1	09/10/25 18:42	09/05/25 15:26
Chloroethane (Ethyl chloride)	EPA 8260D	ND	S	µg/kg	126	1	09/10/25 18:42	09/05/25 15:26
Chloroform	EPA 8260D	ND		µg/kg	37.8	1	09/10/25 18:42	09/05/25 15:26
cis & trans-1,2-Dichloroethene	EPA 8260D	ND		µg/kg	75.5	1	09/10/25 18:42	09/05/25 15:26
cis-1,2-Dichloroethylene	EPA 8260D	ND		µg/kg	37.8	1	09/10/25 18:42	09/05/25 15:26
cis-1,3-Dichloropropene	EPA 8260D	ND		µg/kg	37.8	1	09/10/25 18:42	09/05/25 15:26
Cyclohexane	EPA 8260D	ND		µg/kg	126	1	09/10/25 18:42	09/05/25 15:26
Dichlorodifluoromethane (Freon-12)	EPA 8260D	ND		µg/kg	126	1	09/10/25 18:42	09/05/25 15:26
Ethylbenzene	EPA 8260D	ND		µg/kg	37.8	1	09/10/25 18:42	09/05/25 15:26
Isopropylbenzene	EPA 8260D	ND		µg/kg	37.8	1	09/10/25 18:42	09/05/25 15:26
m+p-Xylene	EPA 8260D	ND		µg/kg	75.5	1	09/10/25 18:42	09/05/25 15:26
Methyl acetate	EPA 8260D	ND		µg/kg	315	1	09/10/25 18:42	09/05/25 15:26
Methyl bromide (Bromomethane)	EPA 8260D	ND		µg/kg	126	1	09/10/25 18:42	09/05/25 15:26
Methyl chloride (Chloromethane)	EPA 8260D	ND		µg/kg	126	1	09/10/25 18:42	09/05/25 15:26
Methyl tert-butyl ether (MTBE)	EPA 8260D	ND		µg/kg	37.8	1	09/10/25 18:42	09/05/25 15:26
Methylcyclohexane	EPA 8260D	ND		µg/kg	37.8	1	09/10/25 18:42	09/05/25 15:26
Methylene chloride (Dichloromethane)	EPA 8260D	ND		µg/kg	315	1	09/10/25 18:42	09/05/25 15:26

Analytical Report



Client: The Mannik & Smith Group, Inc.
Project: 8221_Marcus
Matrix: SOIL/SOLID

Work Order: HN2512778
Date Collected: 09/04/25 09:32
Date Received: 09/05/25 08:00

CLIENT ID: 8221 SB03 (5-6) **Lab ID: HN2512778-003**

Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
o-Xylene	EPA 8260D	ND		µg/kg	37.8	1	09/10/25 18:42	09/05/25 15:26
Styrene	EPA 8260D	ND		µg/kg	37.8	1	09/10/25 18:42	09/05/25 15:26
Tetrachloroethylene (Perchloroethylene)	EPA 8260D	ND	S	µg/kg	37.8	1	09/10/25 18:42	09/05/25 15:26
Toluene	EPA 8260D	ND		µg/kg	37.8	1	09/10/25 18:42	09/05/25 15:26
Total Xylene	EPA 8260D	ND		µg/kg	113	1	09/10/25 18:42	09/05/25 15:26
trans-1,2-Dichloroethylene	EPA 8260D	ND		µg/kg	37.8	1	09/10/25 18:42	09/05/25 15:26
trans-1,3-Dichloropropylene	EPA 8260D	ND		µg/kg	37.8	1	09/10/25 18:42	09/05/25 15:26
Trichloroethene (Trichloroethylene)	EPA 8260D	ND	S	µg/kg	37.8	1	09/10/25 18:42	09/05/25 15:26
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	EPA 8260D	ND		µg/kg	37.8	1	09/10/25 18:42	09/05/25 15:26
Vinyl chloride (Chloroethene)	EPA 8260D	ND		µg/kg	37.8	1	09/10/25 18:42	09/05/25 15:26
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>EPA 8260D</i>	95.6		%REC	80-120	1	09/10/25 18:42	09/05/25 15:26
<i>Surr: 4-Bromofluorobenzene</i>	<i>EPA 8260D</i>	94.0		%REC	80-120	1	09/10/25 18:42	09/05/25 15:26
<i>Surr: Dibromofluoromethane</i>	<i>EPA 8260D</i>	87.4		%REC	72-120	1	09/10/25 18:42	09/05/25 15:26
<i>Surr: Toluene-d8</i>	<i>EPA 8260D</i>	107		%REC	80-120	1	09/10/25 18:42	09/05/25 15:26



Client: The Mannik & Smith Group, Inc.
Project: 8221_Marcus
Matrix: SOIL/SOLID
QC Lot: 2201191

Work Order: HN2512778
Date Collected: NA
Date Received: NA
Run ID: 3466157

General Chemistry Parameters

MB	CLIENT ID: Method Blank	Lab ID: QC-2201191-001
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Method: EPA 3550C **Dilution:** 1 **Analysis Date:** 09/05/25 13:36
Prep Date: NA

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Percent Moisture	ND	%	0.1							

LCS	CLIENT ID: Laboratory Control Sample	Lab ID: QC-2201191-002
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Method: EPA 3550C **Dilution:** 1 **Analysis Date:** 09/05/25 13:36
Prep Date: NA

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Percent Moisture	100	%	0.1	100		100.0	98-102			

The following samples were analyzed in this batch: HN2512778-001, HN2512778-002, HN2512778-003



Client: The Mannik & Smith Group, Inc.
Project: 8221_Marcus
Matrix: SOIL/SOLID
QC Lot: 2202102

Work Order: HN2512778
Date Collected: NA
Date Received: NA
Run ID: 3468479

General Chemistry Parameters

MB	CLIENT ID: Method Blank	Lab ID: QC-2202102-001
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Method: EPA 9056A **Dilution:** 1 **Analysis Date:** 09/05/25 17:40
Prep Date: 09/05/25 13:55

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Chloride	ND	mg/kg	10.0							

LCS	CLIENT ID: Laboratory Control Sample	Lab ID: QC-2202102-002
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Method: EPA 9056A **Dilution:** 1 **Analysis Date:** 09/05/25 17:48
Prep Date: 09/05/25 13:55

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Chloride	106	mg/kg	10.0	100		106	87-110			

The following samples were analyzed in this batch: HN2512778-001, HN2512778-002, HN2512778-003



Client: The Mannik & Smith Group, Inc.
Project: 8221_Marcus
Matrix: SOIL/SOLID
QC Lot: 2209268

Work Order: HN2512778
Date Collected: NA
Date Received: NA
Run ID: 3482195

Metals

MB	CLIENT ID: Method Blank	Lab ID: QC-2209268-001
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Method: EPA 6020B**Dilution:** 1**Analysis Date:** 09/10/25 16:29**Prep Date:** 09/10/25 11:28

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Arsenic	ND	mg/kg	0.250							
Barium	ND	mg/kg	0.250							
Cadmium	ND	mg/kg	0.100							
Chromium	ND	mg/kg	0.250							
Copper	ND	mg/kg	0.250							
Lead	ND	mg/kg	0.250							
Selenium	ND	mg/kg	0.250							
Silver	ND	mg/kg	0.250							
Zinc	ND	mg/kg	0.500							

LCS	CLIENT ID: Laboratory Control Sample	Lab ID: QC-2209268-002
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Method: EPA 6020B**Dilution:** 1**Analysis Date:** 09/10/25 16:31**Prep Date:** 09/10/25 11:28

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Arsenic	4.73	mg/kg	0.250	5		94.6	80-120			
Barium	4.89	mg/kg	0.250	5		97.8	80-120			
Cadmium	4.95	mg/kg	0.100	5		99.1	80-120			
Chromium	4.82	mg/kg	0.250	5		96.4	80-120			
Copper	4.82	mg/kg	0.250	5		96.4	80-120			
Lead	4.86	mg/kg	0.250	5		97.1	80-120			
Selenium	4.82	mg/kg	0.250	5		96.3	80-120			
Silver	4.87	mg/kg	0.250	5		97.4	80-120			
Zinc	4.69	mg/kg	0.500	5		93.8	80-120			

MS	CLIENT ID: 8221 SB01 (1-2)	Lab ID: QC-2209268-004
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Method: EPA 6020B**Dilution:** 10**Analysis Date:** 09/10/25 16:34**Prep Date:** 09/10/25 11:28

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Arsenic	9.10	mg/kg	3.01	5.7339	<3.04	111	75-125			
Barium	15.5	mg/kg	3.01	5.7339	12.2	67.3	75-125			S
Cadmium	5.58	mg/kg	1.20	5.7339	ND	94.8	75-125			
Chromium	9.69	mg/kg	3.01	5.7339	3.73	107	75-125			
Copper	10.4	mg/kg	3.01	5.7339	5.75	86.1	75-125			
Lead	10.0	mg/kg	3.01	5.7339	7.92	43.2	75-125			S
Selenium	6.04	mg/kg	3.01	5.7339	ND	109	75-125			
Silver	5.48	mg/kg	3.01	5.7339	ND	95.2	75-125			
Zinc	27.3	mg/kg	6.01	5	28.7	NC	75-125			O

