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# FILL MATERIAL SAMPLING REPORT

**5558 IVANHOE STREET  
DETROIT, WAYNE COUNTY, MICHIGAN 48204**



**DECEMBER 11, 2025**

PREPARED FOR:

**THE CITY OF DETROIT DEMOLITION DEPARTMENT**

1301 THIRD STREET, SUITE 606

DETROIT, MICHIGAN 48226



# FILL MATERIAL SAMPLING REPORT

**5558 IVANHOE STREET  
DETROIT, WAYNE COUNTY, MICHIGAN 48204**

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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 5558 Ivanhoe Street, 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); 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. 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 5558 SB01, 5558 SB02, and 5558 SB03 generally consisted of brown silty sand underlain by 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 were below instrument detection limits. There were no visual (staining) and/or olfactory (e.g., petroleum-like odors) indications of contamination observed during soil sampling activities; however, asphalt, concrete, and brick debris was observed in 5558 SB01, 5558 SB02, and/or 5558 SB03.
- Concentrations of arsenic and pentachlorophenol were detected in soil samples 5558 SB01 (1-2') and/or 5558 SB03 (5-6') in excess of their respective Part 201 groundwater surface water interface protection criteria (GSIPC), drinking water protection criteria (DWPC), and/or direct contact criteria (DCC).
- Concentrations of 4,4'-DDE, 4,4'-DDT, barium, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, bis(2-ethylhexyl) phthalate, chromium (Total), chrysene, copper, fluoranthene, lead, phenanthrene, pyrene, and zinc were detected in soil samples 5558 SB01 (1-2'), 5558 SB02 (3-4'), and/or 5558 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.
- VOCs, PCBs, chloride, 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. Given that the site is residential, exceedances of direct contact criteria may merit further consideration.

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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## 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 5558 Ivanhoe Street, 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 November 22, 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 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 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 November 22, 2025. A daily field activity report prepared by MSG is presented in *Appendix B, Daily Field Report*.

### 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 5558 SB01, 5558 SB02, and 5558 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 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.

### 3.4 Analytical Methods

A total of three (3) soil samples designated 5558 SB01 (1-2'), 5558 SB02 (3-4'), and 5558 SB03 (5-6'), 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:

- 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.

**3.5 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 November 22, 2025.

**4.1 Site Geology and Hydrogeology**

The stratigraphy encountered during soil boring advancement of 5558 SB01, 5558 SB02, and 5558 SB03 generally consisted of brown silty sand underlain by clay to six feet bgs, the maximum depth explored for this investigation. Field PID readings of the recovered soil cores were below instrument detection limits. There were no visual (staining) and/or olfactory (e.g., petroleum-like odors) indications of contamination observed during soil sampling activities; however, asphalt, concrete, and brick debris was observed in 5558 SB01, 5558 SB02, and/or 5558 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 5558 SB01 (1-2’), 5558 SB02 (3-4’), and 5558 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 <sup>1</sup> )	Maximum Detected Concentration (µg/kg)
Arsenic	7440-38-2	5558 SB01 (1-2) 5558 SB03 (5-6)	GSIPC <sup>2</sup> / 4,600 DWPC <sup>2</sup> / 4,600 DCC <sup>2</sup> / 7,600	9,930
Pentachlorophenol	87-86-5	5558 SB01 (1-2)	DWPC / 22	146

<sup>1</sup>µg/kg – micrograms per kilogram;  
<sup>2</sup>GSIPC – Groundwater Surface Water Interface Protection Criteria  
<sup>3</sup>DWPC – Drinking Water Protection Criteria  
<sup>4</sup>DCC – Direct Contact Criteria

### 4.3 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. Given that the site is residential, exceedances of direct contact criteria may merit further consideration.

## 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 5558 SB01, 5558 SB02, and 5558 SB03 generally consisted of brown silty sand underlain by clay to six feet bgs, the maximum depth explored for this investigation. Field PID readings of the recovered soil cores were below instrument detection limits. There were no visual (staining) and/or olfactory (e.g., petroleum-like odors) indications of contamination observed during soil sampling activities; however, asphalt, concrete, and brick debris was observed in 5558 SB01, 5558 SB02, and/or 5558 SB03.
- Concentrations of arsenic and pentachlorophenol were detected in soil samples 5558 SB01 (1-2') and/or 5558 SB03 (5-6') in excess of their respective Part 201 groundwater surface water interface protection criteria (GSIPC), drinking water protection criteria (DWPC), and/or direct contact criteria (DCC).
- Concentrations of 4,4'-DDE, 4,4-DDT, barium, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, bis(2-ethylhexyl) phthalate, chromium (Total), chrysene, copper, fluoranthene, lead, phenanthrene, pyrene, and zinc were detected in soil samples 5558 SB01 (1-2'), 5558 SB02 (3-4'), and/or 5558 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.
- VOCs, PCBs, chloride, 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. Given that the site is residential, exceedances of direct contact criteria may merit further consideration.

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.

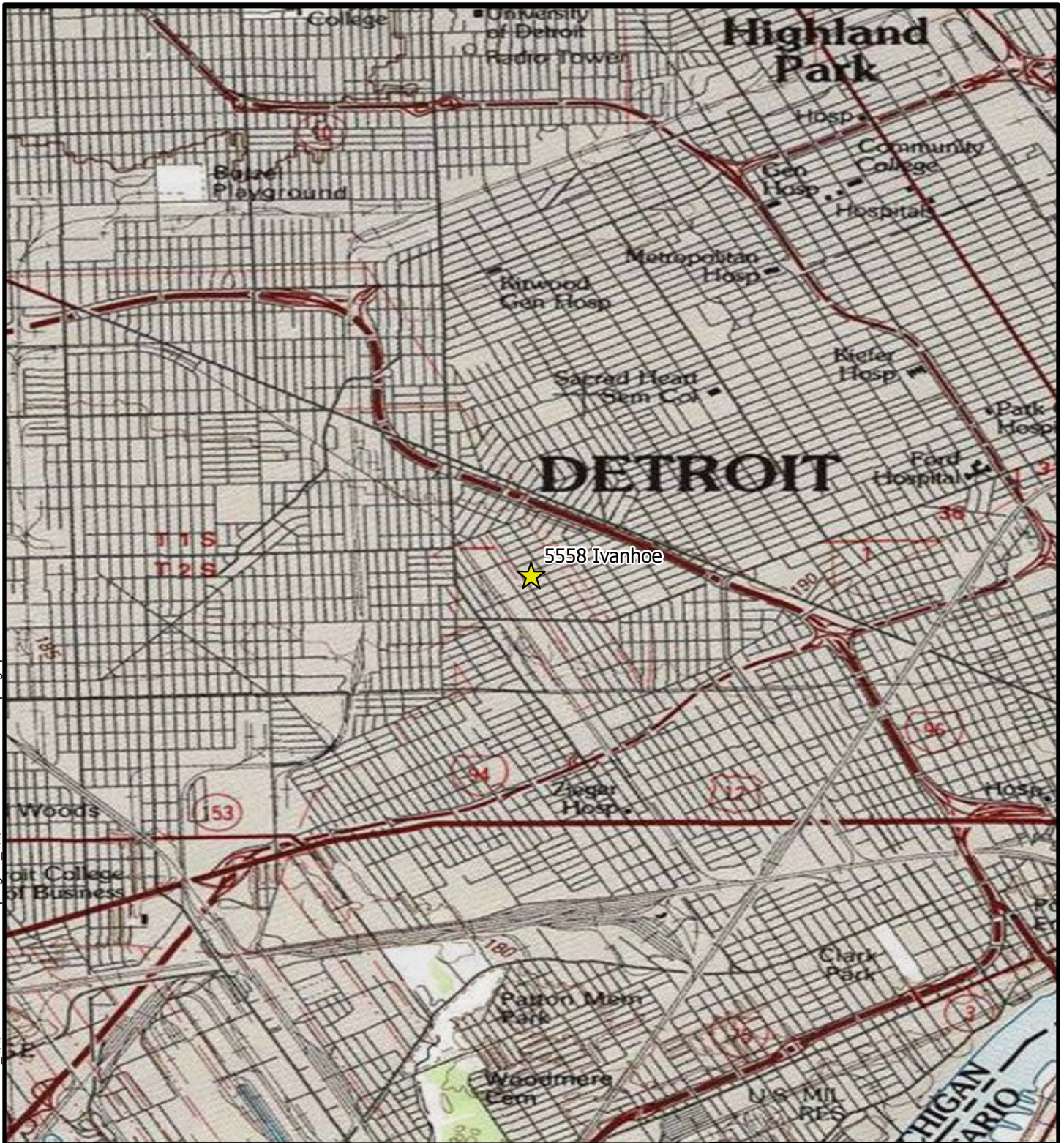
MSG warrants that no substantive information or documentation was deleted, omitted, or changed that would otherwise cause the MSG to reach a different conclusion. Furthermore, MSG understands that the COD and its agencies and

authorities may rely upon the overall completeness, accuracy, and conclusions in this report and hereby provides reliance on the contents presented herein.

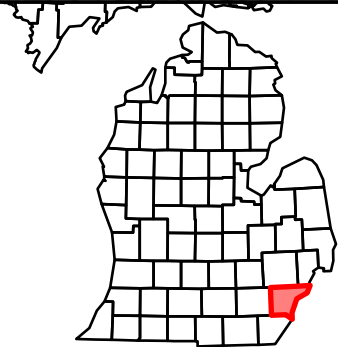
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FIGURES

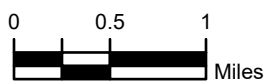




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★ Site Location

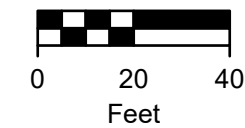


**FIGURE 1**  
SITE LOCATION

5558 Ivanhoe, Detroit, MI

DATE 11/25/2025	DRAWN BY JWW	DESIGNED BY JWW	PROJECT NO. DETRO060
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-  Sample Locations
-  Subject Property
-  Parcels (Current)
-  All Roads

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



**FIGURE 2**  
Site Layout

5558 Ivanhoe, Detroit, MI

DATE 11/25/2025	DRAWN BY JWW	DESIGNED BY KRB	PROJECT NO. DETR0060
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TABLE



**Table 1  
Soil Sample Analytical Detection Summary  
5558 Ivanhoe  
Detroit, Michigan**

SOIL: Part 201/213 Generic Residential Cleanup Criteria Revised October 12, 2023 and Volatilization to Indoor Air Pathway Screening Levels Revised February 26, 2024 Units: µg/kg			Metals						Pesticides/Herbicides		Semivolatile Organic Compounds (SVOCs)										Inorganic Anions/Ions	Volatile Organic Compounds (VOCs)	Polychlorinated Biphenyls (PCBs)	Pesticides/Herbicides	
			Arsenic (B)	Barium (B)	Chromium, Total (B)	Copper (B)	Lead (B)	Zinc (B)	4,4-DDT	P,P'-DDE	Benzo(A)Anthracene	Benzo(A)Pyrene	Benzo(B)Fluoranthene	Benzo(G,H,I)Perylene	Bis(2-ethylhexyl)phthalate	Chrysene	Fluoranthene	Pentachlorophenol	Phenanthrene	Pyrene	Chloride				
CAS Number			7440-38-2	7440-39-3	7440-47-3	7440-50-8	7439-92-1	7440-66-6	50-29-3	72-55-9	56-55-3	50-32-8	205-99-2	191-24-2	117-81-7	218-01-9	206-44-0	87-86-5	85-01-8	129-00-0	16887006				
Statewide Default Background Levels			5,800	75,000	18,000	32,000	21,000	47,000	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NA			
Drinking Water Protection Criteria (DWPC)			4,600	1.30E+06	30,000	5.80E+06	7.00E+05	2.40E+06	NLL	NLL	NLL	NLL	NLL	NLL	NLL	NLL	7.30E+05	22	56,000	4.80E+05	5.00E+06				
Groundwater Surface Water Interface Protection Criteria (GSIPC)			4,600	4.40E+05 <sup>(G)</sup>	3,300	75,000 <sup>(G)</sup>	6.00E+06 <sup>(G)</sup>	1.60E+05	NLL	NLL	NLL	NLL	NLL	NLL	NLL	NLL	5,500	27,000 <sup>(G)</sup>	2,100	ID	(X)				
Soil Volatilization to Indoor Air Inhalation (SVIIC)			NLV	NLV	NC	NLV	NLV	NC	NLV	NLV	NLV	NLV	ID	NLV	NLV	ID	1.00E+09	NLV	2.80E+06	1.00E+09	NLV				
Soil Volatilization to Indoor Air Pathway (SVIAP)			NC	NC	NC	NC	NC	NC	39,000	1.60E+05 <sup>(M)</sup>	NC	NC	NC	NC	NC	NC	NC	NC	1,700	2.50E+07	--				
Infinite Source Volatile Soil Inhalation Criteria (VSIC)			NLV	NLV	NC	NLV	NLV	NC	NLV	NLV	NLV	NLV	ID	NLV	NLV	ID	7.40E+08	NLV	1.60E+05	6.50E+08	NLV				
Finite Source Volatile Soil Inhalation Criteria (5 m) (VSIC 5m)			NLV	NLV	NC	NLV	NLV	NC	NLV	NLV	NLV	NLV	ID	NLV	NLV	ID	7.40E+08	NLV	1.60E+05	6.50E+08	NLV				
Finite Source Volatile Soil Inhalation Criteria (2 m) (VSIC 2m)			NLV	NLV	NC	NLV	NLV	NC	NLV	NLV	NLV	NLV	ID	NLV	NLV	ID	7.40E+08	NLV	1.60E+05	6.50E+08	NLV				
Particulate Soil Inhalation Criteria (PSIC)			7.20E+05	3.30E+08	2.60E+05	1.30E+08	1.00E+08	NC	3.20E+07	3.20E+07	ID	1.50E+06	ID	8.00E+08	7.00E+08	ID	9.30E+09	1.00E+08	6.70E+06	6.70E+09	ID				
Direct Contact Criteria (DCC)			7,600	3.70E+07	2.50E+06	2.00E+07	4.00E+05	1.70E+08	57,000	45,000	20,000	2,000	20,000	2.50E+06	2.80E+06	2.00E+06	4.60E+07	90,000	1.60E+06	2.90E+07	5.0E+5 (F)				
Soil Saturation Concentration Screening Levels (Csat)			NA	NA	NC	NA	NA	NC	NA	NA	NA	NA	NA	NA	1.00E+07	NA	NA	NA	NA	NA	NA				
Sample ID	Sample Depth (ft)	Sample Date																							
5558 SB01	1-2	11/22/2025	<b>9,930</b>	<b>27,500</b>	<b>11,800</b>	<b>15,900</b>	<b>23,000</b>	<b>55,400</b>	<b>15.5</b>	<b>35</b>	<b>21.8</b>	<b>28.5</b>	<b>30.2</b>	<b>21.8</b>	<b>1,060</b>	<b>16.8</b>	<b>36.9</b>	<b>146</b>	<b>23.5</b>	<b>31.8</b>	ND	ND	ND	ND	
5558 SB02	3-4	11/22/2025	<b>5,510</b>	<b>18,600</b>	<b>7,270</b>	<b>10,600</b>	<b>7,780</b>	<b>39,600</b>	<7.08	<7.02	<14.9	<10.6	<12.8	<13.2	<71.3	<13.9	<8.27	<68.4	<8.01	<8.6	ND	ND	ND	ND	
5558 SB03	5-6	11/22/2025	<b>6,090</b>	<b>40,200</b>	<b>13,600</b>	<b>11,900</b>	<b>5,820</b>	<b>34,300</b>	<18.2	<18.1	<16	<11.3	<13.8	<14.2	<76.5	<15	<8.88	<73.5	<8.6	<9.23	ND	ND	ND	ND	

**Notes**

µg/kg = Micrograms per Kilogram.  
Exceeds Generic Drinking Water Protection Criteria.  
Exceeds Groundwater Surface Water Interface Protection Criteria.  
Exceeds Applicable Soil Vapor Inhalation Criteria/Screening Levels.  
Exceeds Two or More DWPC, GSIPC, and/or Applicable Soil Vapor Inhalation Criteria/Screening Levels.  
Exceeds PSIC, DCC, and/or Csat, likely exceeds others.  
**Bold** indicates concentration above laboratory reporting limits.  
 ND= No detection above laboratory reporting limits  
 NC = No Criteria; NA = Not Applicable; NLV = Not Likely to Volatize; NLL = Not Likely to Leach.  
 Notes in parentheses and standard abbreviations from Part 201 Rules 299.1 through 299.50, updated October 12, 2023.

**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 REPORT





**DAILY FIELD REPORT**

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

**Report No.:** 1  
**Job No.:** DETR0060

<b>Date:</b> <u>11/22/2025</u>	<b>Day:</b> <u>Saturday</u>	<b>Temp:</b> <u>40° F</u> (AM) <u>45° F</u> (PM)
<b>MSG Personnel:</b> <u>OMM, SRK, JDF</u>	<b>Cloud Cover:</b> <u>Sunny</u> (AM) <u>Sunny</u> (PM)	<b>Precip.:</b> <u>N/A</u> (AM) <u>N/A</u> (PM)
<b>Personnel:</b> <u>MSG</u>		
<b>MSG Hours On-Site:</b> <u>~ 1 hour</u>		

Contractors Information		
Contractor: <u>MSG</u>	No. Men and Type: <u>3; Operator/ Geologist/ Helper</u>	Equipment Type: <u>Geoprobe 7822DT</u>

Summary of Work Performed:
<ul style="list-style-type: none"> <li>Advanced three (3) onsite soil borings to a maximum depth of 6 feet below ground surface (bgs)</li> <li>Collected soil samples from each soil boring (from the interval with the greatest potential to be impacted based on field indicators).</li> </ul>

Field Notes:
<ul style="list-style-type: none"> <li>1115 – MSG onsite (5558 Ivanhoe Street)</li> <li>1120 – Unloaded equipment and marked out boring locations</li> <li>1125 – Began drilling SB01</li> <li>1030 – Began drilling SB02</li> <li>1033 – Began drilling SB03</li> <li>1130 – Sampled 9921 SB01 (1-2')</li> <li>1135 – Sampled 9921 SB01 (1-2')</li> <li>1040 – Sampled 9921 SB02 (3-4')</li> <li>1045 – Sampled 9921 SB02 (3-4')</li> <li>1050 – Sampled 9921 SB03 (5-6')</li> <li>1055 – Sampled 9921 SB03 (5-6')</li> <li>1058 – Used GPS to collect soil boring locations</li> <li>1100 – MSG off site</li> </ul>

Supporting Documentation								
	Yes	No		Yes	No		Yes	No
Photograph Taken	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Samples Collected	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Boring/MW Logs	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Photo Log Attached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	COC Attached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Field Note Book Taken	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Problem Identification and Corrective Measures
<u>N/A</u>
Resolved?                      Yes <input type="checkbox"/> No <input type="checkbox"/>

**APPENDIX C**  
INVESTIGATION PHOTOGRAPHS





Photo 1: View of Site pre-drilling



Photo 2: View of soil boring advancement

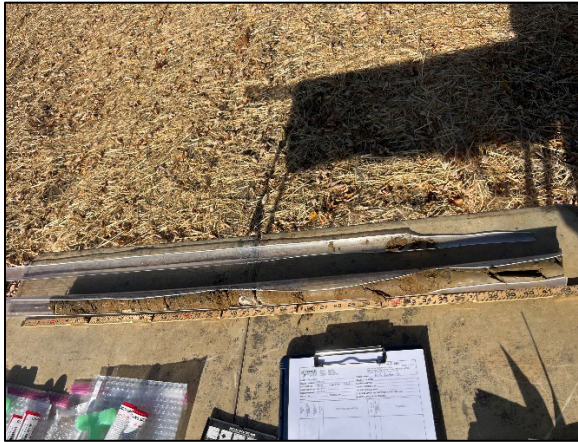


Photo 3: Viewing 5558 SB01 recovery



Photo 4: Viewing 5558 SB02 recovery



Photo 5: Viewing 5558 SB03 recovery

**APPENDIX D**  
SOIL BORING LOGS





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

**BOREHOLE NUMBER SB01**

Sheet 1 of 1

**CLIENT** City of Detroit  
**PROJECT NUMBER** DETR0060\_5558 Ivanhoe  
**DATE STARTED** 11-22-2025 **COMPLETED** 11-22-2025  
**DRILLING CONTRACTOR** MSG  
**DRILLING METHOD** Direct Push  
**EQUIPMENT** Geoprobe 7822DT **Operator** JF

**PROJECT NAME** Backfill Soil Sampling  
**PROJECT LOCATION** 5558 Ivanhoe, Detroit, MI  
**POSITION** \_\_\_\_\_  
**SURFACE ELEVATION** \_\_\_\_\_ **FINAL DEPTH** 6.0 ft  
**LOGGED BY** OMM **CHECKED BY** PDH  
**REMARKS** Additional sample collected for analysis if needed