QA/QC Report



Client: The Mannik & Smith Group, Inc.
Project: 8221_Marcus
Matrix: SOIL/SOLID
QC Lot: 2209268

Work Order: HN2512778
Date Collected: NA
Date Received: NA
Run ID: 3482195

MSD	CLIENT ID: 8221 SB01 (1-2)	Lab ID: QC-2209268-005
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Method: EPA 6020B **Dilution:** 10 **Analysis Date:** 09/10/25 16:36
Prep Date: 09/10/25 11:28

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Arsenic	8.70	mg/kg	3.12	5.9453	<3.04	100	75-125	4.41	20	
Barium	16.1	mg/kg	3.12	5.9453	12.2	74.6	75-125	3.64	20	S
Cadmium	5.84	mg/kg	1.25	5.9453	ND	95.9	75-125	4.70	20	
Chromium	9.73	mg/kg	3.12	5.9453	3.73	104	75-125	0.365	20	
Copper	11.0	mg/kg	3.12	5.9453	5.75	93.3	75-125	5.66	20	
Lead	11.2	mg/kg	3.12	5.9453	7.92	61.5	75-125	11.1	20	S
Selenium	5.87	mg/kg	3.12	5.9453	ND	102	75-125	2.82	20	
Silver	5.79	mg/kg	3.12	5.9453	ND	97.1	75-125	5.55	20	
Zinc	29.0	mg/kg	6.24	5	28.7	NC	75-125	5.98	20	O

PDS	CLIENT ID: 8221 SB01 (1-2)	Lab ID: QC-2209268-007
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Method: EPA 6020B **Dilution:** 10 **Analysis Date:** 09/10/25 16:39
Prep Date: 09/10/25 11:28

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Arsenic	58.8	mg/kg	3.04	58.072	<3.04	96.5	75-125			
Barium	69.7	mg/kg	3.04	58.072	12.2	99.8	75-125			
Cadmium	57.5	mg/kg	1.22	58.072	ND	98.8	75-125			
Chromium	59.2	mg/kg	3.04	58.072	3.73	95.8	75-125			
Copper	60.3	mg/kg	3.04	58.072	5.75	94.4	75-125			
Lead	65.4	mg/kg	3.04	58.072	7.92	99.6	75-125			
Selenium	57.1	mg/kg	3.04	58.072	ND	98.7	75-125			
Silver	49.8	mg/kg	3.04	58.072	ND	85.8	75-125			
Zinc	83.1	mg/kg	6.09	58.072	28.7	96.0	75-125			

The following samples were analyzed in this batch: HN2512778-001, HN2512778-002, HN2512778-003

QA/QC Report



Client: The Mannik & Smith Group, Inc.
Project: 8221_Marcus
Matrix: SOIL/SOLID
QC Lot: 2211818

Work Order: HN2512778
Date Collected: NA
Date Received: NA
Run ID: 3488236

Metals

MB	CLIENT ID: Method Blank						Lab ID: QC-2211818-001			
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Method: EPA 7471B **Dilution:** 1 **Analysis Date:** 09/12/25 09:17
Prep Date: 09/12/25 08:11

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Mercury	ND	mg/kg	0.0200							

LCS	CLIENT ID: Laboratory Control Sample						Lab ID: QC-2211818-002			
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Method: EPA 7471B **Dilution:** 1 **Analysis Date:** 09/12/25 09:18
Prep Date: 09/12/25 08:11

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Mercury	0.179	mg/kg	0.0200	0.1665		108	80-120			

MS	CLIENT ID: 8221 SB01 (1-2)						Lab ID: QC-2211818-004			
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Method: EPA 7471B **Dilution:** 1 **Analysis Date:** 09/12/25 09:30
Prep Date: 09/12/25 08:11

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Mercury	0.175	mg/kg	0.0200	0.15757	0.0201	98.9	75-125			

MSD	CLIENT ID: 8221 SB01 (1-2)						Lab ID: QC-2211818-005			
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Method: EPA 7471B **Dilution:** 1 **Analysis Date:** 09/12/25 09:32
Prep Date: 09/12/25 08:11

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Mercury	0.176	mg/kg	0.0201	0.15958	0.0201	98.1	75-125	0.365	35	

The following samples were analyzed in this batch: HN2512778-001, HN2512778-002, HN2512778-003



Client: The Mannik & Smith Group, Inc.
Project: 8221_Marcus
Matrix: SOIL/SOLID
QC Lot: 2217472

Work Order: HN2512778
Date Collected: NA
Date Received: NA
Run ID: 3499942

Organochlorine Pesticides by GC/ECD

MB	CLIENT ID: Method Blank	Lab ID: QC-2217472-001
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Method: EPA 8081B**Dilution:** 1**Analysis Date:** 09/16/25 08:31**Prep Date:** 09/15/25 11:33

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
4,4'-DDD	ND	µg/kg	10.0							
4,4'-DDE	ND	µg/kg	10.0							
4,4'-DDT	ND	µg/kg	10.0							
Aldrin	ND	µg/kg	10.0							
alpha-BHC	ND	µg/kg	10.0							
beta-BHC	ND	µg/kg	10.0							
Chlordane, Technical	ND	µg/kg	25.0							
cis-Chlordane	ND	µg/kg	10.0							
delta-BHC	ND	µg/kg	10.0							
Dieldrin	ND	µg/kg	10.0							
Endosulfan I	ND	µg/kg	10.0							
Endosulfan II	ND	µg/kg	10.0							
Endosulfan sulfate	ND	µg/kg	10.0							
Endrin	ND	µg/kg	10.0							
Endrin aldehyde	ND	µg/kg	10.0							
Endrin ketone	ND	µg/kg	10.0							
gamma-BHC (Lindane)	ND	µg/kg	10.0							
Heptachlor	ND	µg/kg	10.0							
Heptachlor epoxide	ND	µg/kg	10.0							
Methoxychlor	ND	µg/kg	10.0							
Toxaphene	ND	µg/kg	60.0							
trans-Chlordane	ND	µg/kg	10.0							
Surr: Decachlorobiphenyl	45.6	µg/kg		33.33		137	53-151			
Surr: Tetrachloro-m-xylene	32.7	µg/kg		33.33		98.2	67-127			

LCS	CLIENT ID: Laboratory Control Sample	Lab ID: QC-2217472-002
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Method: EPA 8081B**Dilution:** 1**Analysis Date:** 09/16/25 08:45**Prep Date:** 09/15/25 11:33

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
4,4'-DDD	34.8	µg/kg	10.0	33.33		104	55-141			
4,4'-DDE	34.3	µg/kg	10.0	33.33		103	55-143			
4,4'-DDT	36.2	µg/kg	10.0	33.33		109	50-144			
Aldrin	36.8	µg/kg	10.0	33.33		110	57-141			
alpha-BHC	39.8	µg/kg	10.0	33.33		119	58-144			
beta-BHC	40.3	µg/kg	10.0	33.33		121	55-147			
cis-Chlordane	36.6	µg/kg	10.0	33.33		110	58-142			
delta-BHC	39.3	µg/kg	10.0	33.33		118	59-142			
Dieldrin	39.0	µg/kg	10.0	33.33		117	59-142			
Endosulfan I	37.6	µg/kg	10.0	33.33		113	57-145			
Endosulfan II	38.4	µg/kg	10.0	33.33		115	58-138			
Endosulfan sulfate	37.2	µg/kg	10.0	33.33		112	54-136			
Endrin	36.2	µg/kg	10.0	33.33		108	45-150			

QA/QC Report



Client: The Mannik & Smith Group, Inc.
Project: 8221_Marcus
Matrix: SOIL/SOLID
QC Lot: 2217472

Work Order: HN2512778
Date Collected: NA
Date Received: NA
Run ID: 3499942

LCS		CLIENT ID: Laboratory Control Sample				Lab ID: QC-2217472-002			
Method: EPA 8081B		Dilution: 1		Analysis Date: 09/16/25 08:45		Prep Date: 09/15/25 11:33			
Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit Qual
Endrin aldehyde	44.0	µg/kg	10.0	33.33		132	41-147		
Endrin ketone	37.2	µg/kg	10.0	33.33		111	54-146		
gamma-BHC (Lindane)	39.9	µg/kg	10.0	33.33		120	58-145		
Heptachlor	39.0	µg/kg	10.0	33.33		117	51-145		
Heptachlor epoxide	38.2	µg/kg	10.0	33.33		114	59-143		
Methoxychlor	36.1	µg/kg	10.0	33.33		108	43-144		
trans-Chlordane	37.9	µg/kg	10.0	33.33		114	56-145		
Surr: Decachlorobiphenyl	44.1	µg/kg		33.33		132	51-151		
Surr: Tetrachloro-m-xylene	31.2	µg/kg		33.33		93.6	67-127		

The following samples were analyzed in this batch: HN2512778-001, HN2512778-002, HN2512778-003



Client: The Mannik & Smith Group, Inc.
Project: 8221_Marcus
Matrix: SOIL/SOLID
QC Lot: 2212793

Work Order: HN2512778
Date Collected: NA
Date Received: NA
Run ID: 3500392

Semivolatile Organic Compounds by GC

MB	CLIENT ID: Method Blank	Lab ID: QC-2212793-001
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Method: EPA 8082A

Dilution: 1

Analysis Date: 09/16/25 13:17

Prep Date: 09/12/25 09:19

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Aroclor 1016	ND	µg/kg	66.7							
Aroclor 1221	ND	µg/kg	66.7							
Aroclor 1232	ND	µg/kg	66.7							
Aroclor 1242	ND	µg/kg	66.7							
Aroclor 1248	ND	µg/kg	66.7							
Aroclor 1254	ND	µg/kg	66.7							
Aroclor 1260	ND	µg/kg	66.7							
Aroclor 1262	ND	µg/kg	66.7							
Aroclor 1268	ND	µg/kg	66.7							
Total PCB	ND	µg/kg	66.7							
Surr: Decachlorobiphenyl	42.7	µg/kg		33.3		128	54-146			
Surr: Tetrachloro-m-xylene	37.5	µg/kg		33.3		112	58-140			

LCS	CLIENT ID: Laboratory Control Sample	Lab ID: QC-2212793-002
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Method: EPA 8082A

Dilution: 1

Analysis Date: 09/16/25 13:29

Prep Date: 09/12/25 09:19

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Aroclor 1016	932	µg/kg	66.7	833		112	71-135			
Aroclor 1260	917	µg/kg	66.7	833		110	67-135			
Surr: Decachlorobiphenyl	45.2	µg/kg		33.3		136	54-146			
Surr: Tetrachloro-m-xylene	38.0	µg/kg		33.3		114	58-140			

The following samples were analyzed in this batch: HN2512778-001, HN2512778-002, HN2512778-003



Client: The Mannik & Smith Group, Inc.
Project: 8221_Marcus
Matrix: SOIL/SOLID
QC Lot: 2217494

Work Order: HN2512778
Date Collected: NA
Date Received: NA
Run ID: 3500433

Semivolatile Organic Compounds by GC

MB	CLIENT ID: Method Blank	Lab ID: QC-2217494-001
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Method: EPA 8151A **Dilution:** 1 **Analysis Date:** 09/17/25 17:54
Prep Date: 09/16/25 15:46

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
2,4,5-T	ND	µg/kg	5.00							
2,4,5-TP (Silvex)	ND	µg/kg	5.00							
2,4-D	ND	µg/kg	10.0							
Surr: DCAA	25.0	µg/kg		50		50.0	10-116			

LCS	CLIENT ID: Laboratory Control Sample	Lab ID: QC-2217494-002
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Method: EPA 8151A **Dilution:** 1 **Analysis Date:** 09/17/25 18:06
Prep Date: 09/16/25 15:46

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
2,4,5-T	32.0	µg/kg	5.00	50		64.0	10-119			
2,4,5-TP (Silvex)	30.0	µg/kg	5.00	50		60.0	10-101			
2,4-D	30.0	µg/kg	10.0	50		60.0	10-128			
Surr: DCAA	30.0	µg/kg		50		60.0	10-116			

The following samples were analyzed in this batch: HN2512778-001, HN2512778-002, HN2512778-003



Client: The Mannik & Smith Group, Inc.
Project: 8221_Marcus
Matrix: SOIL/SOLID
QC Lot: 2215327

Work Order: HN2512778
Date Collected: NA
Date Received: NA
Run ID: 3512737

Semivolatile Organic Compounds by GC-MS

MB	CLIENT ID: Method Blank	Lab ID: QC-2215327-001
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Method: EPA 8270E**Dilution:** 1**Analysis Date:** 09/19/25 04:00**Prep Date:** 09/12/25 14:43

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
1,1'-Biphenyl (BZ-0)	ND	µg/kg	33.0							
1,2,4,5-Tetrachlorobenzene	ND	µg/kg	333							
1,4-Dioxane (1,4- Diethyleneoxide)	ND	µg/kg	167							
1-Methylnaphthalene	ND	µg/kg	6.67							
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methylethyl)ether	ND	µg/kg	33.0							
2,3,4,6-Tetrachlorophenol	ND	µg/kg	67.0							
2,4,5-Trichlorophenol	ND	µg/kg	33.0							
2,4,6-Trichlorophenol	ND	µg/kg	33.0							
2,4-Dichlorophenol	ND	µg/kg	33.0							
2,4-Dimethylphenol	ND	µg/kg	33.0							
2,4-Dinitrophenol	ND	µg/kg	333							
2,4-Dinitrotoluene (2,4-DNT)	ND	µg/kg	33.0							
2,6-Dinitrotoluene (2,6-DNT)	ND	µg/kg	33.0							
2-Chloronaphthalene	ND	µg/kg	6.67							
2-Chlorophenol	ND	µg/kg	33.0							
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	ND	µg/kg	33.0							
2-Methylnaphthalene	ND	µg/kg	6.67							
2-Methylphenol (o-Cresol)	ND	µg/kg	33.0							
2-Nitroaniline	ND	µg/kg	33.0							
2-Nitrophenol	ND	µg/kg	33.0							
3&4-Methylphenol	ND	µg/kg	33.0							
3,3'-Dichlorobenzidine	ND	µg/kg	167							
3-Nitroaniline	ND	µg/kg	33.0							
4-Bromophenyl phenyl ether (BDE-3)	ND	µg/kg	33.0							
4-Chloro-3-methylphenol	ND	µg/kg	33.0							
4-Chloroaniline	ND	µg/kg	67.0							
4-Chlorophenyl phenylether	ND	µg/kg	33.0							
4-Nitroaniline	ND	µg/kg	167							
4-Nitrophenol	ND	µg/kg	333							
Acenaphthene	ND	µg/kg	6.67							
Acenaphthylene	ND	µg/kg	6.67							
Acetophenone	ND	µg/kg	33.0							
Anthracene	ND	µg/kg	6.67							
Atrazine	ND	µg/kg	33.0							
Benzaldehyde	ND	µg/kg	67.0							
Benzo(a)anthracene	ND	µg/kg	6.67							
Benzo(a)pyrene	ND	µg/kg	6.67							
Benzo(b)fluoranthene	ND	µg/kg	6.67							
Benzo(g,h,i)perylene	ND	µg/kg	6.67							
Benzo(k)fluoranthene	ND	µg/kg	6.67							
bis(2-Chloroethoxy)methane	ND	µg/kg	33.0							
bis(2-Chloroethyl) ether	ND	µg/kg	33.0							

QA/QC Report



Client: The Mannik & Smith Group, Inc.
Project: 8221_Marcus
Matrix: SOIL/SOLID
QC Lot: 2215327

Work Order: HN2512778
Date Collected: NA
Date Received: NA
Run ID: 3512737

MB	CLIENT ID: Method Blank	Lab ID: QC-2215327-001
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Method: EPA 8270E

Dilution: 1

Analysis Date: 09/19/25 04:00

Prep Date: 09/12/25 14:43

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Butyl benzyl phthalate	ND	µg/kg	67.0							
Caprolactam	ND	µg/kg	33.0							
Carbazole	ND	µg/kg	33.0							
Chrysene	ND	µg/kg	6.67							
Di(2-ethylhexyl) phthalate (bis(2-Ethylhexyl)phthalate, DEHP)	ND	µg/kg	33.0							
Dibenz(a,h) anthracene	ND	µg/kg	33.0							
Dibenzofuran	ND	µg/kg	33.0							
Diethyl phthalate	ND	µg/kg	33.0							
Dimethyl phthalate	ND	µg/kg	33.0							
Di-n-butyl phthalate	ND	µg/kg	33.0							
Di-n-octyl phthalate	ND	µg/kg	33.0							
Fluoranthene	ND	µg/kg	6.67							
Fluorene	ND	µg/kg	6.67							
Hexachlorobenzene	ND	µg/kg	33.0							
Hexachlorobutadiene	ND	µg/kg	33.0							
Hexachlorocyclopentadiene	ND	µg/kg	33.0							
Hexachloroethane	ND	µg/kg	33.0							
Indeno(1,2,3-cd) pyrene	ND	µg/kg	6.67							
Isophorone	ND	µg/kg	167							
Methylphenol, Total	ND	µg/kg	67.0							
Naphthalene	ND	µg/kg	6.67							
Nitrobenzene	ND	µg/kg	167							
n-Nitrosodi-n-propylamine	ND	µg/kg	33.0							
N-Nitrosodiphenylamine	ND	µg/kg	33.0							
Pentachlorophenol	ND	µg/kg	33.0							
Phenanthrene	ND	µg/kg	6.67							
Phenol	ND	µg/kg	33.0							
Pyrene	ND	µg/kg	6.67							
Pyridine	ND	µg/kg	167							
Surr: 2,4,6-Tribromophenol	2040	µg/kg		3333		61.1	48-94			
Surr: 2-Fluorobiphenyl	2160	µg/kg		3333		64.9	50-103			
Surr: 2-Fluorophenol	2250	µg/kg		3333		67.4	43-105			
Surr: 4-Terphenyl-d14	2510	µg/kg		3333		75.4	55-111			
Surr: Nitrobenzene-d5	2070	µg/kg		3333		62.0	47-100			
Surr: Phenol-d6	2350	µg/kg		3333		70.6	49-110			