DEPTH (ft)	SAMPLE INTERVALS	RECOVERY %	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (PPM)	REMARKS
ES		58		Brown Silty SAND, trace gravel, trace concrete debris	0.0	- Collected Soil Sample 5558 SB01 (1-2) at 11:30
				4.0	0.0	
				4.5 Brown CLAY, trace gravel	0.0	
5				5.0 Brown Silty SAND, trace gravel	0.0	
				6.0 Brown and Gray Mottled CLAY, trace gravel	0.0	
				Terminated at 6.00 ft.		
10						
15						
20						
25						

DRAFT

**LEGEND:**

- ▽ AT TIME OF DRILLING \_\_\_\_\_
- ▼ AT END OF DRILLING \_\_\_\_\_
- ▽ AFTER DRILLING \_\_\_\_\_



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 www.manniksmithgroup.com

**BOREHOLE NUMBER SB02**

Sheet 1 of 1

**CLIENT** City of Detroit  
**PROJECT NUMBER** DETR0060\_5558 Ivanhoe  
**DATE STARTED** 11-22-2025 **COMPLETED** 11-22-2025  
**DRILLING CONTRACTOR** MSG  
**DRILLING METHOD** Direct Push  
**EQUIPMENT** Geoprobe 7822DT **Operator** JF

**PROJECT NAME** Backfill Soil Sampling  
**PROJECT LOCATION** 5558 Ivanhoe, Detroit, MI  
**POSITION** \_\_\_\_\_  
**SURFACE ELEVATION** \_\_\_\_\_ **FINAL DEPTH** 6.0 ft  
**LOGGED BY** OMM **CHECKED BY** PDH  
**REMARKS** Additional sample collected for analysis if needed

DEPTH (ft)	SAMPLE INTERVALS	RECOVERY %	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (PPM)	REMARKS
ES		50		Brown Silty SAND, some gravel, trace concrete debris, trace asphalt debris, trace brick debris	0.0	- Collected Soil Sample 5558 SB02 (3-4') at 11:46
4.0				Brown Silty SAND, some clay, trace gravel	0.0	
5.0					0.0	
6.0				Terminated at 6.00 ft.	0.0	
10						
15						
20						
25						

DRAFT

**LEGEND:**

- ▽ AT TIME OF DRILLING \_\_\_\_\_
- ▼ AT END OF DRILLING \_\_\_\_\_
- ▽ AFTER DRILLING \_\_\_\_\_



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 www.manniksmithgroup.com

**BOREHOLE NUMBER SB03**

Sheet 1 of 1

**CLIENT** City of Detroit  
**PROJECT NUMBER** DETR0060\_5558 Ivanhoe  
**DATE STARTED** 11-22-2025 **COMPLETED** 11-22-2025  
**DRILLING CONTRACTOR** MSG  
**DRILLING METHOD** Direct Push  
**EQUIPMENT** Geoprobe 7822DT **Operator** JF

**PROJECT NAME** Backfill Soil Sampling  
**PROJECT LOCATION** 5558 Ivanhoe, Detroit, MI  
**POSITION** \_\_\_\_\_  
**SURFACE ELEVATION** \_\_\_\_\_ **FINAL DEPTH** 6.0 ft  
**LOGGED BY** OMM **CHECKED BY** PDH  
**REMARKS** Additional sample collected for analysis if needed

DEPTH (ft)	SAMPLE INTERVALS	RECOVERY %	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (PPM)	REMARKS
0.0				0.5 TOPSOIL		
				Brown Silty SAND, trace gravel, trace asphalt debris, trace concrete debris	0.0	
					0.0	
	ES	83		3.0 Brown Silty CLAY, trace gravel	0.0	
					0.0	
5				5.0 Orange and Gray Mottled CLAY, trace gravel	0.0	- Collected Soil Sample
					0.0	5558 SB03 (5-6') at
				6.0 Terminated at 6.00 ft.	0.0	12:00
10						
15						
20						
25						

DRAFT

**LEGEND:**

- ▽ AT TIME OF DRILLING \_\_\_\_\_
- ▼ AT END OF DRILLING \_\_\_\_\_
- ▽ AFTER DRILLING \_\_\_\_\_

**APPENDIX E**  
LABORATORY ANALYTICAL REPORTS AND CHAIN OF CUSTODY FORMS





right solutions.  
right partner.

December 08, 2025

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

Re: **5558 Ivanhoe**

Date Received: **11/25/2025**

Work Order: **HN2517845**

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

**Kathy Jones-Gronda**

/S/ KATHY JONES-GRONDA

**Project Manager**



**Client:** The Mannik & Smith Group, Inc.  
**Project:** 5558 Ivanhoe

**Work Order:** HN2517845  
**Date Received:** 25-Nov-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 25-Nov-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: 3732196

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: 2-butanone, chloromethane

##### EPA 8270E-FULL HN-3546-S

###### Run ID: 3739536

The Continuing Calibration Verification did not meet acceptance criteria with high bias, however, the sample results were non-detect for the following analytes: Di-n-octyl phthalate.

#### Metals

##### EPA 6020B-3050B-S

###### Run ID: 3722335

Samples HN2517845-001, -003 and -005: The reporting limit is elevated for the following due to dilution for high concentrations of non-target analytes. Cd, Se, Ag

## 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.



<b>CLIENT ID: 5558 SB01 (1-2')</b>	<b>Lab ID: HN2517845-001</b>
------------------------------------	------------------------------

Analyte	Results	Flag	MRL	Units	Method
4,4'-DDE	35.0		10.7	µg/kg	EPA 8081B
4,4'-DDT	15.5		10.7	µg/kg	EPA 8081B
Arsenic	9.93		3.30	mg/kg	EPA 6020B
Barium	27.5		3.30	mg/kg	EPA 6020B
Benzo(a)anthracene	21.8		16.8	µg/kg	EPA 8270E
Benzo(a)pyrene	28.5		16.8	µg/kg	EPA 8270E
Benzo(b)fluoranthene	30.2		16.8	µg/kg	EPA 8270E
Benzo(g,h,i)perylene	21.8		16.8	µg/kg	EPA 8270E
Chromium	11.8		3.30	mg/kg	EPA 6020B
Chrysene	16.8		16.8	µg/kg	EPA 8270E
Copper	15.9		3.30	mg/kg	EPA 6020B
Di(2-ethylhexyl) phthalate (bis(2-Ethylhexyl) phthalate, DEHP)	1060		83.0	µg/kg	EPA 8270E
Fluoranthene	36.9		16.8	µg/kg	EPA 8270E
Lead	23.0		3.30	mg/kg	EPA 6020B
Pentachlorophenol	146		83.0	µg/kg	EPA 8270E
Percent Moisture	7.9		0.1	%	EPA 3550C
Phenanthrene	23.5		16.8	µg/kg	EPA 8270E
Pyrene	31.8		16.8	µg/kg	EPA 8270E
Zinc	55.4		6.60	mg/kg	EPA 6020B

<b>CLIENT ID: 5558 SB02 (3-4')</b>	<b>Lab ID: HN2517845-003</b>
------------------------------------	------------------------------

Analyte	Results	Flag	MRL	Units	Method
Arsenic	5.51		3.19	mg/kg	EPA 6020B
Barium	18.6		3.19	mg/kg	EPA 6020B
Chromium	7.27		3.19	mg/kg	EPA 6020B
Copper	10.6		3.19	mg/kg	EPA 6020B
Lead	7.78		3.19	mg/kg	EPA 6020B
Percent Moisture	6.7		0.1	%	EPA 3550C
Zinc	39.6		6.39	mg/kg	EPA 6020B

<b>CLIENT ID: 5558 SB03 (5-6')</b>	<b>Lab ID: HN2517845-005</b>
------------------------------------	------------------------------

Analyte	Results	Flag	MRL	Units	Method
Arsenic	6.09		3.50	mg/kg	EPA 6020B
Barium	40.2		3.50	mg/kg	EPA 6020B
Chromium	13.6		3.50	mg/kg	EPA 6020B
Copper	11.9		3.50	mg/kg	EPA 6020B
Lead	5.82		3.50	mg/kg	EPA 6020B
Percent Moisture	11.8		0.1	%	EPA 3550C
Zinc	34.3		7.00	mg/kg	EPA 6020B

# SAMPLE SUMMARY



**Client:** The Mannik & Smith Group, Inc.  
**Project:** 5558 Ivanhoe  
**Workorder:** HN2517845

<b>Laboratory Sample ID</b>	<b>Client Sample ID</b>	<b>Sample Matrix</b>	<b>Collection Date</b>	<b>Date Received</b>
HN2517845-001	5558 SB01 (1-2')	SOIL/SOLID	11/22/25 11:30	11/25/25 08:55
HN2517845-003	5558 SB02 (3-4')	SOIL/SOLID	11/22/25 11:46	11/25/25 08:55
HN2517845-005	5558 SB03 (5-6')	SOIL/SOLID	11/22/25 12:00	11/25/25 08:55



ALS Environmental

# Chain of Custody Form

Laboratory location: \_\_\_\_\_

Page 1 of 1

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	5558 Ivanhoe	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@manniksmithgroup.com	e-Mail Address	OMitchell@manniksmithgroup.com	J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	5558 SB01 (1-2')	11-22-25	1130	Soil	7	4	✓	✓	✓	✓	✓	✓	✓				
2	5558 SB01 (1-2')		1135	Soil	7	4											✓
3	5558 SB02 (3-4')		1146	Soil	7	4	✓	✓	✓	✓	✓	✓	✓				
4	5558 SB02 (3-4')		1150	Soil	7	4											✓
5	5558 SB03 (5-6')		1200	Soil	7	4	✓	✓	✓	✓	✓	✓	✓				
6	5558 SB03 (5-6')		1205	Soil	7	4											✓
7																	
8																	
9																	
10																	

Sampler(s): Please Print & Sign  
*O Mitchell*  
*O Mitchell*

Shipment Method: \_\_\_\_\_

Required Turnaround Time:  Other 22 HR  
 STD 10 Wk Days  5 Wk Days  2 Wk Days  24 Hour

Relinquished by: <i>[Signature]</i>	Date: 11/24/25	Time: 10:00	Received by: <i>[Signature]</i>	Notes: Quote# HN-061825-M&S-MA
Relinquished by: <i>[Signature]</i>	Date: 11/24/25	Time: 0700	Received by (Laboratory): <i>[Signature]</i>	Cooler Temp. _____
Logged by (Laboratory): <i>[Signature]</i>	Date: 11/25/25	Time: 0905	Checked by (Laboratory): _____	QC Package: (Check Box Below) <input checked="" type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Std QC + Raw D <input type="checkbox"/> 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 9-5035				Other: _____

Environmental Division  
Holland  
Work Order Reference  
**HN2517845**



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>

ALS copyright © 2024. All rights reserved.

*[Signature]* 11/25/25 0800



ALS Holland  
3352 128<sup>th</sup> Ave., Holland MI 49424

ALS Holland Sample Receiving Checklist

Received by: KEITY

Date/Time: 11/25/25 0800

Carrier Name: QS

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): 3.2/3.2°

Thermometer(s): 127

Sample(s) received on ice? Yes / No

Matrix/Matrices: Soil

Cooler(s)/Kit(s): \_\_\_\_\_

Date/Time sample(s) sent to storage: 11/25/25 0905

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

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 Certifications<sup>1</sup>

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	09/01/2025	09/01/2027
Kansas	NELAP (Secondary)	E-10411	08/01/2025	07/31/2026
Kentucky	Waste Water	KY98004	12/20/2024	12/31/2025
Kentucky	UST	120474	07/07/2025	06/30/2026
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	07/01/2025	6/30/2026
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	11/25/2025	07/31/2026
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	08/08/2025	08/31/2026

<sup>1</sup> - Scope available upon request

# ANALYST SUMMARY



**Client:** The Mannik & Smith Group, Inc.  
**Project:** 5558 Ivanhoe

**Work Order:** HN2517845

**Sample Name:** 5558 SB01 (1-2')  
**Laboratory Code:** HN2517845-001  
**Sample Matrix:** SOIL/SOLID

**Date Collected:** 11/22/25  
**Date Received:** 11/25/25

Analysis Method	Preparation Method	Container ID	Preparation Lot	Prepared By	Analysis Lot	Analyzed By
EPA 3550C		001-AC	2354218		3717063	Nicole Maleski
EPA 6020B	EPA 3050B	001-AC	2356025	Weston Kotecki	3722335	Hunter Johnson
EPA 7471B	Method	001-AC	2356091	Maxx Richey	3732299	Maxx Richey
EPA 8081B	EPA 3546	001-AC	2354241	Benjamin Farmer	3733002	Nathaniel Dietlin
EPA 8082A	EPA 3546	001-AC	2354240	Benjamin Farmer	3732796	Madison VandenBer
EPA 8151A	Method	001-AC	2364787	Willow Julien	3750940	Kathy Malmyga
EPA 8260D	EPA 5035A	001-AA	2354922	Jonathan Vazquez	3732196	Nathan Jenkins
EPA 8270E	EPA 3546	001-AC	2355948	Mya Harmer	3739536	Sam Bruzan
EPA 9056A	EPA 9056A	001-AC	2354392	Sage Hansen	3719510	Jessica Bacon

**Sample Name:** 5558 SB02 (3-4')  
**Laboratory Code:** HN2517845-003  
**Sample Matrix:** SOIL/SOLID

**Date Collected:** 11/22/25  
**Date Received:** 11/25/25

Analysis Method	Preparation Method	Container ID	Preparation Lot	Prepared By	Analysis Lot	Analyzed By
EPA 3550C		003-AC	2354218		3717063	Nicole Maleski
EPA 6020B	EPA 3050B	003-AC	2356025	Weston Kotecki	3722335	Hunter Johnson
EPA 7471B	Method	003-AC	2356091	Maxx Richey	3732299	Maxx Richey
EPA 8081B	EPA 3546	003-AC	2354241	Benjamin Farmer	3733002	Nathaniel Dietlin
EPA 8082A	EPA 3546	003-AC	2354240	Benjamin Farmer	3732796	Madison VandenBer
EPA 8151A	Method	003-AC	2364787	Willow Julien	3750940	Kathy Malmyga
EPA 8260D	EPA 5035A	003-AA	2354922	Jonathan Vazquez	3732196	Nathan Jenkins
EPA 8270E	EPA 3546	003-AC	2355948	Mya Harmer	3739536	Sam Bruzan
EPA 9056A	EPA 9056A	003-AC	2354392	Sage Hansen	3719510	Jessica Bacon

**Sample Name:** 5558 SB03 (5-6')  
**Laboratory Code:** HN2517845-005  
**Sample Matrix:** SOIL/SOLID

**Date Collected:** 11/22/25  
**Date Received:** 11/25/25

Analysis Method	Preparation Method	Container ID	Preparation Lot	Prepared By	Analysis Lot	Analyzed By
EPA 3550C		005-AC	2354218		3717063	Nicole Maleski

# ANALYST SUMMARY



**Client:** The Mannik & Smith Group, Inc.  
**Project:** 5558 Ivanhoe

**Work Order:** HN2517845

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**Sample Name:** 5558 SB03 (5-6')  
**Laboratory Code:** HN2517845-005  
**Sample Matrix:** SOIL/SOLID

**Date Collected:** 11/22/25  
**Date Received:** 11/25/25

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Analysis Method	Preparation Method	Container ID	Preparation Lot	Prepared By	Analysis Lot	Analyzed By
EPA 6020B	EPA 3050B	005-AC	2356025	Weston Kotecki	3722335	Hunter Johnson
EPA 7471B	Method	005-AC	2356091	Maxx Richey	3732299	Maxx Richey
EPA 8081B	EPA 3546	005-AC	2354241	Benjamin Farmer	3733002	Nathaniel Dietlin
EPA 8082A	EPA 3546	005-AC	2354240	Benjamin Farmer	3732796	Madison VandenBer
EPA 8151A	Method	005-AC	2364787	Willow Julien	3750940	Kathy Malmyga
EPA 8260D	EPA 5035A	005-AA	2354922	Jonathan Vazquez	3732196	Nathan Jenkins
EPA 8270E	EPA 3546	005-AC	2355948	Mya Harmer	3739536	Sam Bruzan
EPA 9056A	EPA 9056A	005-AC	2354392	Sage Hansen	3719510	Jessica Bacon

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# Analytical Report



**Client:** The Mannik & Smith Group, Inc.  
**Project:** 5558 Ivanhoe  
**Matrix:** SOIL/SOLID

**Work Order:** HN2517845  
**Date Collected:** 11/22/25 11:30  
**Date Received:** 11/25/25 08:55

**CLIENT ID:** 5558 SB01 (1-2')

**Lab ID:** HN2517845-001

Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
<b>Chlorinated Herbicides by GC/ECD</b>								
2,4,5-T	EPA 8151A	<2.09	U	µg/kg	11.4	1	12/05/25 21:14	12/02/25 11:02
2,4,5-TP (Silvex)	EPA 8151A	<3.73	U	µg/kg	11.4	1	12/05/25 21:14	12/02/25 11:02
2,4-D	EPA 8151A	<6.08	U	µg/kg	22.8	1	12/05/25 21:14	12/02/25 11:02
<i>Surr: DCAA</i>	<i>EPA 8151A</i>	<b>52.0</b>		<i>%REC</i>	<i>10-116</i>	<i>1</i>	<i>12/05/25 21:14</i>	<i>12/02/25 11:02</i>
<b>General Chemistry Parameters</b>								
Percent Moisture	EPA 3550C	<b>7.9</b>		%	0.1	1	11/25/25 15:31	NA
Chloride	EPA 9056A	<3.17	U	mg/kg	10.2	1	11/26/25 05:05	11/25/25 15:23
<b>Metals</b>								
Arsenic	EPA 6020B	<b>9.93</b>		mg/kg	3.30	10	11/26/25 20:02	11/26/25 08:51
Barium	EPA 6020B	<b>27.5</b>		mg/kg	3.30	10	11/26/25 20:02	11/26/25 08:51
Cadmium	EPA 6020B	<0.198	U	mg/kg	1.32	10	11/26/25 20:02	11/26/25 08:51
Chromium	EPA 6020B	<b>11.8</b>		mg/kg	3.30	10	11/26/25 20:02	11/26/25 08:51
Copper	EPA 6020B	<b>15.9</b>		mg/kg	3.30	10	11/26/25 20:02	11/26/25 08:51
Lead	EPA 6020B	<b>23.0</b>		mg/kg	3.30	10	11/26/25 20:02	11/26/25 08:51
Selenium	EPA 6020B	<3.03	U	mg/kg	3.30	10	11/26/25 20:02	11/26/25 08:51
Silver	EPA 6020B	<0.435	U	mg/kg	3.30	10	11/26/25 20:02	11/26/25 08:51
Zinc	EPA 6020B	<b>55.4</b>		mg/kg	6.60	10	11/26/25 20:02	11/26/25 08:51
Mercury	EPA 7471B	<0.0136	U	mg/kg	0.0200	1	12/01/25 10:59	12/01/25 09:56
<b>Organochlorine Pesticides by GC/ECD</b>								
4,4'-DDD	EPA 8081B	<6.87	U	µg/kg	10.7	1	11/27/25 01:14	11/25/25 13:17
4,4'-DDE	EPA 8081B	<b>35.0</b>		µg/kg	10.7	1	11/27/25 01:14	11/25/25 13:17
4,4'-DDT	EPA 8081B	<b>15.5</b>		µg/kg	10.7	1	11/27/25 01:14	11/25/25 13:17
Aldrin	EPA 8081B	<6.98	U	µg/kg	10.7	1	11/27/25 01:14	11/25/25 13:17
alpha-BHC	EPA 8081B	<7.07	U	µg/kg	10.7	1	11/27/25 01:14	11/25/25 13:17
beta-BHC	EPA 8081B	<7.05	U	µg/kg	10.7	1	11/27/25 01:14	11/25/25 13:17
Chlordane, Technical	EPA 8081B	<10.7	U	µg/kg	26.9	1	11/27/25 01:14	11/25/25 13:17
cis-Chlordane	EPA 8081B	<7.18	U	µg/kg	10.7	1	11/27/25 01:14	11/25/25 13:17
delta-BHC	EPA 8081B	<7.03	U	µg/kg	10.7	1	11/27/25 01:14	11/25/25 13:17
Dieldrin	EPA 8081B	<7.51	U	µg/kg	10.7	1	11/27/25 01:14	11/25/25 13:17