LCS	CLIENT ID: Laboratory Control Sample	Lab ID: QC-2215327-002
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Method: EPA 8270E

Dilution: 1

Analysis Date: 09/19/25 04:21

Prep Date: 09/12/25 14:43

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
1,1'-Biphenyl (BZ-0)	871	µg/kg	33.0	1333		65.3	57-101			
1,2,4,5-Tetrachlorobenzene	839	µg/kg	33.0	1333		62.9	54-98			
1-Methylnaphthalene	859	µg/kg	6.67	1333		64.4	56-100			



Client: The Mannik & Smith Group, Inc.
Project: 8221_Marcus
Matrix: SOIL/SOLID
QC Lot: 2215327

Work Order: HN2512778
Date Collected: NA
Date Received: NA
Run ID: 3512737

LCS	CLIENT ID: Laboratory Control Sample	Lab ID: QC-2215327-002
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Method: EPA 8270E

Dilution: 1

Analysis Date: 09/19/25 04:21

Prep Date: 09/12/25 14:43

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methylethyl)ether	834	µg/kg	33.0	1333		62.6	50-101			
2,3,4,6-Tetrachlorophenol	986	µg/kg	67.0	1333		74.0	48-103			
2,4,5-Trichlorophenol	894	µg/kg	33.0	1333		67.1	54-98			
2,4,6-Trichlorophenol	864	µg/kg	33.0	1333		64.8	56-97			
2,4-Dichlorophenol	831	µg/kg	33.0	1333		62.3	54-99			
2,4-Dimethylphenol	786	µg/kg	33.0	1333		59.0	47-102			
2,4-Dinitrophenol	802	µg/kg	33.0	1333		60.2	10-100			
2,4-Dinitrotoluene (2,4-DNT)	965	µg/kg	33.0	1333		72.4	62-105			
2,6-Dinitrotoluene (2,6-DNT)	918	µg/kg	33.0	1333		68.9	62-103			
2-Chloronaphthalene	867	µg/kg	6.67	1333		65.0	57-101			
2-Chlorophenol	853	µg/kg	33.0	1333		64.0	52-102			
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	965	µg/kg	33.0	1333		72.4	42-104			
2-Methylnaphthalene	845	µg/kg	6.67	1333		63.4	55-102			
2-Methylphenol (o-Cresol)	839	µg/kg	33.0	1333		62.9	54-103			
2-Nitroaniline	953	µg/kg	33.0	1333		71.5	57-103			
2-Nitrophenol	902	µg/kg	33.0	1333		67.7	52-102			
3&4-Methylphenol	861	µg/kg	33.0	1333		64.6	56-103			
3,3'-Dichlorobenzidine	757	µg/kg	167	1333		56.8	41-91			
3-Nitroaniline	757	µg/kg	33.0	1333		56.8	35-107			
4-Bromophenyl phenyl ether (BDE-3)	927	µg/kg	33.0	1333		69.6	63-104			
4-Chloro-3-methylphenol	920	µg/kg	33.0	1333		69.0	57-103			
4-Chloroaniline	907	µg/kg	67.0	1333		68.0	32-99			
4-Chlorophenyl phenylether	911	µg/kg	33.0	1333		68.4	62-100			
4-Nitroaniline	524	µg/kg	167	1333		39.3	19-124			
4-Nitrophenol	919	µg/kg	33.0	1333		68.9	44-106			
Acenaphthene	891	µg/kg	6.67	1333		66.8	60-101			
Acenaphthylene	882	µg/kg	6.67	1333		66.2	59-101			
Acetophenone	851	µg/kg	33.0	1333		63.8	54-102			
Anthracene	953	µg/kg	6.67	1333		71.5	63-96			
Atrazine	1030	µg/kg	33.0	1333		77.5	60-110			
Benzaldehyde	347	µg/kg	67.0	1333		26.0	10-143			
Benzo(a)anthracene	985	µg/kg	6.67	1333		73.9	66-102			
Benzo(a)pyrene	1000	µg/kg	6.67	1333		75.2	66-105			
Benzo(b)fluoranthene	1020	µg/kg	6.67	1333		76.3	67-105			
Benzo(g,h,i)perylene	962	µg/kg	6.67	1333		72.2	59-110			
Benzo(k)fluoranthene	969	µg/kg	6.67	1333		72.7	68-106			
bis(2-Chloroethoxy)methane	834	µg/kg	33.0	1333		62.6	54-102			
bis(2-Chloroethyl) ether	825	µg/kg	33.0	1333		61.9	51-101			
Butyl benzyl phthalate	988	µg/kg	67.0	1333		74.1	59-107			
Caprolactam	974	µg/kg	33.0	1333		73.1	49-103			
Carbazole	975	µg/kg	33.0	1333		73.1	63-103			
Chrysene	1000	µg/kg	6.67	1333		75.0	66-105			
Di(2-ethylhexyl) phthalate (bis(2-Ethylhexyl)phthalate, DEHP)	1020	µg/kg	33.0	1333		76.9	63-101			

QA/QC Report



Client: The Mannik & Smith Group, Inc.
Project: 8221_Marcus
Matrix: SOIL/SOLID
QC Lot: 2215327

Work Order: HN2512778
Date Collected: NA
Date Received: NA
Run ID: 3512737

LCS		CLIENT ID: Laboratory Control Sample				Lab ID: QC-2215327-002			
Method: EPA 8270E		Dilution: 1		Analysis Date: 09/19/25 04:21		Prep Date: 09/12/25 14:43			
Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit Qual
Dibenz(a,h) anthracene	927	µg/kg	33.0	1333		69.6	61-109		
Dibenzofuran	893	µg/kg	33.0	1333		67.0	61-101		
Diethyl phthalate	973	µg/kg	33.0	1333		73.0	63-105		
Dimethyl phthalate	945	µg/kg	33.0	1333		70.9	64-104		
Di-n-butyl phthalate	1010	µg/kg	33.0	1333		75.5	66-108		
Di-n-octyl phthalate	1100	µg/kg	33.0	1333		82.4	53-126		
Fluoranthene	980	µg/kg	6.67	1333		73.5	66-105		
Fluorene	912	µg/kg	6.67	1333		68.4	62-101		
Hexachlorobenzene	977	µg/kg	33.0	1333		73.3	61-104		
Hexachlorobutadiene	846	µg/kg	33.0	1333		63.5	52-99		
Hexachlorocyclopentadiene	817	µg/kg	33.0	1333		61.3	39-106		
Hexachloroethane	807	µg/kg	33.0	1333		60.5	59-99		
Indeno(1,2,3-cd) pyrene	1040	µg/kg	6.67	1333		78.3	57-114		
Isophorone	866	µg/kg	167	1333		65.0	55-101		
Methylphenol, Total	1700	µg/kg	67.0	2667		63.7	54-103		
Naphthalene	849	µg/kg	6.67	1333		63.7	54-99		
Nitrobenzene	881	µg/kg	167	1333		66.1	53-100		
n-Nitrosodi-n-propylamine	855	µg/kg	33.0	1333		64.1	52-104		
N-Nitrosodiphenylamine	945	µg/kg	33.0	1333		70.9	61-104		
Pentachlorophenol	971	µg/kg	33.0	1333		72.9	35-100		
Phenanthrene	941	µg/kg	6.67	1333		70.6	64-101		
Phenol	844	µg/kg	33.0	1333		63.3	51-107		
Pyrene	998	µg/kg	6.67	1333		74.9	62-114		
Pyridine	733	µg/kg	167	1333		55.0	40-84		
Surr: 2,4,6-Tribromophenol	2270	µg/kg		3333		68.1	48-94		
Surr: 2-Fluorobiphenyl	2010	µg/kg		3333		60.3	50-103		
Surr: 2-Fluorophenol	2000	µg/kg		3333		59.9	43-105		
Surr: 4-Terphenyl-d14	2370	µg/kg		3333		71.2	55-111		
Surr: Nitrobenzene-d5	1970	µg/kg		3333		59.0	47-100		
Surr: Phenol-d6	2090	µg/kg		3333		62.7	49-110		

The following samples were analyzed in this batch: HN2512778-001, HN2512778-002, HN2512778-003



Client: The Mannik & Smith Group, Inc.
Project: 8221_Marcus
Matrix: SOIL/SOLID
QC Lot: 2202316

Work Order: HN2512778
Date Collected: NA
Date Received: NA
Run ID: 3484571

Volatile Organic Compounds by GC-MS

MB	CLIENT ID: Method Blank	Lab ID: QC-2202316-001
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Method: EPA 8260D

Dilution: 1

Analysis Date: 09/10/25 14:56

Prep Date: 09/05/25 15:27

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
1,1,1-Trichloroethane	ND	µg/kg	30.0							
1,1,2,2-Tetrachloroethane	ND	µg/kg	30.0							
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	µg/kg	30.0							
1,1,2-Trichloroethane	ND	µg/kg	30.0							
1,1-Dichloroethane	ND	µg/kg	30.0							
1,1-Dichloroethylene	ND	µg/kg	30.0							
1,2,3-Trichlorobenzene	ND	µg/kg	100							
1,2,3-Trichloropropane	ND	µg/kg	30.0							
1,2,4-Trichlorobenzene	ND	µg/kg	100							
1,2,4-Trimethylbenzene	ND	µg/kg	30.0							
1,2-Dibromo-3-chloropropane (DBCP)	ND	µg/kg	100							
1,2-Dibromoethane (EDB, Ethylene dibromide)	ND	µg/kg	30.0							
1,2-Dichlorobenzene (o-Dichlorobenzene)	ND	µg/kg	30.0							
1,2-Dichloroethane (Ethylene dichloride)	ND	µg/kg	100							
1,2-Dichloropropane	ND	µg/kg	30.0							
1,3,5-Trimethylbenzene	ND	µg/kg	100							
1,3-Dichlorobenzene (m-Dichlorobenzene)	ND	µg/kg	30.0							
1,3-Dichloropropene	ND	µg/kg	60.0							
1,4-Dichlorobenzene (p-Dichlorobenzene)	ND	µg/kg	30.0							
2-Butanone (Methyl ethyl ketone, MEK)	ND	µg/kg	200							
2-Hexanone	ND	µg/kg	30.0							
4-Methyl-2-pentanone (MIBK)	ND	µg/kg	30.0							
Acetone	ND	µg/kg	100							
Benzene	ND	µg/kg	30.0							
Bromochloromethane	ND	µg/kg	30.0							
Bromodichloromethane	ND	µg/kg	30.0							
Bromoform	ND	µg/kg	30.0							
Carbon disulfide	ND	µg/kg	30.0							
Carbon tetrachloride	ND	µg/kg	30.0							
Chlorobenzene	ND	µg/kg	30.0							
Chlorodibromomethane	ND	µg/kg	30.0							
Chloroethane (Ethyl chloride)	ND	µg/kg	100							
Chloroform	ND	µg/kg	30.0							
cis & trans-1,2-Dichloroethene	ND	µg/kg	60.0							
cis-1,2-Dichloroethylene	ND	µg/kg	30.0							
cis-1,3-Dichloropropene	ND	µg/kg	30.0							
Cyclohexane	ND	µg/kg	100							
Dichlorodifluoromethane (Freon-12)	ND	µg/kg	100							

QA/QC Report



Client: The Mannik & Smith Group, Inc.
Project: 8221_Marcus
Matrix: SOIL/SOLID
QC Lot: 2202316

Work Order: HN2512778
Date Collected: NA
Date Received: NA
Run ID: 3484571

MB	CLIENT ID: Method Blank	Lab ID: QC-2202316-001
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Method: EPA 8260D

Dilution: 1

Analysis Date: 09/10/25 14:56

Prep Date: 09/05/25 15:27

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Ethylbenzene	ND	µg/kg	30.0							
Isopropylbenzene	ND	µg/kg	30.0							
m+p-Xylene	ND	µg/kg	60.0							
Methyl acetate	ND	µg/kg	250							
Methyl bromide (Bromomethane)	ND	µg/kg	100							
Methyl chloride (Chloromethane)	ND	µg/kg	100							
Methyl tert-butyl ether (MTBE)	ND	µg/kg	30.0							
Methylcyclohexane	ND	µg/kg	30.0							
Methylene chloride (Dichloromethane)	ND	µg/kg	250							
o-Xylene	ND	µg/kg	30.0							
Styrene	ND	µg/kg	30.0							
Tetrachloroethylene (Perchloroethylene)	ND	µg/kg	30.0							
Toluene	ND	µg/kg	30.0							
Total Xylene	ND	µg/kg	90.0							
trans-1,2-Dichloroethylene	ND	µg/kg	30.0							
trans-1,3-Dichloropropylene	ND	µg/kg	30.0							
Trichloroethene (Trichloroethylene)	ND	µg/kg	30.0							
Trichlorofluoromethane	ND	µg/kg	30.0							
(Fluorotrichloromethane, Freon 11)										
Vinyl chloride (Chloroethene)	ND	µg/kg	30.0							
Surr: 1,2-Dichloroethane-d4	959	µg/kg		1000		95.9	80-120			
Surr: 4-Bromofluorobenzene	974	µg/kg		1000		97.4	80-120			
Surr: Dibromofluoromethane	908	µg/kg		1000		90.8	72-120			
Surr: Toluene-d8	1050	µg/kg		1000		105	80-120			

LCS	CLIENT ID: Laboratory Control Sample	Lab ID: QC-2202316-002
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Method: EPA 8260D

Dilution: 1

Analysis Date: 09/10/25 14:00

Prep Date: 09/05/25 15:27

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
1,1,1-Trichloroethane	926	µg/kg	30.0	1000		92.6	75-121			
1,1,2,2-Tetrachloroethane	860	µg/kg	30.0	1000		86.0	79-125			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	1190	µg/kg	30.0	1000		119	62-129			
1,1,2-Trichloroethane	946	µg/kg	30.0	1000		94.6	80-123			
1,1-Dichloroethane	905	µg/kg	30.0	1000		90.5	74-124			
1,1-Dichloroethylene	989	µg/kg	30.0	1000		98.9	68-131			
1,2,3-Trichlorobenzene	1030	µg/kg	100	1000		103	60-135			
1,2,3-Trichloropropane	874	µg/kg	30.0	1000		87.4	77-121			
1,2,4-Trichlorobenzene	1070	µg/kg	100	1000		107	63-130			
1,2,4-Trimethylbenzene	960	µg/kg	30.0	1000		96.0	64-126			
1,2-Dibromo-3-chloropropane (DBCP)	939	µg/kg	100	1000		93.9	55-135			
1,2-Dibromoethane (EDB, Ethylene dibromide)	916	µg/kg	30.0	1000		91.6	63-155			

QA/QC Report



Client: The Mannik & Smith Group, Inc.
Project: 8221_Marcus
Matrix: SOIL/SOLID
QC Lot: 2202316

Work Order: HN2512778
Date Collected: NA
Date Received: NA
Run ID: 3484571

LCS	CLIENT ID: Laboratory Control Sample	Lab ID: QC-2202316-002
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Method: EPA 8260D

Dilution: 1

Analysis Date: 09/10/25 14:00

Prep Date: 09/05/25 15:27

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
1,2-Dichlorobenzene (o-Dichlorobenzene)	1030	µg/kg	30.0	1000		103	77-122			
1,2-Dichloroethane (Ethylene dichloride)	909	µg/kg	100	1000		90.9	70-130			
1,2-Dichloropropane	875	µg/kg	30.0	1000		87.5	71-130			
1,3,5-Trimethylbenzene	998	µg/kg	100	1000		99.8	66-130			
1,3-Dichlorobenzene (m-Dichlorobenzene)	1060	µg/kg	30.0	1000		106	78-121			
1,3-Dichloropropene	1830	µg/kg	60.0	2000		91.7	62-124			
1,4-Dichlorobenzene (p-Dichlorobenzene)	1030	µg/kg	30.0	1000		103	78-122			
2-Butanone (Methyl ethyl ketone, MEK)	1050	µg/kg	200	1000		105	47-164			
2-Hexanone	954	µg/kg	30.0	1000		95.4	70-137			
4-Methyl-2-pentanone (MIBK)	1270	µg/kg	30.0	1000		127	57-200			
Acetone	1000	µg/kg	100	1000		100	52-190			
Benzene	934	µg/kg	30.0	1000		93.4	78-122			
Bromochloromethane	908	µg/kg	30.0	1000		90.8	68-130			
Bromodichloromethane	962	µg/kg	30.0	1000		96.2	75-125			
Bromoform	870	µg/kg	30.0	1000		87.0	59-120			
Carbon disulfide	1190	µg/kg	30.0	1000		119	60-163			
Carbon tetrachloride	988	µg/kg	30.0	1000		98.8	69-123			
Chlorobenzene	932	µg/kg	30.0	1000		93.2	79-120			
Chlorodibromomethane	772	µg/kg	30.0	1000		77.2	57-123			
Chloroethane (Ethyl chloride)	796	µg/kg	100	1000		79.6	38-132			
Chloroform	902	µg/kg	30.0	1000		90.2	72-122			
cis & trans-1,2-Dichloroethene	1890	µg/kg	60.0	2000		94.4	72-127			
cis-1,2-Dichloroethylene	943	µg/kg	30.0	1000		94.3	74-125			
cis-1,3-Dichloropropene	989	µg/kg	30.0	1000		98.9	62-124			
Dichlorodifluoromethane (Freon-12)	776	µg/kg	100	1000		77.6	28-137			
Ethylbenzene	920	µg/kg	30.0	1000		92.0	75-121			
Isopropylbenzene	1010	µg/kg	30.0	1000		101	74-121			
m+p-Xylene	1840	µg/kg	60.0	2000		92.1	67-129			
Methyl acetate	885	µg/kg	250	1000		88.5	61-125			
Methyl bromide (Bromomethane)	890	µg/kg	100	1000		89.0	31-169			
Methyl chloride (Chloromethane)	804	µg/kg	100	1000		80.4	24-119			
Methyl tert-butyl ether (MTBE)	1010	µg/kg	30.0	1000		101	79-139			
Methylene chloride (Dichloromethane)	986	µg/kg	250	1000		98.6	62-135			
o-Xylene	903	µg/kg	30.0	1000		90.3	75-120			
Styrene	1010	µg/kg	30.0	1000		101	74-126			
Tetrachloroethylene (Perchloroethylene)	1080	µg/kg	30.0	1000		108	76-128			
Toluene	996	µg/kg	30.0	1000		99.6	76-120			
Total Xylene	2740	µg/kg	90.0	3000		91.5	67-129			
trans-1,2-Dichloroethylene	944	µg/kg	30.0	1000		94.4	72-127			
trans-1,3-Dichloropropylene	844	µg/kg	30.0	1000		84.4	66-120			
Trichloroethene (Trichloroethylene)	937	µg/kg	30.0	1000		93.7	75-122			