# Analytical Report



**Client:** The Mannik & Smith Group, Inc.  
**Project:** 5558 Ivanhoe  
**Matrix:** SOIL/SOLID

**Work Order:** HN2517845  
**Date Collected:** 11/22/25 11:30  
**Date Received:** 11/25/25 08:55

**CLIENT ID: 5558 SB01 (1-2')**

**Lab ID: HN2517845-001**

Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
Endosulfan I	EPA 8081B	<7.22	U	µg/kg	10.7	1	11/27/25 01:14	11/25/25 13:17
Endosulfan II	EPA 8081B	<7.12	U	µg/kg	10.7	1	11/27/25 01:14	11/25/25 13:17
Endosulfan sulfate	EPA 8081B	<6.61	U	µg/kg	10.7	1	11/27/25 01:14	11/25/25 13:17
Endrin	EPA 8081B	<8.69	U	µg/kg	10.7	1	11/27/25 01:14	11/25/25 13:17
Endrin aldehyde	EPA 8081B	<6.81	U	µg/kg	10.7	1	11/27/25 01:14	11/25/25 13:17
Endrin ketone	EPA 8081B	<6.54	U	µg/kg	10.7	1	11/27/25 01:14	11/25/25 13:17
gamma-BHC (Lindane)	EPA 8081B	<7.05	U	µg/kg	10.7	1	11/27/25 01:14	11/25/25 13:17
Heptachlor	EPA 8081B	<6.93	U	µg/kg	10.7	1	11/27/25 01:14	11/25/25 13:17
Heptachlor epoxide	EPA 8081B	<7.11	U	µg/kg	10.7	1	11/27/25 01:14	11/25/25 13:17
Methoxychlor	EPA 8081B	<7.18	U	µg/kg	10.7	1	11/27/25 01:14	11/25/25 13:17
Toxaphene	EPA 8081B	<11.6	U	µg/kg	64.5	1	11/27/25 01:14	11/25/25 13:17
trans-Chlordane	EPA 8081B	<7.14	U	µg/kg	10.7	1	11/27/25 01:14	11/25/25 13:17
<i>Surr: Decachlorobiphenyl</i>	<i>EPA 8081B</i>	<b>100</b>		<i>%REC</i>	<i>53-151</i>	<i>1</i>	<i>11/27/25 01:14</i>	<i>11/25/25 13:17</i>
<i>Surr: Tetrachloro-m-xylene</i>	<i>EPA 8081B</i>	<b>92.9</b>		<i>%REC</i>	<i>67-127</i>	<i>1</i>	<i>11/27/25 01:14</i>	<i>11/25/25 13:17</i>

### Polychlorinated Biphenyls (PCBs) by GC/ECD

Aroclor 1016	EPA 8082A	<24.6	U	µg/kg	71.6	1	11/26/25 17:03	11/25/25 10:02
Aroclor 1221	EPA 8082A	<24.6	U	µg/kg	71.6	1	11/26/25 17:03	11/25/25 10:02
Aroclor 1232	EPA 8082A	<24.6	U	µg/kg	71.6	1	11/26/25 17:03	11/25/25 10:02
Aroclor 1242	EPA 8082A	<24.6	U	µg/kg	71.6	1	11/26/25 17:03	11/25/25 10:02
Aroclor 1248	EPA 8082A	<24.6	U	µg/kg	71.6	1	11/26/25 17:03	11/25/25 10:02
Aroclor 1254	EPA 8082A	<20.0	U	µg/kg	71.6	1	11/26/25 17:03	11/25/25 10:02
Aroclor 1260	EPA 8082A	<20.0	U	µg/kg	71.6	1	11/26/25 17:03	11/25/25 10:02
Aroclor 1262	EPA 8082A	<20.0	U	µg/kg	71.6	1	11/26/25 17:03	11/25/25 10:02
Aroclor 1268	EPA 8082A	<20.0	U	µg/kg	71.6	1	11/26/25 17:03	11/25/25 10:02
Total PCB	EPA 8082A	<20.0	U	µg/kg	71.6	1	11/26/25 17:03	11/25/25 10:02
<i>Surr: Decachlorobiphenyl</i>	<i>EPA 8082A</i>	<b>96.1</b>		<i>%REC</i>	<i>54-146</i>	<i>1</i>	<i>11/26/25 17:03</i>	<i>11/25/25 10:02</i>
<i>Surr: Tetrachloro-m-xylene</i>	<i>EPA 8082A</i>	<b>84.1</b>		<i>%REC</i>	<i>58-140</i>	<i>1</i>	<i>11/26/25 17:03</i>	<i>11/25/25 10:02</i>

### Semivolatile Organic Compounds by GC-MS

1,1'-Biphenyl (BZ-0)	EPA 8270E	<13.6	U	µg/kg	83.0	1	12/03/25 21:05	11/26/25 08:39
1,2,4,5-Tetrachlorobenzene	EPA 8270E	<19.3	U	µg/kg	837	1	12/03/25 21:05	11/26/25 08:39

# Analytical Report



**Client:** The Mannik & Smith Group, Inc.  
**Project:** 5558 Ivanhoe  
**Matrix:** SOIL/SOLID

**Work Order:** HN2517845  
**Date Collected:** 11/22/25 11:30  
**Date Received:** 11/25/25 08:55

**CLIENT ID:** 5558 SB01 (1-2')

**Lab ID:** HN2517845-001

Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
1,4-Dioxane (1,4-Diethyleneoxide)	EPA 8270E	<60.1	U	µg/kg	419	1	12/03/25 21:05	11/26/25 08:39
1-Methylnaphthalene	EPA 8270E	<12.1	U	µg/kg	16.8	1	12/03/25 21:05	11/26/25 08:39
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methylethyl)ether	EPA 8270E	<19.6	U	µg/kg	83.0	1	12/03/25 21:05	11/26/25 08:39
2,3,4,6-Tetrachlorophenol	EPA 8270E	<61.4	U	µg/kg	168	1	12/03/25 21:05	11/26/25 08:39
2,4,5-Trichlorophenol	EPA 8270E	<49.7	U	µg/kg	83.0	1	12/03/25 21:05	11/26/25 08:39
2,4,6-Trichlorophenol	EPA 8270E	<22.3	U	µg/kg	83.0	1	12/03/25 21:05	11/26/25 08:39
2,4-Dichlorophenol	EPA 8270E	<45.1	U	µg/kg	83.0	1	12/03/25 21:05	11/26/25 08:39
2,4-Dimethylphenol	EPA 8270E	<43.1	U	µg/kg	83.0	1	12/03/25 21:05	11/26/25 08:39
2,4-Dinitrophenol	EPA 8270E	<613	U	µg/kg	837	1	12/03/25 21:05	11/26/25 08:39
2,4-Dinitrotoluene (2,4-DNT)	EPA 8270E	<54.4	U	µg/kg	83.0	1	12/03/25 21:05	11/26/25 08:39
2,6-Dinitrotoluene (2,6-DNT)	EPA 8270E	<21.4	U	µg/kg	83.0	1	12/03/25 21:05	11/26/25 08:39
2-Chloronaphthalene	EPA 8270E	<11.7	U	µg/kg	16.8	1	12/03/25 21:05	11/26/25 08:39
2-Chlorophenol	EPA 8270E	<54.8	U	µg/kg	83.0	1	12/03/25 21:05	11/26/25 08:39
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	EPA 8270E	<70.0	U	µg/kg	83.0	1	12/03/25 21:05	11/26/25 08:39
2-Methylnaphthalene	EPA 8270E	<8.52	U	µg/kg	16.8	1	12/03/25 21:05	11/26/25 08:39
2-Methylphenol (o-Cresol)	EPA 8270E	<22.7	U	µg/kg	83.0	1	12/03/25 21:05	11/26/25 08:39
2-Nitroaniline	EPA 8270E	<46.5	U	µg/kg	83.0	1	12/03/25 21:05	11/26/25 08:39
2-Nitrophenol	EPA 8270E	<23.9	U	µg/kg	83.0	1	12/03/25 21:05	11/26/25 08:39
3&4-Methylphenol	EPA 8270E	<45.7	U	µg/kg	83.0	1	12/03/25 21:05	11/26/25 08:39
3,3'-Dichlorobenzidine	EPA 8270E	<39.1	U	µg/kg	419	1	12/03/25 21:05	11/26/25 08:39
3-Nitroaniline	EPA 8270E	<48.6	U	µg/kg	83.0	1	12/03/25 21:05	11/26/25 08:39
4-Bromophenyl phenyl ether (BDE-3)	EPA 8270E	<45.9	U	µg/kg	83.0	1	12/03/25 21:05	11/26/25 08:39
4-Chloro-3-methylphenol	EPA 8270E	<23.9	U	µg/kg	83.0	1	12/03/25 21:05	11/26/25 08:39
4-Chloroaniline	EPA 8270E	<42.6	U	µg/kg	168	1	12/03/25 21:05	11/26/25 08:39
4-Chlorophenyl phenylether	EPA 8270E	<23.2	U	µg/kg	83.0	1	12/03/25 21:05	11/26/25 08:39
4-Nitroaniline	EPA 8270E	<130	U	µg/kg	419	1	12/03/25 21:05	11/26/25 08:39
4-Nitrophenol	EPA 8270E	<196	U	µg/kg	837	1	12/03/25 21:05	11/26/25 08:39
Acenaphthene	EPA 8270E	<12.1	U	µg/kg	16.8	1	12/03/25 21:05	11/26/25 08:39

# Analytical Report



**Client:** The Mannik & Smith Group, Inc.  
**Project:** 5558 Ivanhoe  
**Matrix:** SOIL/SOLID

**Work Order:** HN2517845  
**Date Collected:** 11/22/25 11:30  
**Date Received:** 11/25/25 08:55

**CLIENT ID: 5558 SB01 (1-2')**

**Lab ID: HN2517845-001**

Analyte	Method	Results	Qual	Units	MRL	Dilution	Date	Date
						Factor	Analyzed	Extracted
Acenaphthylene	EPA 8270E	<14.5	U	µg/kg	16.8	1	12/03/25 21:05	11/26/25 08:39
Acetophenone	EPA 8270E	<13.1	U	µg/kg	83.0	1	12/03/25 21:05	11/26/25 08:39
Anthracene	EPA 8270E	<11.8	U	µg/kg	16.8	1	12/03/25 21:05	11/26/25 08:39
Atrazine	EPA 8270E	<49.1	U	µg/kg	83.0	1	12/03/25 21:05	11/26/25 08:39
Benzaldehyde	EPA 8270E	<129	U	µg/kg	168	1	12/03/25 21:05	11/26/25 08:39
Benzo(a)anthracene	EPA 8270E	<b>21.8</b>		µg/kg	16.8	1	12/03/25 21:05	11/26/25 08:39
Benzo(a)pyrene	EPA 8270E	<b>28.5</b>		µg/kg	16.8	1	12/03/25 21:05	11/26/25 08:39
Benzo(b)fluoranthene	EPA 8270E	<b>30.2</b>		µg/kg	16.8	1	12/03/25 21:05	11/26/25 08:39
Benzo(g,h,i)perylene	EPA 8270E	<b>21.8</b>		µg/kg	16.8	1	12/03/25 21:05	11/26/25 08:39
Benzo(k)fluoranthene	EPA 8270E	<12.7	U	µg/kg	16.8	1	12/03/25 21:05	11/26/25 08:39
bis(2-Chloroethoxy) methane	EPA 8270E	<53.1	U	µg/kg	83.0	1	12/03/25 21:05	11/26/25 08:39
bis(2-Chloroethyl) ether	EPA 8270E	<23.7	U	µg/kg	83.0	1	12/03/25 21:05	11/26/25 08:39
Butyl benzyl phthalate	EPA 8270E	<105	U	µg/kg	168	1	12/03/25 21:05	11/26/25 08:39
Caprolactam	EPA 8270E	<75.6	U	µg/kg	83.0	1	12/03/25 21:05	11/26/25 08:39
Carbazole	EPA 8270E	<24.7	U	µg/kg	83.0	1	12/03/25 21:05	11/26/25 08:39
Chrysene	EPA 8270E	<b>16.8</b>		µg/kg	16.8	1	12/03/25 21:05	11/26/25 08:39
Di(2-ethylhexyl) phthalate (bis(2-Ethylhexyl)phthalate, DEHP)	EPA 8270E	<b>1060</b>		µg/kg	83.0	1	12/03/25 21:05	11/26/25 08:39
Dibenz(a,h) anthracene	EPA 8270E	<9.05	U	µg/kg	83.0	1	12/03/25 21:05	11/26/25 08:39
Dibenzofuran	EPA 8270E	<12.3	U	µg/kg	83.0	1	12/03/25 21:05	11/26/25 08:39
Diethyl phthalate	EPA 8270E	<28.5	U	µg/kg	83.0	1	12/03/25 21:05	11/26/25 08:39
Dimethyl phthalate	EPA 8270E	<16.3	U	µg/kg	83.0	1	12/03/25 21:05	11/26/25 08:39
Fluoranthene	EPA 8270E	<b>36.9</b>		µg/kg	16.8	1	12/03/25 21:05	11/26/25 08:39
Fluorene	EPA 8270E	<12.2	U	µg/kg	16.8	1	12/03/25 21:05	11/26/25 08:39
Hexachlorobenzene	EPA 8270E	<24.4	U	µg/kg	83.0	1	12/03/25 21:05	11/26/25 08:39
Hexachlorobutadiene	EPA 8270E	<19.7	U	µg/kg	83.0	1	12/03/25 21:05	11/26/25 08:39
Hexachlorocyclopentadiene	EPA 8270E	<79.4	U	µg/kg	83.0	1	12/03/25 21:05	11/26/25 08:39
Hexachloroethane	EPA 8270E	<34.7	U	µg/kg	83.0	1	12/03/25 21:05	11/26/25 08:39
Indeno(1,2,3-cd) pyrene	EPA 8270E	<11.7	U	µg/kg	16.8	1	12/03/25 21:05	11/26/25 08:39
Isophorone	EPA 8270E	<16.4	U	µg/kg	419	1	12/03/25 21:05	11/26/25 08:39
Methylphenol, Total	EPA 8270E	<22.7	U	µg/kg	83.0	1	12/03/25 21:05	11/26/25 08:39

# Analytical Report



**Client:** The Mannik & Smith Group, Inc.  
**Project:** 5558 Ivanhoe  
**Matrix:** SOIL/SOLID

**Work Order:** HN2517845  
**Date Collected:** 11/22/25 11:30  
**Date Received:** 11/25/25 08:55

**CLIENT ID: 5558 SB01 (1-2')**

**Lab ID: HN2517845-001**

Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
Naphthalene	EPA 8270E	<10.7	U	µg/kg	16.8	1	12/03/25 21:05	11/26/25 08:39
Nitrobenzene	EPA 8270E	<28.2	U	µg/kg	419	1	12/03/25 21:05	11/26/25 08:39
n-Nitrosodi-n-propylamine	EPA 8270E	<13.8	U	µg/kg	83.0	1	12/03/25 21:05	11/26/25 08:39
N-Nitrosodiphenylamine	EPA 8270E	<48.5	U	µg/kg	83.0	1	12/03/25 21:05	11/26/25 08:39
Pentachlorophenol	EPA 8270E	<b>146</b>		µg/kg	83.0	1	12/03/25 21:05	11/26/25 08:39
Phenanthrene	EPA 8270E	<b>23.5</b>		µg/kg	16.8	1	12/03/25 21:05	11/26/25 08:39
Phenol	EPA 8270E	<42.1	U	µg/kg	83.0	1	12/03/25 21:05	11/26/25 08:39
Pyrene	EPA 8270E	<b>31.8</b>		µg/kg	16.8	1	12/03/25 21:05	11/26/25 08:39
Pyridine	EPA 8270E	<165	U	µg/kg	419	1	12/03/25 21:05	11/26/25 08:39
<i>Surr: 2,4,6-Tribromophenol</i>	<i>EPA 8270E</i>	<b>81.5</b>		<i>%REC</i>	<i>48-94</i>	<i>1</i>	<i>12/03/25 21:05</i>	<i>11/26/25 08:39</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>EPA 8270E</i>	<b>79.8</b>		<i>%REC</i>	<i>50-103</i>	<i>1</i>	<i>12/03/25 21:05</i>	<i>11/26/25 08:39</i>
<i>Surr: 2-Fluorophenol</i>	<i>EPA 8270E</i>	<b>81.9</b>		<i>%REC</i>	<i>43-105</i>	<i>1</i>	<i>12/03/25 21:05</i>	<i>11/26/25 08:39</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>EPA 8270E</i>	<b>88.3</b>		<i>%REC</i>	<i>55-111</i>	<i>1</i>	<i>12/03/25 21:05</i>	<i>11/26/25 08:39</i>
<i>Surr: Nitrobenzene-d5</i>	<i>EPA 8270E</i>	<b>77.9</b>		<i>%REC</i>	<i>47-100</i>	<i>1</i>	<i>12/03/25 21:05</i>	<i>11/26/25 08:39</i>
<i>Surr: Phenol-d6</i>	<i>EPA 8270E</i>	<b>78.7</b>		<i>%REC</i>	<i>49-110</i>	<i>1</i>	<i>12/03/25 21:05</i>	<i>11/26/25 08:39</i>

### Volatile Organic Compounds by GC-MS

1,1,1-Trichloroethane	EPA 8260D	<16.7	U	µg/kg	36.8	1	11/27/25 07:45	11/25/25 14:25
1,1,2,2-Tetrachloroethane	EPA 8260D	<16.2	U	µg/kg	36.8	1	11/27/25 07:45	11/25/25 14:25
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	EPA 8260D	<23.3	U	µg/kg	36.8	1	11/27/25 07:45	11/25/25 14:25
1,1,2-Trichloroethane	EPA 8260D	<15.6	U	µg/kg	36.8	1	11/27/25 07:45	11/25/25 14:25
1,1-Dichloroethane	EPA 8260D	<13.4	U	µg/kg	36.8	1	11/27/25 07:45	11/25/25 14:25
1,1-Dichloroethylene	EPA 8260D	<11.9	U	µg/kg	36.8	1	11/27/25 07:45	11/25/25 14:25
1,2,3-Trichlorobenzene	EPA 8260D	<44.1	U	µg/kg	123	1	11/27/25 07:45	11/25/25 14:25
1,2,3-Trichloropropane	EPA 8260D	<15.4	U	µg/kg	36.8	1	11/27/25 07:45	11/25/25 14:25
1,2,4-Trichlorobenzene	EPA 8260D	<41.7	U	µg/kg	123	1	11/27/25 07:45	11/25/25 14:25
1,2,4-Trimethylbenzene	EPA 8260D	<27.0	U	µg/kg	36.8	1	11/27/25 07:45	11/25/25 14:25
1,2-Dibromo-3-chloropropane (DBCP)	EPA 8260D	<33.8	U	µg/kg	123	1	11/27/25 07:45	11/25/25 14:25
1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 8260D	<21.6	U	µg/kg	36.8	1	11/27/25 07:45	11/25/25 14:25
1,2-Dichlorobenzene (o-Dichlorobenzene)	EPA 8260D	<13.9	U	µg/kg	36.8	1	11/27/25 07:45	11/25/25 14:25