QA/QC Report



Client: The Mannik & Smith Group, Inc.
Project: 8221_Marcus
Matrix: SOIL/SOLID
QC Lot: 2202316

Work Order: HN2512778
Date Collected: NA
Date Received: NA
Run ID: 3484571

LCS	CLIENT ID: Laboratory Control Sample	Lab ID: QC-2202316-002
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Method: EPA 8260D **Dilution:** 1 **Analysis Date:** 09/10/25 14:00
Prep Date: 09/05/25 15:27

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	932	µg/kg	30.0	1000		93.2	51-115			
Vinyl chloride (Chloroethene)	844	µg/kg	30.0	1000		84.4	43-128			
Surr: 1,2-Dichloroethane-d4	967	µg/kg		1000		96.7	80-120			
Surr: 4-Bromofluorobenzene	986	µg/kg		1000		98.6	80-120			
Surr: Dibromofluoromethane	972	µg/kg		1000		97.2	72-120			
Surr: Toluene-d8	998	µg/kg		1000		99.8	80-120			

MS	CLIENT ID: 8221 SB03 (5-6)	Lab ID: QC-2202316-005
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Method: EPA 8260D **Dilution:** 1 **Analysis Date:** 09/10/25 22:10
Prep Date: 09/05/25 15:27

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
1,1,1-Trichloroethane	963	µg/kg	37.8	1019.4	ND	94.4	75-121			
1,1,2,2-Tetrachloroethane	498	µg/kg	37.8	1019.4	ND	48.8	79-125			S
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	1090	µg/kg	37.8	1019.4	ND	107	62-129			
1,1,2-Trichloroethane	950	µg/kg	37.8	1019.4	ND	93.2	80-123			
1,1-Dichloroethane	924	µg/kg	37.8	1019.4	ND	90.6	74-124			
1,1-Dichloroethylene	1030	µg/kg	37.8	1019.4	ND	101	68-131			
1,2,3-Trichlorobenzene	1170	µg/kg	126	1019.4	ND	114	60-135			
1,2,3-Trichloropropane	930	µg/kg	37.8	1019.4	ND	91.2	77-121			
1,2,4-Trichlorobenzene	1160	µg/kg	126	1019.4	ND	113	63-130			
1,2,4-Trimethylbenzene	1090	µg/kg	37.8	1019.4	ND	107	64-126			
1,2-Dibromo-3-chloropropane (DBCP)	932	µg/kg	126	1019.4	ND	91.4	55-135			
1,2-Dibromoethane (EDB, Ethylene dibromide)	927	µg/kg	37.8	1019.4	ND	90.9	63-155			
1,2-Dichlorobenzene (o-Dichlorobenzene)	1110	µg/kg	37.8	1019.4	ND	108	77-122			
1,2-Dichloroethane (Ethylene dichloride)	926	µg/kg	126	1019.4	ND	90.8	70-130			
1,2-Dichloropropane	906	µg/kg	37.8	1019.4	ND	88.9	71-130			
1,3,5-Trimethylbenzene	1130	µg/kg	126	1019.4	ND	111	66-130			
1,3-Dichlorobenzene (m-Dichlorobenzene)	1080	µg/kg	37.8	1019.4	ND	106	78-121			
1,3-Dichloropropene	1660	µg/kg	75.5	2038.7	ND	81.6	62-124			
1,4-Dichlorobenzene (p-Dichlorobenzene)	1070	µg/kg	37.8	1019.4	ND	105	78-122			
2-Butanone (Methyl ethyl ketone, MEK)	953	µg/kg	252	1019.4	ND	93.5	47-164			
2-Hexanone	1180	µg/kg	37.8	1019.4	ND	116	70-137			
4-Methyl-2-pentanone (MIBK)	1060	µg/kg	37.8	1019.4	ND	104	57-200			
Acetone	1800	µg/kg	126	1019.4	ND	177	52-190			
Benzene	1020	µg/kg	37.8	1019.4	ND	100	78-122			
Bromochloromethane	945	µg/kg	37.8	1019.4	ND	92.7	68-130			
Bromodichloromethane	908	µg/kg	37.8	1019.4	ND	89.0	75-125			
Bromoform	828	µg/kg	37.8	1019.4	ND	81.2	59-120			

QA/QC Report



Client: The Mannik & Smith Group, Inc.
Project: 8221_Marcus
Matrix: SOIL/SOLID
QC Lot: 2202316

Work Order: HN2512778
Date Collected: NA
Date Received: NA
Run ID: 3484571

MS		CLIENT ID: 8221 SB03 (5-6)				Lab ID: QC-2202316-005			
Method: EPA 8260D		Dilution: 1		Analysis Date: 09/10/25 22:10		Prep Date: 09/05/25 15:27			
Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit Qual
Carbon disulfide	1030	µg/kg	37.8	1019.4	ND	101	60-163		
Carbon tetrachloride	1020	µg/kg	37.8	1019.4	ND	99.8	69-123		
Chlorobenzene	964	µg/kg	37.8	1019.4	ND	94.6	79-120		
Chlorodibromomethane	718	µg/kg	37.8	1019.4	ND	70.4	57-123		
Chloroethane (Ethyl chloride)	172	µg/kg	126	1019.4	ND	16.9	38-132		S
Chloroform	928	µg/kg	37.8	1019.4	ND	91.0	72-122		
cis & trans-1,2-Dichloroethene	1900	µg/kg	75.5	2038.7	ND	93.0	72-127		
cis-1,2-Dichloroethylene	951	µg/kg	37.8	1019.4	ND	93.3	74-125		
cis-1,3-Dichloropropene	866	µg/kg	37.8	1019.4	ND	85.0	62-124		
Dichlorodifluoromethane (Freon-12)	870	µg/kg	126	1019.4	ND	85.4	28-137		
Ethylbenzene	971	µg/kg	37.8	1019.4	ND	95.3	75-121		
Isopropylbenzene	1120	µg/kg	37.8	1019.4	ND	110	74-121		
m+p-Xylene	1920	µg/kg	75.5	2038.7	ND	94.2	67-129		
Methyl acetate	1040	µg/kg	315	1019.4	ND	102	61-125		
Methyl bromide (Bromomethane)	414	µg/kg	126	1019.4	ND	40.6	31-169		
Methyl chloride (Chloromethane)	800	µg/kg	126	1019.4	ND	78.4	24-119		
Methyl tert-butyl ether (MTBE)	926	µg/kg	37.8	1019.4	ND	90.8	79-139		
Methylene chloride (Dichloromethane)	987	µg/kg	315	1019.4	ND	96.8	62-135		
o-Xylene	986	µg/kg	37.8	1019.4	ND	96.8	75-120		
Styrene	1060	µg/kg	37.8	1019.4	ND	104	74-126		
Tetrachloroethylene (Perchloroethylene)	2040	µg/kg	37.8	1019.4	ND	200	76-128		S
Toluene	1120	µg/kg	37.8	1019.4	ND	109	76-120		
Total Xylene	2910	µg/kg	113	3058.1	ND	95.0	67-129		
trans-1,2-Dichloroethylene	944	µg/kg	37.8	1019.4	ND	92.6	72-127		
trans-1,3-Dichloropropylene	798	µg/kg	37.8	1019.4	ND	78.2	66-120		
Trichloroethene (Trichloroethylene)	1430	µg/kg	37.8	1019.4	ND	140	75-122		S
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	915	µg/kg	37.8	1019.4	ND	89.8	51-115		
Vinyl chloride (Chloroethene)	778	µg/kg	37.8	1019.4	ND	76.3	43-128		
Surr: 1,2-Dichloroethane-d4	967	µg/kg		1019.4		94.9	80-120		
Surr: 4-Bromofluorobenzene	1040	µg/kg		1019.4		102	80-120		
Surr: Dibromofluoromethane	980	µg/kg		1019.4		96.2	72-120		
Surr: Toluene-d8	1040	µg/kg		1019.4		102	80-120		

MSD		CLIENT ID: 8221 SB03 (5-6)				Lab ID: QC-2202316-006			
Method: EPA 8260D		Dilution: 1		Analysis Date: 09/10/25 22:29		Prep Date: 09/05/25 15:27			
Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit Qual
1,1,1-Trichloroethane	1020	µg/kg	37.8	1019.4	ND	100	75-121	6.16	30
1,1,2,2-Tetrachloroethane	504	µg/kg	37.8	1019.4	ND	49.4	79-125	1.12	30 S
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	1160	µg/kg	37.8	1019.4	ND	114	62-129	6.12	30
1,1,2-Trichloroethane	962	µg/kg	37.8	1019.4	ND	94.4	80-123	1.23	30
1,1-Dichloroethane	974	µg/kg	37.8	1019.4	ND	95.6	74-124	5.32	30

QA/QC Report



Client: The Mannik & Smith Group, Inc.
Project: 8221_Marcus
Matrix: SOIL/SOLID
QC Lot: 2202316

Work Order: HN2512778
Date Collected: NA
Date Received: NA
Run ID: 3484571

MSD	CLIENT ID: 8221 SB03 (5-6)	Lab ID: QC-2202316-006
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Method: EPA 8260D

Dilution: 1

Analysis Date: 09/10/25 22:29

Prep Date: 09/05/25 15:27

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
1,1-Dichloroethylene	1070	µg/kg	37.8	1019.4	ND	105	68-131	3.98	30	
1,2,3-Trichlorobenzene	1140	µg/kg	126	1019.4	ND	112	60-135	2.48	30	
1,2,3-Trichloropropane	978	µg/kg	37.8	1019.4	ND	96.0	77-121	5.13	30	
1,2,4-Trichlorobenzene	1140	µg/kg	126	1019.4	ND	112	63-130	0.930	30	
1,2,4-Trimethylbenzene	1120	µg/kg	37.8	1019.4	ND	110	64-126	2.96	30	
1,2-Dibromo-3-chloropropane (DBCP)	913	µg/kg	126	1019.4	ND	89.6	55-135	2.04	30	
1,2-Dibromoethane (EDB, Ethylene dibromide)	952	µg/kg	37.8	1019.4	ND	93.4	63-155	2.71	30	
1,2-Dichlorobenzene (o-Dichlorobenzene)	1110	µg/kg	37.8	1019.4	ND	108	77-122	0.00	30	
1,2-Dichloroethane (Ethylene dichloride)	958	µg/kg	126	1019.4	ND	94.0	70-130	3.41	30	
1,2-Dichloropropane	948	µg/kg	37.8	1019.4	ND	93.0	71-130	4.45	30	
1,3,5-Trimethylbenzene	1150	µg/kg	126	1019.4	ND	113	66-130	1.56	30	
1,3-Dichlorobenzene (m-Dichlorobenzene)	1120	µg/kg	37.8	1019.4	ND	110	78-121	3.94	30	
1,3-Dichloropropene	1760	µg/kg	75.5	2038.7	ND	86.2	62-124	5.39	30	
1,4-Dichlorobenzene (p-Dichlorobenzene)	1120	µg/kg	37.8	1019.4	ND	110	78-122	4.61	30	
2-Butanone (Methyl ethyl ketone, MEK)	932	µg/kg	252	1019.4	ND	91.4	47-164	2.22	30	
2-Hexanone	1240	µg/kg	37.8	1019.4	ND	121	70-137	4.64	30	
4-Methyl-2-pentanone (MIBK)	1100	µg/kg	37.8	1019.4	ND	108	57-200	4.24	30	
Acetone	1800	µg/kg	126	1019.4	ND	177	52-190	0.0849	30	
Benzene	1070	µg/kg	37.8	1019.4	ND	105	78-122	4.63	30	
Bromochloromethane	946	µg/kg	37.8	1019.4	ND	92.8	68-130	0.162	30	
Bromodichloromethane	929	µg/kg	37.8	1019.4	ND	91.2	75-125	2.33	30	
Bromoform	879	µg/kg	37.8	1019.4	ND	86.2	59-120	5.97	30	
Carbon disulfide	1110	µg/kg	37.8	1019.4	ND	108	60-163	7.31	30	
Carbon tetrachloride	1090	µg/kg	37.8	1019.4	ND	107	69-123	7.38	30	
Chlorobenzene	1040	µg/kg	37.8	1019.4	ND	102	79-120	7.73	30	
Chlorodibromomethane	755	µg/kg	37.8	1019.4	ND	74.1	57-123	5.12	30	
Chloroethane (Ethyl chloride)	195	µg/kg	126	1019.4	ND	19.1	38-132	12.2	30	S
Chloroform	939	µg/kg	37.8	1019.4	ND	92.1	72-122	1.15	30	
cis & trans-1,2-Dichloroethene	1970	µg/kg	75.5	2038.7	ND	96.5	72-127	3.75	30	
cis-1,2-Dichloroethylene	976	µg/kg	37.8	1019.4	ND	95.7	74-125	2.54	30	
cis-1,3-Dichloropropene	922	µg/kg	37.8	1019.4	ND	90.4	62-124	6.16	30	
Dichlorodifluoromethane (Freon-12)	867	µg/kg	126	1019.4	ND	85.0	28-137	0.411	30	
Ethylbenzene	1030	µg/kg	37.8	1019.4	ND	101	75-121	5.51	30	
Isopropylbenzene	1150	µg/kg	37.8	1019.4	ND	113	74-121	3.32	30	
m+p-Xylene	2040	µg/kg	75.5	2038.7	ND	100	67-129	6.27	30	
Methyl acetate	1050	µg/kg	315	1019.4	ND	103	61-125	0.777	30	
Methyl bromide (Bromomethane)	433	µg/kg	126	1019.4	ND	42.5	31-169	4.57	30	
Methyl chloride (Chloromethane)	815	µg/kg	126	1019.4	ND	80.0	24-119	1.96	30	
Methyl tert-butyl ether (MTBE)	999	µg/kg	37.8	1019.4	ND	98.0	79-139	7.63	30	
Methylene chloride (Dichloromethane)	1030	µg/kg	315	1019.4	ND	101	62-135	4.64	30	
o-Xylene	1020	µg/kg	37.8	1019.4	ND	100	75-120	3.35	30	

QA/QC Report



Client: The Mannik & Smith Group, Inc.
Project: 8221_Marcus
Matrix: SOIL/SOLID
QC Lot: 2202316

Work Order: HN2512778
Date Collected: NA
Date Received: NA
Run ID: 3484571

MSD	CLIENT ID: 8221 SB03 (5-6)	Lab ID: QC-2202316-006
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Method: EPA 8260D

Dilution: 1

Analysis Date: 09/10/25 22:29

Prep Date: 09/05/25 15:27

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Styrene	1150	µg/kg	37.8	1019.4	ND	113	74-126	8.36	30	
Tetrachloroethylene (Perchloroethylene)	2100	µg/kg	37.8	1019.4	ND	206	76-128	2.97	30	S
Toluene	1140	µg/kg	37.8	1019.4	ND	112	76-120	2.57	30	
Total Xylene	3060	µg/kg	113	3058.1	ND	100	67-129	5.29	30	
trans-1,2-Dichloroethylene	992	µg/kg	37.8	1019.4	ND	97.3	72-127	4.95	30	
trans-1,3-Dichloropropylene	835	µg/kg	37.8	1019.4	ND	81.9	66-120	4.56	30	
Trichloroethene (Trichloroethylene)	1520	µg/kg	37.8	1019.4	ND	149	75-122	6.18	30	S
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	1000	µg/kg	37.8	1019.4	ND	98.2	51-115	9.04	30	
Vinyl chloride (Chloroethene)	799	µg/kg	37.8	1019.4	ND	78.4	43-128	2.71	30	
Surr: 1,2-Dichloroethane-d4	963	µg/kg		1019.4		94.4	80-120	0.475	30	
Surr: 4-Bromofluorobenzene	1040	µg/kg		1019.4		102	80-120	0.686	30	
Surr: Dibromofluoromethane	940	µg/kg		1019.4		92.2	72-120	4.14	30	
Surr: Toluene-d8	1030	µg/kg		1019.4		101	80-120	0.835	30	

The following samples were analyzed in this batch: HN2512778-001, HN2512778-002, HN2512778-003



right solutions.
right partner.