# Analytical Report



**Client:** The Mannik & Smith Group, Inc.  
**Project:** 5558 Ivanhoe  
**Matrix:** SOIL/SOLID

**Work Order:** HN2517845  
**Date Collected:** 11/22/25 11:30  
**Date Received:** 11/25/25 08:55

**CLIENT ID: 5558 SB01 (1-2')**

**Lab ID: HN2517845-001**

Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
1,2-Dichloroethane (Ethylene dichloride)	EPA 8260D	<21.6	U	µg/kg	123	1	11/27/25 07:45	11/25/25 14:25
1,2-Dichloropropane	EPA 8260D	<27.1	U	µg/kg	36.8	1	11/27/25 07:45	11/25/25 14:25
1,3,5-Trimethylbenzene	EPA 8260D	<26.0	U	µg/kg	123	1	11/27/25 07:45	11/25/25 14:25
1,3-Dichlorobenzene (m-Dichlorobenzene)	EPA 8260D	<25.4	U	µg/kg	36.8	1	11/27/25 07:45	11/25/25 14:25
1,3-Dichloropropene	EPA 8260D	<20.5	U	µg/kg	73.5	1	11/27/25 07:45	11/25/25 14:25
1,4-Dichlorobenzene (p-Dichlorobenzene)	EPA 8260D	<29.9	U	µg/kg	36.8	1	11/27/25 07:45	11/25/25 14:25
2-Butanone (Methyl ethyl ketone, MEK)	EPA 8260D	<87.5	U	µg/kg	245	1	11/27/25 07:45	11/25/25 14:25
2-Hexanone	EPA 8260D	<18.2	U	µg/kg	36.8	1	11/27/25 07:45	11/25/25 14:25
4-Methyl-2-pentanone (MIBK)	EPA 8260D	<34.3	U	µg/kg	36.8	1	11/27/25 07:45	11/25/25 14:25
Acetone	EPA 8260D	<109	U	µg/kg	123	1	11/27/25 07:45	11/25/25 14:25
Benzene	EPA 8260D	<17.8	U	µg/kg	36.8	1	11/27/25 07:45	11/25/25 14:25
Bromochloromethane	EPA 8260D	<18.7	U	µg/kg	36.8	1	11/27/25 07:45	11/25/25 14:25
Bromodichloromethane	EPA 8260D	<20.6	U	µg/kg	36.8	1	11/27/25 07:45	11/25/25 14:25
Bromoform	EPA 8260D	<15.5	U	µg/kg	36.8	1	11/27/25 07:45	11/25/25 14:25
Carbon disulfide	EPA 8260D	<19.0	U	µg/kg	36.8	1	11/27/25 07:45	11/25/25 14:25
Carbon tetrachloride	EPA 8260D	<14.4	U	µg/kg	36.8	1	11/27/25 07:45	11/25/25 14:25
Chlorobenzene	EPA 8260D	<12.2	U	µg/kg	36.8	1	11/27/25 07:45	11/25/25 14:25
Chlorodibromomethane	EPA 8260D	<20.6	U	µg/kg	36.8	1	11/27/25 07:45	11/25/25 14:25
Chloroethane (Ethyl chloride)	EPA 8260D	<103	U	µg/kg	123	1	11/27/25 07:45	11/25/25 14:25
Chloroform	EPA 8260D	<13.5	U	µg/kg	36.8	1	11/27/25 07:45	11/25/25 14:25
cis-1,2-Dichloroethylene	EPA 8260D	<23.6	U	µg/kg	36.8	1	11/27/25 07:45	11/25/25 14:25
cis-1,3-Dichloropropene	EPA 8260D	<27.7	U	µg/kg	36.8	1	11/27/25 07:45	11/25/25 14:25
Cyclohexane	EPA 8260D	<28.1	U	µg/kg	123	1	11/27/25 07:45	11/25/25 14:25
Dichlorodifluoromethane (Freon-12)	EPA 8260D	<44.5	U	µg/kg	123	1	11/27/25 07:45	11/25/25 14:25
Ethylbenzene	EPA 8260D	<26.1	U	µg/kg	36.8	1	11/27/25 07:45	11/25/25 14:25
Isopropylbenzene	EPA 8260D	<23.2	U	µg/kg	36.8	1	11/27/25 07:45	11/25/25 14:25
m+p-Xylene	EPA 8260D	<49.0	U	µg/kg	73.5	1	11/27/25 07:45	11/25/25 14:25
Methyl acetate	EPA 8260D	<44.0	U	µg/kg	306	1	11/27/25 07:45	11/25/25 14:25
Methyl bromide (Bromomethane)	EPA 8260D	<70.3	U	µg/kg	123	1	11/27/25 07:45	11/25/25 14:25

# Analytical Report



**Client:** The Mannik & Smith Group, Inc.  
**Project:** 5558 Ivanhoe  
**Matrix:** SOIL/SOLID

**Work Order:** HN2517845  
**Date Collected:** 11/22/25 11:30  
**Date Received:** 11/25/25 08:55

**CLIENT ID: 5558 SB01 (1-2')**

**Lab ID: HN2517845-001**

Analyte	Method	Results	Qual	Units	MRL	Dilution	Date	Date
						Factor	Analyzed	Extracted
Methyl chloride (Chloromethane)	EPA 8260D	<100	U	µg/kg	123	1	11/27/25 07:45	11/25/25 14:25
Methyl tert-butyl ether (MTBE)	EPA 8260D	<26.8	U	µg/kg	36.8	1	11/27/25 07:45	11/25/25 14:25
Methylcyclohexane	EPA 8260D	<14.0	U	µg/kg	36.8	1	11/27/25 07:45	11/25/25 14:25
Methylene chloride (Dichloromethane)	EPA 8260D	<97.5	U	µg/kg	306	1	11/27/25 07:45	11/25/25 14:25
o-Xylene	EPA 8260D	<14.2	U	µg/kg	36.8	1	11/27/25 07:45	11/25/25 14:25
Styrene	EPA 8260D	<14.6	U	µg/kg	36.8	1	11/27/25 07:45	11/25/25 14:25
Tetrachloroethylene (Perchloroethylene)	EPA 8260D	<22.1	U	µg/kg	36.8	1	11/27/25 07:45	11/25/25 14:25
Toluene	EPA 8260D	<30.3	U	µg/kg	36.8	1	11/27/25 07:45	11/25/25 14:25
Total Xylene	EPA 8260D	<14.2	U	µg/kg	110	1	11/27/25 07:45	11/25/25 14:25
trans-1,2-Dichloroethylene	EPA 8260D	<30.3	U	µg/kg	36.8	1	11/27/25 07:45	11/25/25 14:25
trans-1,3-Dichloropropylene	EPA 8260D	<20.5	U	µg/kg	36.8	1	11/27/25 07:45	11/25/25 14:25
Trichloroethene (Trichloroethylene)	EPA 8260D	<16.5	U	µg/kg	36.8	1	11/27/25 07:45	11/25/25 14:25
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	EPA 8260D	<18.8	U	µg/kg	36.8	1	11/27/25 07:45	11/25/25 14:25
Vinyl chloride (Chloroethene)	EPA 8260D	<24.4	U	µg/kg	36.8	1	11/27/25 07:45	11/25/25 14:25
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>EPA 8260D</i>	<b>101</b>		<i>%REC</i>	<i>80-120</i>	<i>1</i>	<i>11/27/25 07:45</i>	<i>11/25/25 14:25</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>EPA 8260D</i>	<b>98.1</b>		<i>%REC</i>	<i>80-120</i>	<i>1</i>	<i>11/27/25 07:45</i>	<i>11/25/25 14:25</i>
<i>Surr: Dibromofluoromethane</i>	<i>EPA 8260D</i>	<b>92.6</b>		<i>%REC</i>	<i>72-120</i>	<i>1</i>	<i>11/27/25 07:45</i>	<i>11/25/25 14:25</i>
<i>Surr: Toluene-d8</i>	<i>EPA 8260D</i>	<b>98.8</b>		<i>%REC</i>	<i>80-120</i>	<i>1</i>	<i>11/27/25 07:45</i>	<i>11/25/25 14:25</i>

# Analytical Report



**Client:** The Mannik & Smith Group, Inc.  
**Project:** 5558 Ivanhoe  
**Matrix:** SOIL/SOLID

**Work Order:** HN2517845  
**Date Collected:** 11/22/25 11:46  
**Date Received:** 11/25/25 08:55

**CLIENT ID:** 5558 SB02 (3-4')

**Lab ID:** HN2517845-003

Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
<b>Chlorinated Herbicides by GC/ECD</b>								
2,4,5-T	EPA 8151A	<2.11	U	µg/kg	11.5	1	12/05/25 21:29	12/02/25 11:02
2,4,5-TP (Silvex)	EPA 8151A	<3.76	U	µg/kg	11.5	1	12/05/25 21:29	12/02/25 11:02
2,4-D	EPA 8151A	<6.12	U	µg/kg	22.9	1	12/05/25 21:29	12/02/25 11:02
<i>Surr: DCAA</i>	<i>EPA 8151A</i>	<b>64.0</b>		<i>%REC</i>	<i>10-116</i>	<i>1</i>	<i>12/05/25 21:29</i>	<i>12/02/25 11:02</i>
<b>General Chemistry Parameters</b>								
Percent Moisture	EPA 3550C	<b>6.7</b>		%	0.1	1	11/25/25 15:31	NA
Chloride	EPA 9056A	<3.23	U	mg/kg	10.4	1	11/26/25 05:15	11/25/25 15:23
<b>Metals</b>								
Arsenic	EPA 6020B	<b>5.51</b>		mg/kg	3.19	10	11/26/25 20:03	11/26/25 08:51
Barium	EPA 6020B	<b>18.6</b>		mg/kg	3.19	10	11/26/25 20:03	11/26/25 08:51
Cadmium	EPA 6020B	<0.192	U	mg/kg	1.28	10	11/26/25 20:03	11/26/25 08:51
Chromium	EPA 6020B	<b>7.27</b>		mg/kg	3.19	10	11/26/25 20:03	11/26/25 08:51
Copper	EPA 6020B	<b>10.6</b>		mg/kg	3.19	10	11/26/25 20:03	11/26/25 08:51
Lead	EPA 6020B	<b>7.78</b>		mg/kg	3.19	10	11/26/25 20:03	11/26/25 08:51
Selenium	EPA 6020B	<2.94	U	mg/kg	3.19	10	11/26/25 20:03	11/26/25 08:51
Silver	EPA 6020B	<0.422	U	mg/kg	3.19	10	11/26/25 20:03	11/26/25 08:51
Zinc	EPA 6020B	<b>39.6</b>		mg/kg	6.39	10	11/26/25 20:03	11/26/25 08:51
Mercury	EPA 7471B	<0.0136	U	mg/kg	0.0200	1	12/01/25 11:01	12/01/25 09:56
<b>Organochlorine Pesticides by GC/ECD</b>								
4,4'-DDD	EPA 8081B	<6.81	U	µg/kg	10.6	1	11/27/25 01:28	11/25/25 13:17
4,4'-DDE	EPA 8081B	<7.02	U	µg/kg	10.6	1	11/27/25 01:28	11/25/25 13:17
4,4'-DDT	EPA 8081B	<7.08	U	µg/kg	10.6	1	11/27/25 01:28	11/25/25 13:17
Aldrin	EPA 8081B	<6.92	U	µg/kg	10.6	1	11/27/25 01:28	11/25/25 13:17
alpha-BHC	EPA 8081B	<7.01	U	µg/kg	10.6	1	11/27/25 01:28	11/25/25 13:17
beta-BHC	EPA 8081B	<6.99	U	µg/kg	10.6	1	11/27/25 01:28	11/25/25 13:17
Chlordane, Technical	EPA 8081B	<10.6	U	µg/kg	26.6	1	11/27/25 01:28	11/25/25 13:17
cis-Chlordane	EPA 8081B	<7.12	U	µg/kg	10.6	1	11/27/25 01:28	11/25/25 13:17
delta-BHC	EPA 8081B	<6.97	U	µg/kg	10.6	1	11/27/25 01:28	11/25/25 13:17
Dieldrin	EPA 8081B	<7.45	U	µg/kg	10.6	1	11/27/25 01:28	11/25/25 13:17

# Analytical Report



**Client:** The Mannik & Smith Group, Inc.  
**Project:** 5558 Ivanhoe  
**Matrix:** SOIL/SOLID

**Work Order:** HN2517845  
**Date Collected:** 11/22/25 11:46  
**Date Received:** 11/25/25 08:55

**CLIENT ID:** 5558 SB02 (3-4')

**Lab ID:** HN2517845-003

Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
Endosulfan I	EPA 8081B	<7.16	U	µg/kg	10.6	1	11/27/25 01:28	11/25/25 13:17
Endosulfan II	EPA 8081B	<7.05	U	µg/kg	10.6	1	11/27/25 01:28	11/25/25 13:17
Endosulfan sulfate	EPA 8081B	<6.55	U	µg/kg	10.6	1	11/27/25 01:28	11/25/25 13:17
Endrin	EPA 8081B	<8.62	U	µg/kg	10.6	1	11/27/25 01:28	11/25/25 13:17
Endrin aldehyde	EPA 8081B	<6.75	U	µg/kg	10.6	1	11/27/25 01:28	11/25/25 13:17
Endrin ketone	EPA 8081B	<6.48	U	µg/kg	10.6	1	11/27/25 01:28	11/25/25 13:17
gamma-BHC (Lindane)	EPA 8081B	<6.99	U	µg/kg	10.6	1	11/27/25 01:28	11/25/25 13:17
Heptachlor	EPA 8081B	<6.87	U	µg/kg	10.6	1	11/27/25 01:28	11/25/25 13:17
Heptachlor epoxide	EPA 8081B	<7.04	U	µg/kg	10.6	1	11/27/25 01:28	11/25/25 13:17
Methoxychlor	EPA 8081B	<7.12	U	µg/kg	10.6	1	11/27/25 01:28	11/25/25 13:17
Toxaphene	EPA 8081B	<11.5	U	µg/kg	63.9	1	11/27/25 01:28	11/25/25 13:17
trans-Chlordane	EPA 8081B	<7.07	U	µg/kg	10.6	1	11/27/25 01:28	11/25/25 13:17
<i>Surr: Decachlorobiphenyl</i>	<i>EPA 8081B</i>	<b>102</b>		<i>%REC</i>	<i>53-151</i>	<i>1</i>	<i>11/27/25 01:28</i>	<i>11/25/25 13:17</i>
<i>Surr: Tetrachloro-m-xylene</i>	<i>EPA 8081B</i>	<b>94.8</b>		<i>%REC</i>	<i>67-127</i>	<i>1</i>	<i>11/27/25 01:28</i>	<i>11/25/25 13:17</i>

### Polychlorinated Biphenyls (PCBs) by GC/ECD

Aroclor 1016	EPA 8082A	<24.3	U	µg/kg	71.0	1	11/26/25 17:15	11/25/25 10:02
Aroclor 1221	EPA 8082A	<24.3	U	µg/kg	71.0	1	11/26/25 17:15	11/25/25 10:02
Aroclor 1232	EPA 8082A	<24.3	U	µg/kg	71.0	1	11/26/25 17:15	11/25/25 10:02
Aroclor 1242	EPA 8082A	<24.3	U	µg/kg	71.0	1	11/26/25 17:15	11/25/25 10:02
Aroclor 1248	EPA 8082A	<24.3	U	µg/kg	71.0	1	11/26/25 17:15	11/25/25 10:02
Aroclor 1254	EPA 8082A	<19.8	U	µg/kg	71.0	1	11/26/25 17:15	11/25/25 10:02
Aroclor 1260	EPA 8082A	<19.8	U	µg/kg	71.0	1	11/26/25 17:15	11/25/25 10:02
Aroclor 1262	EPA 8082A	<19.8	U	µg/kg	71.0	1	11/26/25 17:15	11/25/25 10:02
Aroclor 1268	EPA 8082A	<19.8	U	µg/kg	71.0	1	11/26/25 17:15	11/25/25 10:02
Total PCB	EPA 8082A	<19.8	U	µg/kg	71.0	1	11/26/25 17:15	11/25/25 10:02
<i>Surr: Decachlorobiphenyl</i>	<i>EPA 8082A</i>	<b>100</b>		<i>%REC</i>	<i>54-146</i>	<i>1</i>	<i>11/26/25 17:15</i>	<i>11/25/25 10:02</i>
<i>Surr: Tetrachloro-m-xylene</i>	<i>EPA 8082A</i>	<b>86.6</b>		<i>%REC</i>	<i>58-140</i>	<i>1</i>	<i>11/26/25 17:15</i>	<i>11/25/25 10:02</i>

### Semivolatile Organic Compounds by GC-MS

1,1'-Biphenyl (BZ-0)	EPA 8270E	<14.0	U	µg/kg	85.3	1	12/03/25 21:26	11/26/25 08:39
1,2,4,5-Tetrachlorobenzene	EPA 8270E	<19.9	U	µg/kg	861	1	12/03/25 21:26	11/26/25 08:39

# Analytical Report



**Client:** The Mannik & Smith Group, Inc.  
**Project:** 5558 Ivanhoe  
**Matrix:** SOIL/SOLID

**Work Order:** HN2517845  
**Date Collected:** 11/22/25 11:46  
**Date Received:** 11/25/25 08:55

**CLIENT ID: 5558 SB02 (3-4')**

**Lab ID: HN2517845-003**

Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
1,4-Dioxane (1,4-Diethyleneoxide)	EPA 8270E	<61.8	U	µg/kg	431	1	12/03/25 21:26	11/26/25 08:39
1-Methylnaphthalene	EPA 8270E	<12.4	U	µg/kg	17.2	1	12/03/25 21:26	11/26/25 08:39
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methylethyl)ether	EPA 8270E	<20.2	U	µg/kg	85.3	1	12/03/25 21:26	11/26/25 08:39
2,3,4,6-Tetrachlorophenol	EPA 8270E	<63.1	U	µg/kg	172	1	12/03/25 21:26	11/26/25 08:39
2,4,5-Trichlorophenol	EPA 8270E	<51.0	U	µg/kg	85.3	1	12/03/25 21:26	11/26/25 08:39
2,4,6-Trichlorophenol	EPA 8270E	<22.9	U	µg/kg	85.3	1	12/03/25 21:26	11/26/25 08:39
2,4-Dichlorophenol	EPA 8270E	<46.4	U	µg/kg	85.3	1	12/03/25 21:26	11/26/25 08:39
2,4-Dimethylphenol	EPA 8270E	<44.3	U	µg/kg	85.3	1	12/03/25 21:26	11/26/25 08:39
2,4-Dinitrophenol	EPA 8270E	<630	U	µg/kg	861	1	12/03/25 21:26	11/26/25 08:39
2,4-Dinitrotoluene (2,4-DNT)	EPA 8270E	<56.0	U	µg/kg	85.3	1	12/03/25 21:26	11/26/25 08:39
2,6-Dinitrotoluene (2,6-DNT)	EPA 8270E	<22.0	U	µg/kg	85.3	1	12/03/25 21:26	11/26/25 08:39
2-Chloronaphthalene	EPA 8270E	<12.0	U	µg/kg	17.2	1	12/03/25 21:26	11/26/25 08:39
2-Chlorophenol	EPA 8270E	<56.4	U	µg/kg	85.3	1	12/03/25 21:26	11/26/25 08:39
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	EPA 8270E	<72.0	U	µg/kg	85.3	1	12/03/25 21:26	11/26/25 08:39
2-Methylnaphthalene	EPA 8270E	<8.76	U	µg/kg	17.2	1	12/03/25 21:26	11/26/25 08:39
2-Methylphenol (o-Cresol)	EPA 8270E	<23.3	U	µg/kg	85.3	1	12/03/25 21:26	11/26/25 08:39
2-Nitroaniline	EPA 8270E	<47.8	U	µg/kg	85.3	1	12/03/25 21:26	11/26/25 08:39
2-Nitrophenol	EPA 8270E	<24.6	U	µg/kg	85.3	1	12/03/25 21:26	11/26/25 08:39
3&4-Methylphenol	EPA 8270E	<47.0	U	µg/kg	85.3	1	12/03/25 21:26	11/26/25 08:39
3,3'-Dichlorobenzidine	EPA 8270E	<40.2	U	µg/kg	431	1	12/03/25 21:26	11/26/25 08:39
3-Nitroaniline	EPA 8270E	<50.0	U	µg/kg	85.3	1	12/03/25 21:26	11/26/25 08:39
4-Bromophenyl phenyl ether (BDE-3)	EPA 8270E	<47.2	U	µg/kg	85.3	1	12/03/25 21:26	11/26/25 08:39
4-Chloro-3-methylphenol	EPA 8270E	<24.6	U	µg/kg	85.3	1	12/03/25 21:26	11/26/25 08:39
4-Chloroaniline	EPA 8270E	<43.8	U	µg/kg	172	1	12/03/25 21:26	11/26/25 08:39
4-Chlorophenyl phenylether	EPA 8270E	<23.8	U	µg/kg	85.3	1	12/03/25 21:26	11/26/25 08:39
4-Nitroaniline	EPA 8270E	<134	U	µg/kg	431	1	12/03/25 21:26	11/26/25 08:39
4-Nitrophenol	EPA 8270E	<202	U	µg/kg	861	1	12/03/25 21:26	11/26/25 08:39
Acenaphthene	EPA 8270E	<12.5	U	µg/kg	17.2	1	12/03/25 21:26	11/26/25 08:39

# Analytical Report



**Client:** The Mannik & Smith Group, Inc.  
**Project:** 5558 Ivanhoe  
**Matrix:** SOIL/SOLID

**Work Order:** HN2517845  
**Date Collected:** 11/22/25 11:46  
**Date Received:** 11/25/25 08:55

**CLIENT ID: 5558 SB02 (3-4')**

**Lab ID: HN2517845-003**

Analyte	Method	Results	Qual	Units	MRL	Dilution	Date	Date
						Factor	Analyzed	Extracted
Acenaphthylene	EPA 8270E	<14.9	U	µg/kg	17.2	1	12/03/25 21:26	11/26/25 08:39
Acetophenone	EPA 8270E	<13.5	U	µg/kg	85.3	1	12/03/25 21:26	11/26/25 08:39
Anthracene	EPA 8270E	<12.1	U	µg/kg	17.2	1	12/03/25 21:26	11/26/25 08:39
Atrazine	EPA 8270E	<50.5	U	µg/kg	85.3	1	12/03/25 21:26	11/26/25 08:39
Benzaldehyde	EPA 8270E	<132	U	µg/kg	172	1	12/03/25 21:26	11/26/25 08:39
Benzo(a)anthracene	EPA 8270E	<14.9	U	µg/kg	17.2	1	12/03/25 21:26	11/26/25 08:39
Benzo(a)pyrene	EPA 8270E	<10.6	U	µg/kg	17.2	1	12/03/25 21:26	11/26/25 08:39
Benzo(b)fluoranthene	EPA 8270E	<12.8	U	µg/kg	17.2	1	12/03/25 21:26	11/26/25 08:39
Benzo(g,h,i)perylene	EPA 8270E	<13.2	U	µg/kg	17.2	1	12/03/25 21:26	11/26/25 08:39
Benzo(k)fluoranthene	EPA 8270E	<13.1	U	µg/kg	17.2	1	12/03/25 21:26	11/26/25 08:39
bis(2-Chloroethoxy) methane	EPA 8270E	<54.6	U	µg/kg	85.3	1	12/03/25 21:26	11/26/25 08:39
bis(2-Chloroethyl) ether	EPA 8270E	<24.4	U	µg/kg	85.3	1	12/03/25 21:26	11/26/25 08:39
Butyl benzyl phthalate	EPA 8270E	<108	U	µg/kg	172	1	12/03/25 21:26	11/26/25 08:39
Caprolactam	EPA 8270E	<77.8	U	µg/kg	85.3	1	12/03/25 21:26	11/26/25 08:39
Carbazole	EPA 8270E	<25.4	U	µg/kg	85.3	1	12/03/25 21:26	11/26/25 08:39
Chrysene	EPA 8270E	<13.9	U	µg/kg	17.2	1	12/03/25 21:26	11/26/25 08:39
Di(2-ethylhexyl) phthalate (bis(2-Ethylhexyl)phthalate, DEHP)	EPA 8270E	<71.3	U	µg/kg	85.3	1	12/03/25 21:26	11/26/25 08:39
Dibenz(a,h) anthracene	EPA 8270E	<9.31	U	µg/kg	85.3	1	12/03/25 21:26	11/26/25 08:39
Dibenzofuran	EPA 8270E	<12.7	U	µg/kg	85.3	1	12/03/25 21:26	11/26/25 08:39
Diethyl phthalate	EPA 8270E	<29.3	U	µg/kg	85.3	1	12/03/25 21:26	11/26/25 08:39
Dimethyl phthalate	EPA 8270E	<16.8	U	µg/kg	85.3	1	12/03/25 21:26	11/26/25 08:39
Fluoranthene	EPA 8270E	<8.27	U	µg/kg	17.2	1	12/03/25 21:26	11/26/25 08:39
Fluorene	EPA 8270E	<12.5	U	µg/kg	17.2	1	12/03/25 21:26	11/26/25 08:39
Hexachlorobenzene	EPA 8270E	<25.1	U	µg/kg	85.3	1	12/03/25 21:26	11/26/25 08:39
Hexachlorobutadiene	EPA 8270E	<20.3	U	µg/kg	85.3	1	12/03/25 21:26	11/26/25 08:39
Hexachlorocyclopentadiene	EPA 8270E	<81.7	U	µg/kg	85.3	1	12/03/25 21:26	11/26/25 08:39
Hexachloroethane	EPA 8270E	<35.7	U	µg/kg	85.3	1	12/03/25 21:26	11/26/25 08:39
Indeno(1,2,3-cd) pyrene	EPA 8270E	<12.0	U	µg/kg	17.2	1	12/03/25 21:26	11/26/25 08:39
Isophorone	EPA 8270E	<16.8	U	µg/kg	431	1	12/03/25 21:26	11/26/25 08:39
Methylphenol, Total	EPA 8270E	<23.3	U	µg/kg	85.3	1	12/03/25 21:26	11/26/25 08:39

# Analytical Report



**Client:** The Mannik & Smith Group, Inc.  
**Project:** 5558 Ivanhoe  
**Matrix:** SOIL/SOLID

**Work Order:** HN2517845  
**Date Collected:** 11/22/25 11:46  
**Date Received:** 11/25/25 08:55

**CLIENT ID:** 5558 SB02 (3-4')

**Lab ID:** HN2517845-003

Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
Naphthalene	EPA 8270E	<11.0	U	µg/kg	17.2	1	12/03/25 21:26	11/26/25 08:39
Nitrobenzene	EPA 8270E	<28.9	U	µg/kg	431	1	12/03/25 21:26	11/26/25 08:39
n-Nitrosodi-n-propylamine	EPA 8270E	<14.2	U	µg/kg	85.3	1	12/03/25 21:26	11/26/25 08:39
N-Nitrosodiphenylamine	EPA 8270E	<49.9	U	µg/kg	85.3	1	12/03/25 21:26	11/26/25 08:39
Pentachlorophenol	EPA 8270E	<68.4	U	µg/kg	85.3	1	12/03/25 21:26	11/26/25 08:39
Phenanthrene	EPA 8270E	<8.01	U	µg/kg	17.2	1	12/03/25 21:26	11/26/25 08:39
Phenol	EPA 8270E	<43.3	U	µg/kg	85.3	1	12/03/25 21:26	11/26/25 08:39
Pyrene	EPA 8270E	<8.60	U	µg/kg	17.2	1	12/03/25 21:26	11/26/25 08:39
Pyridine	EPA 8270E	<170	U	µg/kg	431	1	12/03/25 21:26	11/26/25 08:39
<i>Surr: 2,4,6-Tribromophenol</i>	<i>EPA 8270E</i>	<b>76.8</b>		<i>%REC</i>	<i>48-94</i>	<i>1</i>	<i>12/03/25 21:26</i>	<i>11/26/25 08:39</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>EPA 8270E</i>	<b>74.1</b>		<i>%REC</i>	<i>50-103</i>	<i>1</i>	<i>12/03/25 21:26</i>	<i>11/26/25 08:39</i>
<i>Surr: 2-Fluorophenol</i>	<i>EPA 8270E</i>	<b>74.6</b>		<i>%REC</i>	<i>43-105</i>	<i>1</i>	<i>12/03/25 21:26</i>	<i>11/26/25 08:39</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>EPA 8270E</i>	<b>83.1</b>		<i>%REC</i>	<i>55-111</i>	<i>1</i>	<i>12/03/25 21:26</i>	<i>11/26/25 08:39</i>
<i>Surr: Nitrobenzene-d5</i>	<i>EPA 8270E</i>	<b>69.8</b>		<i>%REC</i>	<i>47-100</i>	<i>1</i>	<i>12/03/25 21:26</i>	<i>11/26/25 08:39</i>
<i>Surr: Phenol-d6</i>	<i>EPA 8270E</i>	<b>72.9</b>		<i>%REC</i>	<i>49-110</i>	<i>1</i>	<i>12/03/25 21:26</i>	<i>11/26/25 08:39</i>

### Volatile Organic Compounds by GC-MS

1,1,1-Trichloroethane	EPA 8260D	<16.1	U	µg/kg	35.5	1	11/27/25 08:02	11/25/25 14:25
1,1,2,2-Tetrachloroethane	EPA 8260D	<15.7	U	µg/kg	35.5	1	11/27/25 08:02	11/25/25 14:25
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	EPA 8260D	<22.5	U	µg/kg	35.5	1	11/27/25 08:02	11/25/25 14:25
1,1,2-Trichloroethane	EPA 8260D	<15.1	U	µg/kg	35.5	1	11/27/25 08:02	11/25/25 14:25
1,1-Dichloroethane	EPA 8260D	<13.0	U	µg/kg	35.5	1	11/27/25 08:02	11/25/25 14:25
1,1-Dichloroethylene	EPA 8260D	<11.5	U	µg/kg	35.5	1	11/27/25 08:02	11/25/25 14:25
1,2,3-Trichlorobenzene	EPA 8260D	<42.6	U	µg/kg	118	1	11/27/25 08:02	11/25/25 14:25
1,2,3-Trichloropropane	EPA 8260D	<14.9	U	µg/kg	35.5	1	11/27/25 08:02	11/25/25 14:25
1,2,4-Trichlorobenzene	EPA 8260D	<40.3	U	µg/kg	118	1	11/27/25 08:02	11/25/25 14:25
1,2,4-Trimethylbenzene	EPA 8260D	<26.0	U	µg/kg	35.5	1	11/27/25 08:02	11/25/25 14:25
1,2-Dibromo-3-chloropropane (DBCP)	EPA 8260D	<32.7	U	µg/kg	118	1	11/27/25 08:02	11/25/25 14:25
1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 8260D	<20.9	U	µg/kg	35.5	1	11/27/25 08:02	11/25/25 14:25
1,2-Dichlorobenzene (o-Dichlorobenzene)	EPA 8260D	<13.5	U	µg/kg	35.5	1	11/27/25 08:02	11/25/25 14:25

# Analytical Report



**Client:** The Mannik & Smith Group, Inc.  
**Project:** 5558 Ivanhoe  
**Matrix:** SOIL/SOLID

**Work Order:** HN2517845  
**Date Collected:** 11/22/25 11:46  
**Date Received:** 11/25/25 08:55

**CLIENT ID: 5558 SB02 (3-4')**

**Lab ID: HN2517845-003**

Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
1,2-Dichloroethane (Ethylene dichloride)	EPA 8260D	<20.9	U	µg/kg	118	1	11/27/25 08:02	11/25/25 14:25
1,2-Dichloropropane	EPA 8260D	<26.2	U	µg/kg	35.5	1	11/27/25 08:02	11/25/25 14:25
1,3,5-Trimethylbenzene	EPA 8260D	<25.1	U	µg/kg	118	1	11/27/25 08:02	11/25/25 14:25
1,3-Dichlorobenzene (m-Dichlorobenzene)	EPA 8260D	<24.5	U	µg/kg	35.5	1	11/27/25 08:02	11/25/25 14:25
1,3-Dichloropropene	EPA 8260D	<19.8	U	µg/kg	71.0	1	11/27/25 08:02	11/25/25 14:25
1,4-Dichlorobenzene (p-Dichlorobenzene)	EPA 8260D	<28.9	U	µg/kg	35.5	1	11/27/25 08:02	11/25/25 14:25
2-Butanone (Methyl ethyl ketone, MEK)	EPA 8260D	<84.5	U	µg/kg	237	1	11/27/25 08:02	11/25/25 14:25
2-Hexanone	EPA 8260D	<17.6	U	µg/kg	35.5	1	11/27/25 08:02	11/25/25 14:25
4-Methyl-2-pentanone (MIBK)	EPA 8260D	<33.1	U	µg/kg	35.5	1	11/27/25 08:02	11/25/25 14:25
Acetone	EPA 8260D	<105	U	µg/kg	118	1	11/27/25 08:02	11/25/25 14:25
Benzene	EPA 8260D	<17.2	U	µg/kg	35.5	1	11/27/25 08:02	11/25/25 14:25
Bromochloromethane	EPA 8260D	<18.1	U	µg/kg	35.5	1	11/27/25 08:02	11/25/25 14:25
Bromodichloromethane	EPA 8260D	<19.9	U	µg/kg	35.5	1	11/27/25 08:02	11/25/25 14:25
Bromoform	EPA 8260D	<15.0	U	µg/kg	35.5	1	11/27/25 08:02	11/25/25 14:25
Carbon disulfide	EPA 8260D	<18.4	U	µg/kg	35.5	1	11/27/25 08:02	11/25/25 14:25
Carbon tetrachloride	EPA 8260D	<13.9	U	µg/kg	35.5	1	11/27/25 08:02	11/25/25 14:25
Chlorobenzene	EPA 8260D	<11.8	U	µg/kg	35.5	1	11/27/25 08:02	11/25/25 14:25
Chlorodibromomethane	EPA 8260D	<19.9	U	µg/kg	35.5	1	11/27/25 08:02	11/25/25 14:25
Chloroethane (Ethyl chloride)	EPA 8260D	<99.5	U	µg/kg	118	1	11/27/25 08:02	11/25/25 14:25
Chloroform	EPA 8260D	<13.0	U	µg/kg	35.5	1	11/27/25 08:02	11/25/25 14:25
cis-1,2-Dichloroethylene	EPA 8260D	<22.8	U	µg/kg	35.5	1	11/27/25 08:02	11/25/25 14:25
cis-1,3-Dichloropropene	EPA 8260D	<26.8	U	µg/kg	35.5	1	11/27/25 08:02	11/25/25 14:25
Cyclohexane	EPA 8260D	<27.2	U	µg/kg	118	1	11/27/25 08:02	11/25/25 14:25
Dichlorodifluoromethane (Freon-12)	EPA 8260D	<43.0	U	µg/kg	118	1	11/27/25 08:02	11/25/25 14:25
Ethylbenzene	EPA 8260D	<25.2	U	µg/kg	35.5	1	11/27/25 08:02	11/25/25 14:25
Isopropylbenzene	EPA 8260D	<22.4	U	µg/kg	35.5	1	11/27/25 08:02	11/25/25 14:25
m+p-Xylene	EPA 8260D	<47.4	U	µg/kg	71.0	1	11/27/25 08:02	11/25/25 14:25
Methyl acetate	EPA 8260D	<42.5	U	µg/kg	296	1	11/27/25 08:02	11/25/25 14:25
Methyl bromide (Bromomethane)	EPA 8260D	<67.9	U	µg/kg	118	1	11/27/25 08:02	11/25/25 14:25

# Analytical Report



**Client:** The Mannik & Smith Group, Inc.  
**Project:** 5558 Ivanhoe  
**Matrix:** SOIL/SOLID

**Work Order:** HN2517845  
**Date Collected:** 11/22/25 11:46  
**Date Received:** 11/25/25 08:55

**CLIENT ID: 5558 SB02 (3-4')**

**Lab ID: HN2517845-003**

Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
Methyl chloride (Chloromethane)	EPA 8260D	<97.1	U	µg/kg	118	1	11/27/25 08:02	11/25/25 14:25
Methyl tert-butyl ether (MTBE)	EPA 8260D	<25.9	U	µg/kg	35.5	1	11/27/25 08:02	11/25/25 14:25
Methylcyclohexane	EPA 8260D	<13.5	U	µg/kg	35.5	1	11/27/25 08:02	11/25/25 14:25
Methylene chloride (Dichloromethane)	EPA 8260D	<94.2	U	µg/kg	296	1	11/27/25 08:02	11/25/25 14:25
o-Xylene	EPA 8260D	<13.7	U	µg/kg	35.5	1	11/27/25 08:02	11/25/25 14:25
Styrene	EPA 8260D	<14.1	U	µg/kg	35.5	1	11/27/25 08:02	11/25/25 14:25
Tetrachloroethylene (Perchloroethylene)	EPA 8260D	<21.4	U	µg/kg	35.5	1	11/27/25 08:02	11/25/25 14:25
Toluene	EPA 8260D	<29.3	U	µg/kg	35.5	1	11/27/25 08:02	11/25/25 14:25
Total Xylene	EPA 8260D	<13.7	U	µg/kg	107	1	11/27/25 08:02	11/25/25 14:25
trans-1,2-Dichloroethylene	EPA 8260D	<29.3	U	µg/kg	35.5	1	11/27/25 08:02	11/25/25 14:25
trans-1,3-Dichloropropylene	EPA 8260D	<19.8	U	µg/kg	35.5	1	11/27/25 08:02	11/25/25 14:25
Trichloroethene (Trichloroethylene)	EPA 8260D	<15.9	U	µg/kg	35.5	1	11/27/25 08:02	11/25/25 14:25
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	EPA 8260D	<18.2	U	µg/kg	35.5	1	11/27/25 08:02	11/25/25 14:25
Vinyl chloride (Chloroethene)	EPA 8260D	<23.6	U	µg/kg	35.5	1	11/27/25 08:02	11/25/25 14:25
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>EPA 8260D</i>	<b>101</b>		<i>%REC</i>	<i>80-120</i>	<i>1</i>	<i>11/27/25 08:02</i>	<i>11/25/25 14:25</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>EPA 8260D</i>	<b>99.9</b>		<i>%REC</i>	<i>80-120</i>	<i>1</i>	<i>11/27/25 08:02</i>	<i>11/25/25 14:25</i>
<i>Surr: Dibromofluoromethane</i>	<i>EPA 8260D</i>	<b>94.4</b>		<i>%REC</i>	<i>72-120</i>	<i>1</i>	<i>11/27/25 08:02</i>	<i>11/25/25 14:25</i>
<i>Surr: Toluene-d8</i>	<i>EPA 8260D</i>	<b>98.6</b>		<i>%REC</i>	<i>80-120</i>	<i>1</i>	<i>11/27/25 08:02</i>	<i>11/25/25 14:25</i>

# Analytical Report



**Client:** The Mannik & Smith Group, Inc.  
**Project:** 5558 Ivanhoe  
**Matrix:** SOIL/SOLID

**Work Order:** HN2517845  
**Date Collected:** 11/22/25 12:00  
**Date Received:** 11/25/25 08:55

**CLIENT ID:** 5558 SB03 (5-6')

**Lab ID:** HN2517845-005

Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
<b>Chlorinated Herbicides by GC/ECD</b>								
2,4,5-T	EPA 8151A	<2.73	U	µg/kg	14.8	1	12/05/25 21:59	12/02/25 11:02
2,4,5-TP (Silvex)	EPA 8151A	<4.86	U	µg/kg	14.8	1	12/05/25 21:59	12/02/25 11:02
2,4-D	EPA 8151A	<7.92	U	µg/kg	29.7	1	12/05/25 21:59	12/02/25 11:02
<i>Surr: DCAA</i>	<i>EPA 8151A</i>	<b>60.0</b>		<i>%REC</i>	<i>10-116</i>	<i>1</i>	<i>12/05/25 21:59</i>	<i>12/02/25 11:02</i>
<b>General Chemistry Parameters</b>								
Percent Moisture	EPA 3550C	<b>11.8</b>		%	0.1	1	11/25/25 15:31	NA
Chloride	EPA 9056A	<3.43	U	mg/kg	11.1	1	11/26/25 05:24	11/25/25 15:23
<b>Metals</b>								
Arsenic	EPA 6020B	<b>6.09</b>		mg/kg	3.50	10	11/26/25 20:08	11/26/25 08:51
Barium	EPA 6020B	<b>40.2</b>		mg/kg	3.50	10	11/26/25 20:08	11/26/25 08:51
Cadmium	EPA 6020B	<0.210	U	mg/kg	1.40	10	11/26/25 20:08	11/26/25 08:51
Chromium	EPA 6020B	<b>13.6</b>		mg/kg	3.50	10	11/26/25 20:08	11/26/25 08:51
Copper	EPA 6020B	<b>11.9</b>		mg/kg	3.50	10	11/26/25 20:08	11/26/25 08:51
Lead	EPA 6020B	<b>5.82</b>		mg/kg	3.50	10	11/26/25 20:08	11/26/25 08:51
Selenium	EPA 6020B	<3.22	U	mg/kg	3.50	10	11/26/25 20:08	11/26/25 08:51
Silver	EPA 6020B	<0.462	U	mg/kg	3.50	10	11/26/25 20:08	11/26/25 08:51
Zinc	EPA 6020B	<b>34.3</b>		mg/kg	7.00	10	11/26/25 20:08	11/26/25 08:51
Mercury	EPA 7471B	<0.0136	U	mg/kg	0.0200	1	12/01/25 11:02	12/01/25 09:56
<b>Organochlorine Pesticides by GC/ECD</b>								
4,4'-DDD	EPA 8081B	<17.5	U	µg/kg	27.4	1	11/27/25 01:43	11/25/25 13:17
4,4'-DDE	EPA 8081B	<18.1	U	µg/kg	27.4	1	11/27/25 01:43	11/25/25 13:17
4,4'-DDT	EPA 8081B	<18.2	U	µg/kg	27.4	1	11/27/25 01:43	11/25/25 13:17
Aldrin	EPA 8081B	<17.8	U	µg/kg	27.4	1	11/27/25 01:43	11/25/25 13:17
alpha-BHC	EPA 8081B	<18.0	U	µg/kg	27.4	1	11/27/25 01:43	11/25/25 13:17
beta-BHC	EPA 8081B	<18.0	U	µg/kg	27.4	1	11/27/25 01:43	11/25/25 13:17
Chlordane, Technical	EPA 8081B	<27.2	U	µg/kg	68.5	1	11/27/25 01:43	11/25/25 13:17
cis-Chlordane	EPA 8081B	<18.3	U	µg/kg	27.4	1	11/27/25 01:43	11/25/25 13:17
delta-BHC	EPA 8081B	<17.9	U	µg/kg	27.4	1	11/27/25 01:43	11/25/25 13:17
Dieldrin	EPA 8081B	<19.2	U	µg/kg	27.4	1	11/27/25 01:43	11/25/25 13:17

# Analytical Report



**Client:** The Mannik & Smith Group, Inc.  
**Project:** 5558 Ivanhoe  
**Matrix:** SOIL/SOLID

**Work Order:** HN2517845  
**Date Collected:** 11/22/25 12:00  
**Date Received:** 11/25/25 08:55

**CLIENT ID:** 5558 SB03 (5-6')

**Lab ID:** HN2517845-005

Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
Endosulfan I	EPA 8081B	<18.4	U	µg/kg	27.4	1	11/27/25 01:43	11/25/25 13:17
Endosulfan II	EPA 8081B	<18.1	U	µg/kg	27.4	1	11/27/25 01:43	11/25/25 13:17
Endosulfan sulfate	EPA 8081B	<16.9	U	µg/kg	27.4	1	11/27/25 01:43	11/25/25 13:17
Endrin	EPA 8081B	<22.2	U	µg/kg	27.4	1	11/27/25 01:43	11/25/25 13:17
Endrin aldehyde	EPA 8081B	<17.4	U	µg/kg	27.4	1	11/27/25 01:43	11/25/25 13:17
Endrin ketone	EPA 8081B	<16.7	U	µg/kg	27.4	1	11/27/25 01:43	11/25/25 13:17
gamma-BHC (Lindane)	EPA 8081B	<18.0	U	µg/kg	27.4	1	11/27/25 01:43	11/25/25 13:17
Heptachlor	EPA 8081B	<17.7	U	µg/kg	27.4	1	11/27/25 01:43	11/25/25 13:17
Heptachlor epoxide	EPA 8081B	<18.1	U	µg/kg	27.4	1	11/27/25 01:43	11/25/25 13:17
Methoxychlor	EPA 8081B	<18.3	U	µg/kg	27.4	1	11/27/25 01:43	11/25/25 13:17
Toxaphene	EPA 8081B	<29.6	U	µg/kg	164	1	11/27/25 01:43	11/25/25 13:17
trans-Chlordane	EPA 8081B	<18.2	U	µg/kg	27.4	1	11/27/25 01:43	11/25/25 13:17
<i>Surr: Decachlorobiphenyl</i>	<i>EPA 8081B</i>	<b>103</b>		<i>%REC</i>	<i>53-151</i>	<i>1</i>	<i>11/27/25 01:43</i>	<i>11/25/25 13:17</i>
<i>Surr: Tetrachloro-m-xylene</i>	<i>EPA 8081B</i>	<b>95.3</b>		<i>%REC</i>	<i>67-127</i>	<i>1</i>	<i>11/27/25 01:43</i>	<i>11/25/25 13:17</i>

### Polychlorinated Biphenyls (PCBs) by GC/ECD

Aroclor 1016	EPA 8082A	<62.6	U	µg/kg	183	1	11/26/25 17:27	11/25/25 10:02
Aroclor 1221	EPA 8082A	<62.6	U	µg/kg	183	1	11/26/25 17:27	11/25/25 10:02
Aroclor 1232	EPA 8082A	<62.6	U	µg/kg	183	1	11/26/25 17:27	11/25/25 10:02
Aroclor 1242	EPA 8082A	<62.6	U	µg/kg	183	1	11/26/25 17:27	11/25/25 10:02
Aroclor 1248	EPA 8082A	<62.6	U	µg/kg	183	1	11/26/25 17:27	11/25/25 10:02
Aroclor 1254	EPA 8082A	<51.0	U	µg/kg	183	1	11/26/25 17:27	11/25/25 10:02
Aroclor 1260	EPA 8082A	<51.0	U	µg/kg	183	1	11/26/25 17:27	11/25/25 10:02
Aroclor 1262	EPA 8082A	<51.0	U	µg/kg	183	1	11/26/25 17:27	11/25/25 10:02
Aroclor 1268	EPA 8082A	<51.0	U	µg/kg	183	1	11/26/25 17:27	11/25/25 10:02
Total PCB	EPA 8082A	<51.0	U	µg/kg	183	1	11/26/25 17:27	11/25/25 10:02
<i>Surr: Decachlorobiphenyl</i>	<i>EPA 8082A</i>	<b>101</b>		<i>%REC</i>	<i>54-146</i>	<i>1</i>	<i>11/26/25 17:27</i>	<i>11/25/25 10:02</i>
<i>Surr: Tetrachloro-m-xylene</i>	<i>EPA 8082A</i>	<b>88.1</b>		<i>%REC</i>	<i>58-140</i>	<i>1</i>	<i>11/26/25 17:27</i>	<i>11/25/25 10:02</i>

### Semivolatile Organic Compounds by GC-MS

1,1'-Biphenyl (BZ-0)	EPA 8270E	<15.0	U	µg/kg	91.5	1	12/03/25 21:47	11/26/25 08:39
1,2,4,5-Tetrachlorobenzene	EPA 8270E	<21.3	U	µg/kg	924	1	12/03/25 21:47	11/26/25 08:39

# Analytical Report



**Client:** The Mannik & Smith Group, Inc.  
**Project:** 5558 Ivanhoe  
**Matrix:** SOIL/SOLID

**Work Order:** HN2517845  
**Date Collected:** 11/22/25 12:00  
**Date Received:** 11/25/25 08:55

**CLIENT ID:** 5558 SB03 (5-6')

**Lab ID:** HN2517845-005

Analyte	Method	Results	Qual	Units	MRL	Dilution	Date	Date
						Factor	Analyzed	Extracted
1,4-Dioxane (1,4-Diethyleneoxide)	EPA 8270E	<66.3	U	µg/kg	462	1	12/03/25 21:47	11/26/25 08:39
1-Methylnaphthalene	EPA 8270E	<13.3	U	µg/kg	18.5	1	12/03/25 21:47	11/26/25 08:39
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methylethyl)ether	EPA 8270E	<21.7	U	µg/kg	91.5	1	12/03/25 21:47	11/26/25 08:39
2,3,4,6-Tetrachlorophenol	EPA 8270E	<67.7	U	µg/kg	185	1	12/03/25 21:47	11/26/25 08:39
2,4,5-Trichlorophenol	EPA 8270E	<54.8	U	µg/kg	91.5	1	12/03/25 21:47	11/26/25 08:39
2,4,6-Trichlorophenol	EPA 8270E	<24.6	U	µg/kg	91.5	1	12/03/25 21:47	11/26/25 08:39
2,4-Dichlorophenol	EPA 8270E	<49.8	U	µg/kg	91.5	1	12/03/25 21:47	11/26/25 08:39
2,4-Dimethylphenol	EPA 8270E	<47.5	U	µg/kg	91.5	1	12/03/25 21:47	11/26/25 08:39
2,4-Dinitrophenol	EPA 8270E	<676	U	µg/kg	924	1	12/03/25 21:47	11/26/25 08:39
2,4-Dinitrotoluene (2,4-DNT)	EPA 8270E	<60.1	U	µg/kg	91.5	1	12/03/25 21:47	11/26/25 08:39
2,6-Dinitrotoluene (2,6-DNT)	EPA 8270E	<23.6	U	µg/kg	91.5	1	12/03/25 21:47	11/26/25 08:39
2-Chloronaphthalene	EPA 8270E	<12.9	U	µg/kg	18.5	1	12/03/25 21:47	11/26/25 08:39
2-Chlorophenol	EPA 8270E	<60.5	U	µg/kg	91.5	1	12/03/25 21:47	11/26/25 08:39
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	EPA 8270E	<77.2	U	µg/kg	91.5	1	12/03/25 21:47	11/26/25 08:39
2-Methylnaphthalene	EPA 8270E	<9.40	U	µg/kg	18.5	1	12/03/25 21:47	11/26/25 08:39
2-Methylphenol (o-Cresol)	EPA 8270E	<25.0	U	µg/kg	91.5	1	12/03/25 21:47	11/26/25 08:39
2-Nitroaniline	EPA 8270E	<51.4	U	µg/kg	91.5	1	12/03/25 21:47	11/26/25 08:39
2-Nitrophenol	EPA 8270E	<26.4	U	µg/kg	91.5	1	12/03/25 21:47	11/26/25 08:39
3&4-Methylphenol	EPA 8270E	<50.4	U	µg/kg	91.5	1	12/03/25 21:47	11/26/25 08:39
3,3'-Dichlorobenzidine	EPA 8270E	<43.2	U	µg/kg	462	1	12/03/25 21:47	11/26/25 08:39
3-Nitroaniline	EPA 8270E	<53.7	U	µg/kg	91.5	1	12/03/25 21:47	11/26/25 08:39
4-Bromophenyl phenyl ether (BDE-3)	EPA 8270E	<50.7	U	µg/kg	91.5	1	12/03/25 21:47	11/26/25 08:39
4-Chloro-3-methylphenol	EPA 8270E	<26.4	U	µg/kg	91.5	1	12/03/25 21:47	11/26/25 08:39
4-Chloroaniline	EPA 8270E	<47.0	U	µg/kg	185	1	12/03/25 21:47	11/26/25 08:39
4-Chlorophenyl phenylether	EPA 8270E	<25.6	U	µg/kg	91.5	1	12/03/25 21:47	11/26/25 08:39
4-Nitroaniline	EPA 8270E	<143	U	µg/kg	462	1	12/03/25 21:47	11/26/25 08:39
4-Nitrophenol	EPA 8270E	<217	U	µg/kg	924	1	12/03/25 21:47	11/26/25 08:39
Acenaphthene	EPA 8270E	<13.4	U	µg/kg	18.5	1	12/03/25 21:47	11/26/25 08:39

# Analytical Report



**Client:** The Mannik & Smith Group, Inc.  
**Project:** 5558 Ivanhoe  
**Matrix:** SOIL/SOLID

**Work Order:** HN2517845  
**Date Collected:** 11/22/25 12:00  
**Date Received:** 11/25/25 08:55

**CLIENT ID: 5558 SB03 (5-6')**

**Lab ID: HN2517845-005**

Analyte	Method	Results	Qual	Units	MRL	Dilution	Date	Date
						Factor	Analyzed	Extracted
Acenaphthylene	EPA 8270E	<16.0	U	µg/kg	18.5	1	12/03/25 21:47	11/26/25 08:39
Acetophenone	EPA 8270E	<14.5	U	µg/kg	91.5	1	12/03/25 21:47	11/26/25 08:39
Anthracene	EPA 8270E	<13.0	U	µg/kg	18.5	1	12/03/25 21:47	11/26/25 08:39
Atrazine	EPA 8270E	<54.2	U	µg/kg	91.5	1	12/03/25 21:47	11/26/25 08:39
Benzaldehyde	EPA 8270E	<142	U	µg/kg	185	1	12/03/25 21:47	11/26/25 08:39
Benzo(a)anthracene	EPA 8270E	<16.0	U	µg/kg	18.5	1	12/03/25 21:47	11/26/25 08:39
Benzo(a)pyrene	EPA 8270E	<11.3	U	µg/kg	18.5	1	12/03/25 21:47	11/26/25 08:39
Benzo(b)fluoranthene	EPA 8270E	<13.8	U	µg/kg	18.5	1	12/03/25 21:47	11/26/25 08:39
Benzo(g,h,i)perylene	EPA 8270E	<14.2	U	µg/kg	18.5	1	12/03/25 21:47	11/26/25 08:39
Benzo(k)fluoranthene	EPA 8270E	<14.0	U	µg/kg	18.5	1	12/03/25 21:47	11/26/25 08:39
bis(2-Chloroethoxy) methane	EPA 8270E	<58.6	U	µg/kg	91.5	1	12/03/25 21:47	11/26/25 08:39
bis(2-Chloroethyl) ether	EPA 8270E	<26.2	U	µg/kg	91.5	1	12/03/25 21:47	11/26/25 08:39
Butyl benzyl phthalate	EPA 8270E	<116	U	µg/kg	185	1	12/03/25 21:47	11/26/25 08:39
Caprolactam	EPA 8270E	<83.4	U	µg/kg	91.5	1	12/03/25 21:47	11/26/25 08:39
Carbazole	EPA 8270E	<27.3	U	µg/kg	91.5	1	12/03/25 21:47	11/26/25 08:39
Chrysene	EPA 8270E	<15.0	U	µg/kg	18.5	1	12/03/25 21:47	11/26/25 08:39
Di(2-ethylhexyl) phthalate (bis(2-Ethylhexyl)phthalate, DEHP)	EPA 8270E	<76.5	U	µg/kg	91.5	1	12/03/25 21:47	11/26/25 08:39
Dibenz(a,h) anthracene	EPA 8270E	<9.99	U	µg/kg	91.5	1	12/03/25 21:47	11/26/25 08:39
Dibenzofuran	EPA 8270E	<13.6	U	µg/kg	91.5	1	12/03/25 21:47	11/26/25 08:39
Diethyl phthalate	EPA 8270E	<31.5	U	µg/kg	91.5	1	12/03/25 21:47	11/26/25 08:39
Dimethyl phthalate	EPA 8270E	<18.0	U	µg/kg	91.5	1	12/03/25 21:47	11/26/25 08:39
Fluoranthene	EPA 8270E	<8.88	U	µg/kg	18.5	1	12/03/25 21:47	11/26/25 08:39
Fluorene	EPA 8270E	<13.4	U	µg/kg	18.5	1	12/03/25 21:47	11/26/25 08:39
Hexachlorobenzene	EPA 8270E	<26.9	U	µg/kg	91.5	1	12/03/25 21:47	11/26/25 08:39
Hexachlorobutadiene	EPA 8270E	<21.8	U	µg/kg	91.5	1	12/03/25 21:47	11/26/25 08:39
Hexachlorocyclopentadiene	EPA 8270E	<87.7	U	µg/kg	91.5	1	12/03/25 21:47	11/26/25 08:39
Hexachloroethane	EPA 8270E	<38.3	U	µg/kg	91.5	1	12/03/25 21:47	11/26/25 08:39
Indeno(1,2,3-cd) pyrene	EPA 8270E	<12.9	U	µg/kg	18.5	1	12/03/25 21:47	11/26/25 08:39
Isophorone	EPA 8270E	<18.1	U	µg/kg	462	1	12/03/25 21:47	11/26/25 08:39
Methylphenol, Total	EPA 8270E	<25.0	U	µg/kg	91.5	1	12/03/25 21:47	11/26/25 08:39

# Analytical Report



**Client:** The Mannik & Smith Group, Inc.  
**Project:** 5558 Ivanhoe  
**Matrix:** SOIL/SOLID

**Work Order:** HN2517845  
**Date Collected:** 11/22/25 12:00  
**Date Received:** 11/25/25 08:55

**CLIENT ID:** 5558 SB03 (5-6')

**Lab ID:** HN2517845-005

Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
Naphthalene	EPA 8270E	<11.8	U	µg/kg	18.5	1	12/03/25 21:47	11/26/25 08:39
Nitrobenzene	EPA 8270E	<31.1	U	µg/kg	462	1	12/03/25 21:47	11/26/25 08:39
n-Nitrosodi-n-propylamine	EPA 8270E	<15.3	U	µg/kg	91.5	1	12/03/25 21:47	11/26/25 08:39
N-Nitrosodiphenylamine	EPA 8270E	<53.5	U	µg/kg	91.5	1	12/03/25 21:47	11/26/25 08:39
Pentachlorophenol	EPA 8270E	<73.5	U	µg/kg	91.5	1	12/03/25 21:47	11/26/25 08:39
Phenanthrene	EPA 8270E	<8.60	U	µg/kg	18.5	1	12/03/25 21:47	11/26/25 08:39
Phenol	EPA 8270E	<46.4	U	µg/kg	91.5	1	12/03/25 21:47	11/26/25 08:39
Pyrene	EPA 8270E	<9.23	U	µg/kg	18.5	1	12/03/25 21:47	11/26/25 08:39
Pyridine	EPA 8270E	<182	U	µg/kg	462	1	12/03/25 21:47	11/26/25 08:39
<i>Surr: 2,4,6-Tribromophenol</i>	<i>EPA 8270E</i>	<b>73.5</b>		<i>%REC</i>	<i>48-94</i>	<i>1</i>	<i>12/03/25 21:47</i>	<i>11/26/25 08:39</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>EPA 8270E</i>	<b>75.5</b>		<i>%REC</i>	<i>50-103</i>	<i>1</i>	<i>12/03/25 21:47</i>	<i>11/26/25 08:39</i>
<i>Surr: 2-Fluorophenol</i>	<i>EPA 8270E</i>	<b>74.8</b>		<i>%REC</i>	<i>43-105</i>	<i>1</i>	<i>12/03/25 21:47</i>	<i>11/26/25 08:39</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>EPA 8270E</i>	<b>82.1</b>		<i>%REC</i>	<i>55-111</i>	<i>1</i>	<i>12/03/25 21:47</i>	<i>11/26/25 08:39</i>
<i>Surr: Nitrobenzene-d5</i>	<i>EPA 8270E</i>	<b>71.4</b>		<i>%REC</i>	<i>47-100</i>	<i>1</i>	<i>12/03/25 21:47</i>	<i>11/26/25 08:39</i>
<i>Surr: Phenol-d6</i>	<i>EPA 8270E</i>	<b>70.8</b>		<i>%REC</i>	<i>49-110</i>	<i>1</i>	<i>12/03/25 21:47</i>	<i>11/26/25 08:39</i>

### Volatile Organic Compounds by GC-MS

1,1,1-Trichloroethane	EPA 8260D	<17.9	U	µg/kg	39.4	1	11/27/25 08:18	11/25/25 14:25
1,1,2,2-Tetrachloroethane	EPA 8260D	<17.4	U	µg/kg	39.4	1	11/27/25 08:18	11/25/25 14:25
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	EPA 8260D	<25.0	U	µg/kg	39.4	1	11/27/25 08:18	11/25/25 14:25
1,1,2-Trichloroethane	EPA 8260D	<16.7	U	µg/kg	39.4	1	11/27/25 08:18	11/25/25 14:25
1,1-Dichloroethane	EPA 8260D	<14.4	U	µg/kg	39.4	1	11/27/25 08:18	11/25/25 14:25
1,1-Dichloroethylene	EPA 8260D	<12.8	U	µg/kg	39.4	1	11/27/25 08:18	11/25/25 14:25
1,2,3-Trichlorobenzene	EPA 8260D	<47.3	U	µg/kg	131	1	11/27/25 08:18	11/25/25 14:25
1,2,3-Trichloropropane	EPA 8260D	<16.5	U	µg/kg	39.4	1	11/27/25 08:18	11/25/25 14:25
1,2,4-Trichlorobenzene	EPA 8260D	<44.7	U	µg/kg	131	1	11/27/25 08:18	11/25/25 14:25
1,2,4-Trimethylbenzene	EPA 8260D	<28.9	U	µg/kg	39.4	1	11/27/25 08:18	11/25/25 14:25
1,2-Dibromo-3-chloropropane (DBCP)	EPA 8260D	<36.3	U	µg/kg	131	1	11/27/25 08:18	11/25/25 14:25
1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 8260D	<23.2	U	µg/kg	39.4	1	11/27/25 08:18	11/25/25 14:25
1,2-Dichlorobenzene (o-Dichlorobenzene)	EPA 8260D	<14.9	U	µg/kg	39.4	1	11/27/25 08:18	11/25/25 14:25

# Analytical Report



**Client:** The Mannik & Smith Group, Inc.  
**Project:** 5558 Ivanhoe  
**Matrix:** SOIL/SOLID

**Work Order:** HN2517845  
**Date Collected:** 11/22/25 12:00  
**Date Received:** 11/25/25 08:55

**CLIENT ID: 5558 SB03 (5-6')**

**Lab ID: HN2517845-005**

Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
1,2-Dichloroethane (Ethylene dichloride)	EPA 8260D	<23.2	U	µg/kg	131	1	11/27/25 08:18	11/25/25 14:25
1,2-Dichloropropane	EPA 8260D	<29.0	U	µg/kg	39.4	1	11/27/25 08:18	11/25/25 14:25
1,3,5-Trimethylbenzene	EPA 8260D	<27.8	U	µg/kg	131	1	11/27/25 08:18	11/25/25 14:25
1,3-Dichlorobenzene (m-Dichlorobenzene)	EPA 8260D	<27.2	U	µg/kg	39.4	1	11/27/25 08:18	11/25/25 14:25
1,3-Dichloropropene	EPA 8260D	<22.0	U	µg/kg	78.8	1	11/27/25 08:18	11/25/25 14:25
1,4-Dichlorobenzene (p-Dichlorobenzene)	EPA 8260D	<32.0	U	µg/kg	39.4	1	11/27/25 08:18	11/25/25 14:25
2-Butanone (Methyl ethyl ketone, MEK)	EPA 8260D	<93.8	U	µg/kg	263	1	11/27/25 08:18	11/25/25 14:25
2-Hexanone	EPA 8260D	<19.5	U	µg/kg	39.4	1	11/27/25 08:18	11/25/25 14:25
4-Methyl-2-pentanone (MIBK)	EPA 8260D	<36.7	U	µg/kg	39.4	1	11/27/25 08:18	11/25/25 14:25
Acetone	EPA 8260D	<117	U	µg/kg	131	1	11/27/25 08:18	11/25/25 14:25
Benzene	EPA 8260D	<19.1	U	µg/kg	39.4	1	11/27/25 08:18	11/25/25 14:25
Bromochloromethane	EPA 8260D	<20.0	U	µg/kg	39.4	1	11/27/25 08:18	11/25/25 14:25
Bromodichloromethane	EPA 8260D	<22.1	U	µg/kg	39.4	1	11/27/25 08:18	11/25/25 14:25
Bromoform	EPA 8260D	<16.6	U	µg/kg	39.4	1	11/27/25 08:18	11/25/25 14:25
Carbon disulfide	EPA 8260D	<20.4	U	µg/kg	39.4	1	11/27/25 08:18	11/25/25 14:25
Carbon tetrachloride	EPA 8260D	<15.4	U	µg/kg	39.4	1	11/27/25 08:18	11/25/25 14:25
Chlorobenzene	EPA 8260D	<13.1	U	µg/kg	39.4	1	11/27/25 08:18	11/25/25 14:25
Chlorodibromomethane	EPA 8260D	<22.1	U	µg/kg	39.4	1	11/27/25 08:18	11/25/25 14:25
Chloroethane (Ethyl chloride)	EPA 8260D	<110	U	µg/kg	131	1	11/27/25 08:18	11/25/25 14:25
Chloroform	EPA 8260D	<14.4	U	µg/kg	39.4	1	11/27/25 08:18	11/25/25 14:25
cis-1,2-Dichloroethylene	EPA 8260D	<25.3	U	µg/kg	39.4	1	11/27/25 08:18	11/25/25 14:25
cis-1,3-Dichloropropene	EPA 8260D	<29.7	U	µg/kg	39.4	1	11/27/25 08:18	11/25/25 14:25
Cyclohexane	EPA 8260D	<30.2	U	µg/kg	131	1	11/27/25 08:18	11/25/25 14:25
Dichlorodifluoromethane (Freon-12)	EPA 8260D	<47.7	U	µg/kg	131	1	11/27/25 08:18	11/25/25 14:25
Ethylbenzene	EPA 8260D	<28.0	U	µg/kg	39.4	1	11/27/25 08:18	11/25/25 14:25
Isopropylbenzene	EPA 8260D	<24.9	U	µg/kg	39.4	1	11/27/25 08:18	11/25/25 14:25
m+p-Xylene	EPA 8260D	<52.5	U	µg/kg	78.8	1	11/27/25 08:18	11/25/25 14:25
Methyl acetate	EPA 8260D	<47.2	U	µg/kg	328	1	11/27/25 08:18	11/25/25 14:25
Methyl bromide (Bromomethane)	EPA 8260D	<75.4	U	µg/kg	131	1	11/27/25 08:18	11/25/25 14:25

# Analytical Report



**Client:** The Mannik & Smith Group, Inc.  
**Project:** 5558 Ivanhoe  
**Matrix:** SOIL/SOLID

**Work Order:** HN2517845  
**Date Collected:** 11/22/25 12:00  
**Date Received:** 11/25/25 08:55

**CLIENT ID: 5558 SB03 (5-6')**

**Lab ID: HN2517845-005**

Analyte	Method	Results	Qual	Units	MRL	Dilution	Date	Date
						Factor	Analyzed	Extracted
Methyl chloride (Chloromethane)	EPA 8260D	<108	U	µg/kg	131	1	11/27/25 08:18	11/25/25 14:25
Methyl tert-butyl ether (MTBE)	EPA 8260D	<28.7	U	µg/kg	39.4	1	11/27/25 08:18	11/25/25 14:25
Methylcyclohexane	EPA 8260D	<15.0	U	µg/kg	39.4	1	11/27/25 08:18	11/25/25 14:25
Methylene chloride (Dichloromethane)	EPA 8260D	<105	U	µg/kg	328	1	11/27/25 08:18	11/25/25 14:25
o-Xylene	EPA 8260D	<15.2	U	µg/kg	39.4	1	11/27/25 08:18	11/25/25 14:25
Styrene	EPA 8260D	<15.6	U	µg/kg	39.4	1	11/27/25 08:18	11/25/25 14:25
Tetrachloroethylene (Perchloroethylene)	EPA 8260D	<23.7	U	µg/kg	39.4	1	11/27/25 08:18	11/25/25 14:25
Toluene	EPA 8260D	<32.5	U	µg/kg	39.4	1	11/27/25 08:18	11/25/25 14:25
Total Xylene	EPA 8260D	<15.2	U	µg/kg	118	1	11/27/25 08:18	11/25/25 14:25
trans-1,2-Dichloroethylene	EPA 8260D	<32.5	U	µg/kg	39.4	1	11/27/25 08:18	11/25/25 14:25
trans-1,3-Dichloropropylene	EPA 8260D	<22.0	U	µg/kg	39.4	1	11/27/25 08:18	11/25/25 14:25
Trichloroethene (Trichloroethylene)	EPA 8260D	<17.7	U	µg/kg	39.4	1	11/27/25 08:18	11/25/25 14:25
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	EPA 8260D	<20.2	U	µg/kg	39.4	1	11/27/25 08:18	11/25/25 14:25
Vinyl chloride (Chloroethene)	EPA 8260D	<26.2	U	µg/kg	39.4	1	11/27/25 08:18	11/25/25 14:25
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>EPA 8260D</i>	<b>101</b>		<i>%REC</i>	<i>80-120</i>	<i>1</i>	<i>11/27/25 08:18</i>	<i>11/25/25 14:25</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>EPA 8260D</i>	<b>98.5</b>		<i>%REC</i>	<i>80-120</i>	<i>1</i>	<i>11/27/25 08:18</i>	<i>11/25/25 14:25</i>
<i>Surr: Dibromofluoromethane</i>	<i>EPA 8260D</i>	<b>93.4</b>		<i>%REC</i>	<i>72-120</i>	<i>1</i>	<i>11/27/25 08:18</i>	<i>11/25/25 14:25</i>
<i>Surr: Toluene-d8</i>	<i>EPA 8260D</i>	<b>98.4</b>		<i>%REC</i>	<i>80-120</i>	<i>1</i>	<i>11/27/25 08:18</i>	<i>11/25/25 14:25</i>



**Client:** The Mannik & Smith Group, Inc.  
**Project:** 5558 Ivanhoe  
**Matrix:** SOIL/SOLID  
**QC Lot:** 2364787

**Work Order:** HN2517845  
**Date Collected:** NA  
**Date Received:** NA  
**Run ID:** 3750940

**Chlorinated Herbicides by GC/ECD**

**MB** CLIENT ID: Method Blank Lab ID: QC-2364787-001

**Method:** EPA 8151A **Dilution:** 1 **Analysis Date:** 12/04/25 17:16  
**Prep Date:** 12/02/25 11:03

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
2,4,5-T	<0.920	µg/kg	5.00							U
2,4,5-TP (Silvex)	<1.64	µg/kg	5.00							U
2,4-D	<2.67	µg/kg	10.0							U
Surr: DCAA	<b>24.0</b>	µg/kg		50		48.0	10-116			

**LCS** CLIENT ID: Laboratory Control Sample Lab ID: QC-2364787-002

**Method:** EPA 8151A **Dilution:** 1 **Analysis Date:** 12/04/25 17:31  
**Prep Date:** 12/02/25 11:03

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
2,4,5-T	30.0	µg/kg	5.00	50		60.0	10-119			
2,4,5-TP (Silvex)	28.0	µg/kg	5.00	50		56.0	10-101			
2,4-D	33.0	µg/kg	10.0	50		66.0	10-128			
Surr: DCAA	<b>28.0</b>	µg/kg		50		56.0	10-116			

**MS** CLIENT ID: Batch QC Lab ID: QC-2364787-005

**Method:** EPA 8151A **Dilution:** 1 **Analysis Date:** 12/04/25 17:46  
**Prep Date:** 12/02/25 11:03

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
2,4,5-T	44.7	µg/kg	9.11	79.872	<1.47	56.0	10-119			
2,4,5-TP (Silvex)	39.9	µg/kg	9.11	79.872	<2.62	50.0	10-101			
2,4-D	46.3	µg/kg	18.2	79.872	<4.27	58.0	10-128			
Surr: DCAA	<b>41.5</b>	µg/kg		79.872		52.0	10-116			

**MSD** CLIENT ID: Batch QC Lab ID: QC-2364787-006

**Method:** EPA 8151A **Dilution:** 1 **Analysis Date:** 12/04/25 18:01  
**Prep Date:** 12/02/25 11:03

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
2,4,5-T	44.7	µg/kg	9.11	79.872	<1.47	56.0	10-119	0.00	30	
2,4,5-TP (Silvex)	35.1	µg/kg	9.11	79.872	<2.62	44.0	10-101	12.8	30	
2,4-D	46.3	µg/kg	18.2	79.872	<4.27	58.0	10-128	0.00	30	
Surr: DCAA	<b>38.3</b>	µg/kg		79.872		48.0	10-116	8.00	30	

The following samples were analyzed in this batch: HN2517845-001, HN2517845-003, HN2517845-005

QA/QC Report



**Client:** The Mannik & Smith Group, Inc.  
**Project:** 5558 Ivanhoe  
**Matrix:** SOIL/SOLID  
**QC Lot:** 2354218

**Work Order:** HN2517845  
**Date Collected:** NA  
**Date Received:** NA  
**Run ID:** 3717063

**General Chemistry Parameters**

**MB** CLIENT ID: Method Blank Lab ID: QC-2354218-001  
 Method: EPA 3550C Dilution: 1 Analysis Date: 11/25/25 15:31  
 Prep Date: NA

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

**LCS** CLIENT ID: Laboratory Control Sample Lab ID: QC-2354218-002  
 Method: EPA 3550C Dilution: 1 Analysis Date: 11/25/25 15:31  
 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			

**DUP** CLIENT ID: Batch QC Lab ID: QC-2354218-004  
 Method: EPA 3550C Dilution: 1 Analysis Date: 11/25/25 15:31  
 Prep Date: NA

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Percent Moisture	10.2	%	0.1		10.0			2.38	10	

**DUP** CLIENT ID: Batch QC Lab ID: QC-2354218-015  
 Method: EPA 3550C Dilution: 1 Analysis Date: 11/25/25 15:31  
 Prep Date: NA

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Percent Moisture	13.3	%	0.1		13.0			2.29	10	

The following samples were analyzed in this batch: HN2517845-001, HN2517845-003, HN2517845-005

QA/QC Report



**Client:** The Mannik & Smith Group, Inc.  
**Project:** 5558 Ivanhoe  
**Matrix:** SOIL/SOLID  
**QC Lot:** 2354392

**Work Order:** HN2517845  
**Date Collected:** NA  
**Date Received:** NA  
**Run ID:** 3719510

General Chemistry Parameters

**MB** CLIENT ID: Method Blank Lab ID: QC-2354392-001

**Method:** EPA 9056A **Dilution:** 1 **Analysis Date:** 11/26/25 02:20  
**Prep Date:** 11/25/25 15:24

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Chloride	<3.10	mg/kg	10.0							U

**LCS** CLIENT ID: Laboratory Control Sample Lab ID: QC-2354392-002

**Method:** EPA 9056A **Dilution:** 1 **Analysis Date:** 11/26/25 02:29  
**Prep Date:** 11/25/25 15:24

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Chloride	99.9	mg/kg	10.0	100		99.9	87-110			

**MS** CLIENT ID: Batch QC Lab ID: QC-2354392-004

**Method:** EPA 9056A **Dilution:** 1 **Analysis Date:** 11/26/25 02:49  
**Prep Date:** 11/25/25 15:24

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Chloride	94.6	mg/kg	11.7	93.633	8.0	94.1	87-110			

**MSD** CLIENT ID: Batch QC Lab ID: QC-2354392-005

**Method:** EPA 9056A **Dilution:** 1 **Analysis Date:** 11/26/25 02:59  
**Prep Date:** 11/25/25 15:24

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Chloride	97.3	mg/kg	11.8	94.518	8.0	96.2	87-110	2.90	15	

The following samples were analyzed in this batch: HN2517845-001, HN2517845-003, HN2517845-005



**Client:** The Mannik & Smith Group, Inc.  
**Project:** 5558 Ivanhoe  
**Matrix:** SOIL/SOLID  
**QC Lot:** 2356025

**Work Order:** HN2517845  
**Date Collected:** NA  
**Date Received:** NA  
**Run ID:** 3722335

**Metals**

**MB** CLIENT ID: Method Blank Lab ID: QC-2356025-001

**Method:** EPA 6020B **Dilution:** 1 **Analysis Date:** 11/26/25 19:31  
**Prep Date:** 11/26/25 08:51

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Arsenic	<0.0300	mg/kg	0.250							U
Barium	<0.230	mg/kg	0.250							U
Cadmium	<0.0150	mg/kg	0.100							U
Chromium	<0.110	mg/kg	0.250							U
Copper	<0.250	mg/kg	0.250							U
Lead	<0.120	mg/kg	0.250							U
Selenium	<0.230	mg/kg	0.250							U
Silver	<0.0330	mg/kg	0.250							U
Zinc	<0.490	mg/kg	0.500							U

**LCS** CLIENT ID: Laboratory Control Sample Lab ID: QC-2356025-002

**Method:** EPA 6020B **Dilution:** 1 **Analysis Date:** 11/26/25 19:33  
**Prep Date:** 11/26/25 08:51

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Arsenic	4.86	mg/kg	0.250	5		97.2	80-120			
Barium	4.77	mg/kg	0.250	5		95.5	80-120			
Cadmium	5.12	mg/kg	0.100	5		102	80-120			
Chromium	5.00	mg/kg	0.250	5		99.9	80-120			
Copper	4.94	mg/kg	0.250	5		98.9	80-120			
Lead	5.11	mg/kg	0.250	5		102	80-120			
Selenium	4.84	mg/kg	0.250	5		96.9	80-120			
Silver	5.29	mg/kg	0.250	5		106	80-120			
Zinc	5.06	mg/kg	0.500	5		101	80-120			

**MS** CLIENT ID: Batch QC Lab ID: QC-2356025-004

**Method:** EPA 6020B **Dilution:** 10 **Analysis Date:** 11/26/25 19:38  
**Prep Date:** 11/26/25 08:51

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Arsenic	10.6	mg/kg	3.53	6.0096	4.12	118	75-125			
Barium	15.7	mg/kg	3.53	6.0096	12.2	87.3	75-125			
Cadmium	5.89	mg/kg	1.41	6.0096	<0.180	97.2	75-125			
Chromium	10.7	mg/kg	3.53	6.0096	5.81	95.5	75-125			
Copper	11.5	mg/kg	3.53	6.0096	6.31	102	75-125			
Lead	9.24	mg/kg	3.53	6.0096	4.14	95.2	75-125			
Selenium	5.74	mg/kg	3.53	6.0096	<2.76	91.5	75-125			
Silver	6.10	mg/kg	3.53	6.0096	<0.397	101	75-125			
Zinc	26.6	mg/kg	7.07	6.0096	23.0	118	75-125			



QA/QC Report



**Client:** The Mannik & Smith Group, Inc.  
**Project:** 5558 Ivanhoe  
**Matrix:** SOIL/SOLID  
**QC Lot:** 2356091

**Work Order:** HN2517845  
**Date Collected:** NA  
**Date Received:** NA  
**Run ID:** 3732299

**Metals**

**MB CLIENT ID: Method Blank Lab ID: QC-2356091-001**

**Method:** EPA 7471B **Dilution:** 1 **Analysis Date:** 12/01/25 10:25  
**Prep Date:** 12/01/25 09:57

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Mercury	<0.0136	mg/kg	0.0200							U

**LCS CLIENT ID: Laboratory Control Sample Lab ID: QC-2356091-002**

**Method:** EPA 7471B **Dilution:** 1 **Analysis Date:** 12/01/25 10:27  
**Prep Date:** 12/01/25 09:57

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Mercury	0.166	mg/kg	0.0200	0.1665		99.6	80-120			

**MS CLIENT ID: Batch QC Lab ID: QC-2356091-004**

**Method:** EPA 7471B **Dilution:** 1 **Analysis Date:** 12/01/25 10:30  
**Prep Date:** 12/01/25 09:57

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Mercury	0.165	mg/kg	0.0207	0.15182	0.0224	95.6	75-125			

**MSD CLIENT ID: Batch QC Lab ID: QC-2356091-005**

**Method:** EPA 7471B **Dilution:** 1 **Analysis Date:** 12/01/25 10:32  
**Prep Date:** 12/01/25 09:57

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Mercury	0.162	mg/kg	0.0204	0.15	0.0224	95.0	75-125	1.67	35	

**The following samples were analyzed in this batch:** HN2517845-001, HN2517845-003, HN2517845-005



**Client:** The Mannik & Smith Group, Inc.  
**Project:** 5558 Ivanhoe  
**Matrix:** SOIL/SOLID  
**QC Lot:** 2354241

**Work Order:** HN2517845  
**Date Collected:** NA  
**Date Received:** NA  
**Run ID:** 3733002

**Organochlorine Pesticides by GC/ECD**

**MB** CLIENT ID: Method Blank Lab ID: QC-2354241-001

**Method:** EPA 8081B **Dilution:** 1 **Analysis Date:** 11/26/25 20:16  
**Prep Date:** 11/25/25 13:18

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
4,4'-DDD	<6.39	µg/kg	10.0							U
4,4'-DDE	<6.59	µg/kg	10.0							U
4,4'-DDT	<6.65	µg/kg	10.0							U
Aldrin	<6.50	µg/kg	10.0							U
alpha-BHC	<6.58	µg/kg	10.0							U
beta-BHC	<6.57	µg/kg	10.0							U
Chlordane, Technical	<9.92	µg/kg	25.0							U
cis-Chlordane	<6.68	µg/kg	10.0							U
delta-BHC	<6.55	µg/kg	10.0							U
Dieldrin	<6.99	µg/kg	10.0							U
Endosulfan I	<6.72	µg/kg	10.0							U
Endosulfan II	<6.62	µg/kg	10.0							U
Endosulfan sulfate	<6.15	µg/kg	10.0							U
Endrin	<8.09	µg/kg	10.0							U
Endrin aldehyde	<6.34	µg/kg	10.0							U
Endrin ketone	<6.08	µg/kg	10.0							U
gamma-BHC (Lindane)	<6.56	µg/kg	10.0							U
Heptachlor	<6.45	µg/kg	10.0							U
Heptachlor epoxide	<6.62	µg/kg	10.0							U
Methoxychlor	<6.69	µg/kg	10.0							U
Toxaphene	<10.8	µg/kg	60.0							U
trans-Chlordane	<6.64	µg/kg	10.0							U
Surr: Decachlorobiphenyl	<b>36.6</b>	µg/kg		33.33		110	53-151			
Surr: Tetrachloro-m-xylene	<b>31.3</b>	µg/kg		33.33		93.9	67-127			

**LCS** CLIENT ID: Laboratory Control Sample Lab ID: QC-2354241-002

**Method:** EPA 8081B **Dilution:** 1 **Analysis Date:** 11/26/25 20:31  
**Prep Date:** 11/25/25 13:18

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
4,4'-DDD	31.4	µg/kg	10.0	33.33		94.1	55-141			
4,4'-DDE	31.5	µg/kg	10.0	33.33		94.6	55-143			
4,4'-DDT	33.0	µg/kg	10.0	33.33		99.2	50-144			
Aldrin	32.0	µg/kg	10.0	33.33		96.1	57-141			
alpha-BHC	30.7	µg/kg	10.0	33.33		92.0	58-144			
beta-BHC	31.0	µg/kg	10.0	33.33		93.2	55-147			
cis-Chlordane	31.5	µg/kg	10.0	33.33		94.6	58-142			
delta-BHC	25.9	µg/kg	10.0	33.33		77.8	59-142			
Dieldrin	31.7	µg/kg	10.0	33.33		95.2	59-142			
Endosulfan I	30.9	µg/kg	10.0	33.33		92.7	57-145			
Endosulfan II	31.3	µg/kg	10.0	33.33		94.0	58-138			
Endosulfan sulfate	29.8	µg/kg	10.0	33.33		89.3	54-136			
Endrin	30.2	µg/kg	10.0	33.33		90.6	45-150			

QA/QC Report



**Client:** The Mannik & Smith Group, Inc.  
**Project:** 5558 Ivanhoe  
**Matrix:** SOIL/SOLID  
**QC Lot:** 2354241

**Work Order:** HN2517845  
**Date Collected:** NA  
**Date Received:** NA  
**Run ID:** 3733002

**LCS** CLIENT ID: Laboratory Control Sample Lab ID: QC-2354241-002

**Method:** EPA 8081B **Dilution:** 1 **Analysis Date:** 11/26/25 20:31  
**Prep Date:** 11/25/25 13:18

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Endrin aldehyde	31.2	µg/kg	10.0	33.33		93.8	41-147			
Endrin ketone	30.0	µg/kg	10.0	33.33		90.0	54-146			
gamma-BHC (Lindane)	30.9	µg/kg	10.0	33.33		92.6	58-145			
Heptachlor	33.3	µg/kg	10.0	33.33		100	51-145			
Heptachlor epoxide	32.3	µg/kg	10.0	33.33		96.8	59-143			
Methoxychlor	36.0	µg/kg	10.0	33.33		108	43-144			
trans-Chlordane	31.6	µg/kg	10.0	33.33		94.9	56-145			
<i>Surr: Decachlorobiphenyl</i>	<b>36.7</b>	<i>µg/kg</i>		33.33		110	<i>51-151</i>			
<i>Surr: Tetrachloro-m-xylene</i>	<b>30.9</b>	<i>µg/kg</i>		33.33		92.7	<i>67-127</i>			

**MS** CLIENT ID: Batch QC Lab ID: QC-2354241-005

**Method:** EPA 8081B **Dilution:** 1 **Analysis Date:** 11/26/25 20:46  
**Prep Date:** 11/25/25 13:18

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
4,4'-DDD	74.4	µg/kg	25.8	80.507	<15.4	92.4	55-141			
4,4'-DDE	72.0	µg/kg	25.8	80.507	<15.9	88.1	55-143			
4,4'-DDT	88.1	µg/kg	25.8	80.507	<16.1	106	50-144			
Aldrin	76.9	µg/kg	25.8	80.507	<15.7	95.5	57-141			
alpha-BHC	75.0	µg/kg	25.8	80.507	<15.9	93.2	58-144			
beta-BHC	71.7	µg/kg	25.8	80.507	<15.9	89.1	55-147			
cis-Chlordane	75.2	µg/kg	25.8	80.507	<16.1	93.5	58-142			
delta-BHC	62.2	µg/kg	25.8	80.507	<15.8	77.3	59-142			
Dieldrin	75.6	µg/kg	25.8	80.507	<16.9	93.9	59-142			
Endosulfan I	70.3	µg/kg	25.8	80.507	<16.2	87.3	57-145			
Endosulfan II	74.5	µg/kg	25.8	80.507	<16.0	92.5	58-138			
Endosulfan sulfate	69.1	µg/kg	25.8	80.507	<14.9	85.8	54-135			
Endrin	73.1	µg/kg	25.8	80.507	<19.5	90.9	45-150			
Endrin aldehyde	73.8	µg/kg	25.8	80.507	<15.3	91.6	41-147			
Endrin ketone	70.2	µg/kg	25.8	80.507	<14.7	87.3	54-146			
gamma-BHC (Lindane)	75.3	µg/kg	25.8	80.507	<15.9	93.5	58-145			
Heptachlor	81.6	µg/kg	25.8	80.507	<15.6	101	51-145			
Heptachlor epoxide	77.8	µg/kg	25.8	80.507	<16.0	96.6	59-143			
Methoxychlor	101	µg/kg	25.8	80.507	<16.1	125	43-144			
trans-Chlordane	72.9	µg/kg	25.8	80.507	<16.0	90.6	56-145			
<i>Surr: Decachlorobiphenyl</i>	<b>81.6</b>	<i>µg/kg</i>		80.507		101	<i>53-151</i>			
<i>Surr: Tetrachloro-m-xylene</i>	<b>74.0</b>	<i>µg/kg</i>		80.507		91.9	<i>67-127</i>			

**MSD** CLIENT ID: Batch QC Lab ID: QC-2354241-006

**Method:** EPA 8081B **Dilution:** 1 **Analysis Date:** 11/26/25 21:01  
**Prep Date:** 11/25/25 13:18

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
4,4'-DDD	73.8	µg/kg	25.6	80.12	<15.4	92.1	55-141	0.807	20	

QA/QC Report



**Client:** The Mannik & Smith Group, Inc.  
**Project:** 5558 Ivanhoe  
**Matrix:** SOIL/SOLID  
**QC Lot:** 2354241

**Work Order:** HN2517845  
**Date Collected:** NA  
**Date Received:** NA  
**Run ID:** 3733002

**MSD** CLIENT ID: Batch QC Lab ID: QC-2354241-006

**Method:** EPA 8081B **Dilution:** 1 **Analysis Date:** 11/26/25 21:01  
**Prep Date:** 11/25/25 13:18

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
4,4'-DDE	68.8	µg/kg	25.6	80.12	<15.8	84.5	55-143	4.53	20	
4,4'-DDT	85.8	µg/kg	25.6	80.12	<16.0	104	50-144	2.61	20	
Aldrin	76.9	µg/kg	25.6	80.12	<15.6	96.0	57-141	0.0403	20	
alpha-BHC	73.9	µg/kg	25.6	80.12	<15.8	92.2	58-144	1.51	20	
beta-BHC	70.9	µg/kg	25.6	80.12	<15.8	88.5	55-147	1.16	20	
cis-Chlordane	74.1	µg/kg	25.6	80.12	<16.1	92.5	58-142	1.56	20	
delta-BHC	61.7	µg/kg	25.6	80.12	<15.7	77.1	59-142	0.741	20	
Dieldrin	75.0	µg/kg	25.6	80.12	<16.8	93.7	59-142	0.749	20	
Endosulfan I	68.1	µg/kg	25.6	80.12	<16.2	85.1	57-145	3.09	20	
Endosulfan II	73.2	µg/kg	25.6	80.12	<15.9	91.4	58-138	1.73	20	
Endosulfan sulfate	68.2	µg/kg	25.6	80.12	<14.8	85.2	54-135	1.24	20	
Endrin	71.9	µg/kg	25.6	80.12	<19.4	89.7	45-150	1.76	20	
Endrin aldehyde	74.0	µg/kg	25.6	80.12	<15.2	92.4	41-147	0.334	20	
Endrin ketone	69.9	µg/kg	25.6	80.12	<14.6	87.2	54-146	0.539	20	
gamma-BHC (Lindane)	74.7	µg/kg	25.6	80.12	<15.8	93.2	58-145	0.803	20	
Heptachlor	81.1	µg/kg	25.6	80.12	<15.5	101	51-145	0.679	20	
Heptachlor epoxide	76.5	µg/kg	25.6	80.12	<15.9	95.5	59-143	1.63	20	
Methoxychlor	102	µg/kg	25.6	80.12	<16.1	127	43-144	1.22	20	
trans-Chlordane	72.9	µg/kg	25.6	80.12	<16.0	91.0	56-145	0.0964	20	
Surr: Decachlorobiphenyl	78.2	µg/kg		80.12		97.6	53-151	4.20	30	
Surr: Tetrachloro-m-xylene	73.6	µg/kg		80.12		91.8	67-127	0.536	30	

The following samples were analyzed in this batch: HN2517845-001, HN2517845-003, HN2517845-005



**Client:** The Mannik & Smith Group, Inc.  
**Project:** 5558 Ivanhoe  
**Matrix:** SOIL/SOLID  
**QC Lot:** 2354240

**Work Order:** HN2517845  
**Date Collected:** NA  
**Date Received:** NA  
**Run ID:** 3722033

**Polychlorinated Biphenyls (PCBs) by GC/ECD**

**MB** CLIENT ID: Method Blank Lab ID: QC-2354240-001

**Method:** EPA 8082A **Dilution:** 1 **Analysis Date:** 11/26/25 10:20  
**Prep Date:** 11/25/25 10:03

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Aroclor 1016	<22.9	µg/kg	66.7							U
Aroclor 1221	<22.9	µg/kg	66.7							U
Aroclor 1232	<22.9	µg/kg	66.7							U
Aroclor 1242	<22.9	µg/kg	66.7							U
Aroclor 1248	<22.9	µg/kg	66.7							U
Aroclor 1254	<18.6	µg/kg	66.7							U
Aroclor 1260	<18.6	µg/kg	66.7							U
Aroclor 1262	<18.6	µg/kg	66.7							U
Aroclor 1268	<18.6	µg/kg	66.7							U
Total PCB	<18.6	µg/kg	66.7							U
Surr: Decachlorobiphenyl	32.5	µg/kg		33.3		97.7	54-146			
Surr: Tetrachloro-m-xylene	29.1	µg/kg		33.3		87.3	58-140			

**LCS** CLIENT ID: Laboratory Control Sample Lab ID: QC-2354240-002

**Method:** EPA 8082A **Dilution:** 1 **Analysis Date:** 11/26/25 10:32  
**Prep Date:** 11/25/25 10:03

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Aroclor 1016	764	µg/kg	66.7	833		91.7	71-135			
Aroclor 1260	738	µg/kg	66.7	833		88.6	67-135			
Surr: Decachlorobiphenyl	36.6	µg/kg		33.3		110	54-146			
Surr: Tetrachloro-m-xylene	29.2	µg/kg		33.3		87.7	58-140			

**MS** CLIENT ID: Batch QC Lab ID: QC-2354240-005

**Method:** EPA 8082A **Dilution:** 1 **Analysis Date:** 11/26/25 10:44  
**Prep Date:** 11/25/25 10:03

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Aroclor 1016	728	µg/kg	215	822.58	<22.6	88.5	71-135			
Aroclor 1260	644	µg/kg	215	822.58	<18.4	78.3	67-135			
Surr: Decachlorobiphenyl	30.3	µg/kg		32.883		92.2	54-146			
Surr: Tetrachloro-m-xylene	27.3	µg/kg		32.883		83.0	58-140			

**MSD** CLIENT ID: Batch QC Lab ID: QC-2354240-006

**Method:** EPA 8082A **Dilution:** 1 **Analysis Date:** 11/26/25 10:56  
**Prep Date:** 11/25/25 10:03

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Aroclor 1016	781	µg/kg	216	824.21	<22.9	94.7	71-135	6.98	20	
Aroclor 1260	758	µg/kg	216	824.21	<18.6	92.0	67-135	16.2	20	
Surr: Decachlorobiphenyl	37.3	µg/kg		32.949		113	54-146	20.7	30	
Surr: Tetrachloro-m-xylene	29.2	µg/kg		32.949		88.7	58-140	6.84	30	

# QA/QC Report



**Client:** The Mannik & Smith Group, Inc.  
**Project:** 5558 Ivanhoe  
**Matrix:** SOIL/SOLID  
**QC Lot:** 2354240

**Work Order:** HN2517845  
**Date Collected:** NA  
**Date Received:** NA  
**Run ID:** 3722033

**The following samples were analyzed in this batch:** HN2517845-001, HN2517845-003, HN2517845-005



**Client:** The Mannik & Smith Group, Inc.  
**Project:** 5558 Ivanhoe  
**Matrix:** SOIL/SOLID  
**QC Lot:** 2355948

**Work Order:** HN2517845  
**Date Collected:** NA  
**Date Received:** NA  
**Run ID:** 3739536

## Semivolatile Organic Compounds by GC-MS

**MB** CLIENT ID: Method Blank Lab ID: QC-2355948-001

**Method:** EPA 8270E

**Dilution:** 1

**Analysis Date:** 12/03/25 15:10

**Prep Date:** 11/26/25 08:40

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
1,1'-Biphenyl (BZ-0)	<5.41	µg/kg	33.0							U
1,2,4,5-Tetrachlorobenzene	<7.69	µg/kg	333							U
1,4-Dioxane (1,4- Diethyleneoxide)	<23.9	µg/kg	167							U
1-Methylnaphthalene	<4.80	µg/kg	6.67							U
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methylethyl)ether	<7.81	µg/kg	33.0							U
2,3,4,6-Tetrachlorophenol	<24.4	µg/kg	67.0							U
2,4,5-Trichlorophenol	<19.8	µg/kg	33.0							U
2,4,6-Trichlorophenol	<8.87	µg/kg	33.0							U
2,4-Dichlorophenol	<17.9	µg/kg	33.0							U
2,4-Dimethylphenol	<17.1	µg/kg	33.0							U
2,4-Dinitrophenol	<244	µg/kg	333							U
2,4-Dinitrotoluene (2,4-DNT)	<21.6	µg/kg	33.0							U
2,6-Dinitrotoluene (2,6-DNT)	<8.51	µg/kg	33.0							U
2-Chloronaphthalene	<4.66	µg/kg	6.67							U
2-Chlorophenol	<21.8	µg/kg	33.0							U
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	<27.8	µg/kg	33.0							U
2-Methylnaphthalene	<3.39	µg/kg	6.67							U
2-Methylphenol (o-Cresol)	<9.01	µg/kg	33.0							U
2-Nitroaniline	<18.5	µg/kg	33.0							U
2-Nitrophenol	<9.50	µg/kg	33.0							U
3&4-Methylphenol	<18.2	µg/kg	33.0							U
3,3'-Dichlorobenzidine	<15.6	µg/kg	167							U
3-Nitroaniline	<19.4	µg/kg	33.0							U
4-Bromophenyl phenyl ether (BDE-3)	<18.3	µg/kg	33.0							U
4-Chloro-3-methylphenol	<9.50	µg/kg	33.0							U
4-Chloroaniline	<16.9	µg/kg	67.0							U
4-Chlorophenyl phenylether	<9.21	µg/kg	33.0							U
4-Nitroaniline	<51.7	µg/kg	167							U
4-Nitrophenol	<78.1	µg/kg	333							U
Acenaphthene	<4.82	µg/kg	6.67							U
Acenaphthylene	<5.78	µg/kg	6.67							U
Acetophenone	<5.22	µg/kg	33.0							U
Anthracene	<4.70	µg/kg	6.67							U
Atrazine	<19.5	µg/kg	33.0							U
Benzaldehyde	<51.2	µg/kg	67.0							U
Benzo(a)anthracene	<5.76	µg/kg	6.67							U
Benzo(a)pyrene	<4.09	µg/kg	6.67							U
Benzo(b)fluoranthene	<4.97	µg/kg	6.67							U
Benzo(g,h,i)perylene	<5.11	µg/kg	6.67							U
Benzo(k)fluoranthene	<5.05	µg/kg	6.67							U
bis(2-Chloroethoxy)methane	<21.1	µg/kg	33.0							U
bis(2-Chloroethyl) ether	<9.44	µg/kg	33.0							U









**Client:** The Mannik & Smith Group, Inc.  
**Project:** 5558 Ivanhoe  
**Matrix:** SOIL/SOLID  
**QC Lot:** 2355948

**Work Order:** HN2517845  
**Date Collected:** NA  
**Date Received:** NA  
**Run ID:** 3739536

**MS** CLIENT ID: Batch QC Lab ID: QC-2355948-005

**Method:** EPA 8270E

**Dilution:** 1

**Analysis Date:** 12/03/25 15:52

**Prep Date:** 11/26/25 08:40

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
2-Chlorophenol	2610	µg/kg	101	3313	<54.2	78.7	52-102			
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	1900	µg/kg	101	3313	<69.2	57.3	42-104			
2-Methylnaphthalene	2570	µg/kg	20.3	3313	<8.43	77.7	55-102			
2-Methylphenol (o-Cresol)	2530	µg/kg	101	3313	<22.4	76.3	54-103			
2-Nitroaniline	2730	µg/kg	101	3313	<46.0	82.5	57-103			
2-Nitrophenol	2790	µg/kg	101	3313	<23.6	84.2	52-102			
3&4-Methylphenol	2430	µg/kg	101	3313	<45.2	73.4	56-103			
3,3'-Dichlorobenzidine	2410	µg/kg	508	3313	<38.7	72.7	41-91			
3-Nitroaniline	2040	µg/kg	101	3313	<48.1	61.7	35-107			
4-Bromophenyl phenyl ether (BDE-3)	2680	µg/kg	101	3313	<45.4	80.8	63-104			
4-Chloro-3-methylphenol	2790	µg/kg	101	3313	<23.6	84.3	57-103			
4-Chloroaniline	2600	µg/kg	203	3313	<42.1	78.6	32-99			
4-Chlorophenyl phenylether	2560	µg/kg	101	3313	<22.9	77.3	62-100			
4-Nitroaniline	1680	µg/kg	508	3313	<128	50.6	19-124			
4-Nitrophenol	2330	µg/kg	1020	3313	<194	70.3	44-106			
Acenaphthene	2600	µg/kg	20.3	3313	<12.0	78.4	60-101			
Acenaphthylene	2630	µg/kg	20.3	3313	<14.4	79.3	59-101			
Acetophenone	2360	µg/kg	101	3313	<13.0	71.3	54-102			
Anthracene	2620	µg/kg	20.3	3313	<11.7	79.2	63-96			
Atrazine	2730	µg/kg	101	3313	<48.5	82.4	60-110			
Benzaldehyde	1050	µg/kg	203	3313	<127	31.6	10-143			
Benzo(a)anthracene	2640	µg/kg	20.3	3313	<14.3	79.5	66-102			
Benzo(a)pyrene	2760	µg/kg	20.3	3313	<10.2	83.4	66-105			
Benzo(b)fluoranthene	2720	µg/kg	20.3	3313	<12.4	82.0	67-105			
Benzo(g,h,i)perylene	2680	µg/kg	20.3	3313	<12.7	80.9	59-110			
Benzo(k)fluoranthene	2710	µg/kg	20.3	3313	<12.6	81.9	68-106			
bis(2-Chloroethoxy)methane	2340	µg/kg	101	3313	<52.5	70.6	54-102			
bis(2-Chloroethyl) ether	2500	µg/kg	101	3313	<23.5	75.4	51-101			
Butyl benzyl phthalate	2700	µg/kg	203	3313	<104	81.4	59-107			
Caprolactam	2360	µg/kg	101	3313	<74.8	71.3	49-103			
Carbazole	2660	µg/kg	101	3313	<24.4	80.3	63-103			
Chrysene	2610	µg/kg	20.3	3313	<14.1	78.7	66-105			
Di(2-ethylhexyl) phthalate (bis(2-Ethylhexyl)phthalate, DEHP)	2930	µg/kg	101	3313	<68.5	86.5	63-101			
Dibenz(a,h) anthracene	2780	µg/kg	101	3313	<8.95	84.0	61-109			
Dibenzofuran	2570	µg/kg	101	3313	<12.2	77.6	61-101			
Diethyl phthalate	2680	µg/kg	101	3313	<28.2	80.8	63-105			
Dimethyl phthalate	2690	µg/kg	101	3313	<16.2	81.2	64-104			
Fluoranthene	2670	µg/kg	20.3	3313	<7.95	80.7	66-105			
Fluorene	2550	µg/kg	20.3	3313	<12.0	77.0	62-101			
Hexachlorobenzene	2690	µg/kg	101	3313	<24.1	81.3	61-104			
Hexachlorobutadiene	2700	µg/kg	101	3313	<19.5	81.6	52-99			
Hexachlorocyclopentadiene	1690	µg/kg	101	3313	<81.0	50.9	39-106			
Hexachloroethane	2570	µg/kg	101	3313	<34.3	77.7	59-99			
Indeno(1,2,3-cd) pyrene	2780	µg/kg	20.3	3313	<11.5	83.9	57-114			



**Client:** The Mannik & Smith Group, Inc.  
**Project:** 5558 Ivanhoe  
**Matrix:** SOIL/SOLID  
**QC Lot:** 2355948

**Work Order:** HN2517845  
**Date Collected:** NA  
**Date Received:** NA  
**Run ID:** 3739536

**MS CLIENT ID: Batch QC Lab ID: QC-2355948-005**

**Method:** EPA 8270E **Dilution:** 1 **Analysis Date:** 12/03/25 15:52  
**Prep Date:** 11/26/25 08:40

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Isophorone	2700	µg/kg	508	3313	<16.2	81.5	55-101			
Methylphenol, Total	4960	µg/kg	101	6628.4	<22.4	74.8	54-103			
Naphthalene	2630	µg/kg	20.3	3313	0.0524	78.2	54-99			
Nitrobenzene	2610	µg/kg	508	3313	<27.8	78.9	53-100			
n-Nitrosodi-n-propylamine	2460	µg/kg	101	3313	<13.7	74.1	52-104			
N-Nitrosodiphenylamine	2670	µg/kg	101	3313	<48.0	80.5	61-104			
Pentachlorophenol	2270	µg/kg	101	3313	<65.8	68.6	35-100			
Phenanthrene	2630	µg/kg	20.3	3313	<7.70	79.5	64-101			
Phenol	2540	µg/kg	101	3313	<41.6	76.7	51-107			
Pyrene	2640	µg/kg	20.3	3313	0.0121	79.4	52-114			
Pyridine	2420	µg/kg	508	3313	<163	73.2	40-84			
<i>Surr: 2,4,6-Tribromophenol</i>	<b>7000</b>	µg/kg		8283.6		84.5	48-94			
<i>Surr: 2-Fluorobiphenyl</i>	<b>6460</b>	µg/kg		8283.6		78.0	50-103			
<i>Surr: 2-Fluorophenol</i>	<b>6630</b>	µg/kg		8283.6		80.0	43-105			
<i>