October 21, 2025

Ryan Montri
The Mannik & Smith Group, Inc.
2365 Haggerty Road South
Suite 100
Canton, MI 48188

Re: **DETR0060**

Date Received: **10/14/2025**

Work Order: **HN2515182**

Dear Ryan,

Enclosed are the results of the sample(s) submitted to our laboratory.

The analytical data provided relates directly to the samples received by ALS Environmental - Holland and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to contact me:

ADDRESS: 3352 128th Avenue, Holland, MI, USA PHONE: +1 (616) 399-6070 FAX: +1 (616) 399-6185

Dale Schipper

/S/ DALE SCHIPPER

Project Manager



Client: The Mannik & Smith Group, Inc.
Project: DETR0060

Work Order: HN2515182
Date Received: 14-Oct-2025

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier II level requested by the client.

Sample Receipt

1 soil/solid sample was received for analysis at ALS Environmental on 14-Oct-2025. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

SAMPLE SUMMARY



Client: The Mannik & Smith Group, Inc.
Project: DETR0060
Workorder: HN2515182

Laboratory Sample ID	Client Sample ID	Sample Matrix	Collection Date	Date Received
HN2515182-001	8221 Marcus SB3 (0'-6') Comp	SOIL/SOLID	10/13/25 12:25	10/14/25 07:00

REPORT QUALIFIERS AND DEFINITIONS

*	Value exceeds Regulatory Limit (if MCL displayed)
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
NC	Not Calculated
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
V	The Continuing Calibration Verification was outside of control criteria
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

Holland Laboratory Certifications¹

Agency	Type	ID	Issued	Expires
Alabama	Drinking Water (Secondary)	42500	12/17/2024	12/31/2025
Colorado	UST		07/01/2025	06/30/2026
Connecticut	Drinking Water (Secondary)	PH-0155	12/10/2024	12/31/2026
Florida	NELAP (Primary)	E871106	07/01/2025	06/30/2026
Illinois	NELAP (Secondary)	200076	11/14/2024	12/31/2025
Indiana	Drinking Water (Secondary)	C-MI-08	12/31/2024	09/04/2026
Iowa	State Specific	403	09/18/2023	09/01/2025
Kansas	NELAP (Secondary)	E-10411	07/09/2024	07/31/2025
Kentucky	Waste Water	KY98004	12/20/2024	12/31/2025
Kentucky	UST	120474	06/24/2024	06/30/2025
Michigan	Drinking Water (Primary)	0022	12/19/2023	09/04/2026
Minnesota	NELAP (Secondary)	026-999-449	12/17/2024	12/31/2025
Missouri	Drinking Water (Secondary)	01262	11/14/2024	12/30/2027
New Jersey	NELAP (Secondary)	MI015	07/01/2024	6/30/2025
New York	NELAP (Secondary)	12128	04/01/2025	04/01/2026
North Dakota	State Specific	R-192	11/18/2024	06/30/2025
Ohio	Drinking Water (Secondary)	87783	06/26/2025	6/30/2026
Pennsylvania	NELAP (Secondary)	68-03827	06/14/2024	07/31/2025
Texas	NELAP (Secondary)	T104704494	02/12/2025	01/31/2026
USDA	Domestic CA	Soil-MI-007	02/06/2025	08/07/2026
USDA	Soil Import	525-23-62-77572	03/03/2023	03/03/2026
West Virginia	State Specific	355	06/07/2025	08/31/2026
Wisconsin	State Specific	399084510	08/15/2024	08/31/2025

¹ - Scope available upon request

Analytical Report



Client: The Mannik & Smith Group, Inc.
Project: DETR0060
Matrix: SOIL/SOLID

Work Order: HN2515182
Date Collected: 10/13/25 12:25
Date Received: 10/14/25 07:00

CLIENT ID: 8221 Marcus SB3 (0'-6') Comp **Lab ID: HN2515182-001**

Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
TCLP Metals								
Arsenic	EPA 6020B	<0.00190	U	mg/L	0.0499	1	10/17/25 20:45	10/17/25 10:28

QA/QC Report



Client: The Mannik & Smith Group, Inc.
Project: DETR0060
Matrix: SOIL/SOLID
QC Lot: 2281436

Work Order: HN2515182
Date Collected: NA
Date Received: NA
Run ID: 3599113

TCLP Metals

MB	CLIENT ID: Method Blank	Lab ID: QC-2281436-001
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Method: EPA 6020B **Dilution:** 1 **Analysis Date:** 10/17/25 20:16
Prep Date: 10/17/25 10:29

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Arsenic	<0.00190	mg/L	0.0499							U

LCS	CLIENT ID: Laboratory Control Sample	Lab ID: QC-2281436-002
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Method: EPA 6020B **Dilution:** 1 **Analysis Date:** 10/17/25 20:18
Prep Date: 10/17/25 10:29

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Arsenic	1.02	mg/L	0.0499	1		102	80-120			

The following samples were analyzed in this batch: HN2515182-001

ANALYST SUMMARY



Client: The Mannik & Smith Group, Inc.
Project: DETR0060

Work Order: HN2515182

Sample Name: 8221 Marcus SB3 (0'-6') Comp
Laboratory Code: HN2515182-001
Sample Matrix: SOIL/SOLID

Date Collected: 10/13/25
Date Received: 10/14/25

Analysis Method	Preparation Method	Container ID	Preparation Lot	Prepared By	Analysis Lot	Analyzed By
EPA 6020B	EPA 3015A	001-AD	2281436	Chloe Patrick	3599113	Hunter Johnson



ALS Environmental

Laboratory location:

Chain of Custody Form

Page 1 of 1

Customer Information			Project Information					Parameter/Method Request for Analysis			
Purchase Order		Project Name	8221 Marcus					A	TCLP Arsenic		
Work Order	Quote ID - 11631	Project Number	DETR0060					B			
Company Name	Mannik Smith Group	Bill To Company	Mannik Smith Group					C			
Send Report To	Ryan Montri	Invoice Attn.						D			
Address	2365 South Haggerty Road	Address	2365 South Haggerty Road					E			
City/State/Zip	Canton, Mi 48188	City/State/Zip	Canton, Mi 48188					F			
Phone	734-397-3100	Phone	734-397-3100					G			
Fax		Fax						H			
e-Mail Address	montri@manniksmithgroup.com	e-Mail Address						I			
								J			
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	J	Hold
1	8221 Marcus SR-3(0'-6") comp	10-17-25	1225	Soil	-	2	X				
2											
3											
4											
5											
6											
7											
8											
9											
10											

Environmental Division
Holland
Work Order Reference
HN2515182



Telephone : + 1 616 399 6070

Sampler(s): Please Print & Sign		Shipment Method:		Required Turnaround Time:		Results Due Date:	
<i>Edmund Bary</i> <i>Edmund Bary</i>				☐ STD 10 Wk Days ☒ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour			
Relinquished by:		Date:	Time:	Received by:		Notes:	
<i>Edmund Bary</i>		10-13-25	1455	<i>Sherron Kaczmarek</i>			
Relinquished by:		Date:	Time:	Received by (Laboratory):		Cooler Temp.	
<i>Sherron Kaczmarek</i>		10-13-25	1547	10/14/25 QS to Brittany H 0700		1122 3.7C	
Logged by (Laboratory):		Date:	Time:	Checked by (Laboratory):		QC Package: (Check Box Below)	
BH		10/14/25	09:28			☐ Level II: Standard QC ☐ TRRP-Checklist	
						☐ Level III: Std QC + Raw Data ☐ TRRP Level IV	
						☐ Level IV: SW846 CLP-Like	
Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-S035						Other: _____	

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.
Signature denotes acceptance of ALS Group USA, Corp. Terms and Conditions - Please click the link below for detailed Terms & Conditions:
<https://www.alsglobal.com/ALSGroupUSACorpTC>
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ALS Holland Sample Receiving Checklist

Received by: B. D. Langley

Date/Time: 10/14/25 0700

Carrier Name: GS

Shipping container/cooler in good condition? (Yes) / No / Not Present

Custody seals intact on shipping container/cooler? Yes / No / ~~Not Present~~

Custody seals intact on sample bottles? Yes / No / ~~Not Present~~

Chain of Custody present? (Yes) / No

COC signed when relinquished and received? (Yes) / No

COC agrees with sample labels? (Yes) / No

Samples in proper container/bottle? (Yes) / No

Sample containers intact? (Yes) / No

Sufficient sample volume for indicated test? (Yes) / No

All samples received within holding time? (Yes) / No

Container/Temp Blank temperature in compliance? (Yes) / No

Temperature(s) (°C): 3.7/3.7

Thermometer(s): 1R7

Sample(s) received on ice? (Yes) / No

Matrix/Matrices: Soil

Cooler(s)/Kit(s): 1

Date/Time sample(s) sent to storage: 10/14/25 09:28

Water – VOA vials have zero headspace? Yes / No / No Vials

Water – pH acceptable upon receipt? Yes / No / N/A

pH strip lot #: _____ < 2 _____ > 12 _____ Other _____

pH adjusted (note adjustments below)? Yes / No / N/A

pH adjusted by: _____

Login Notes: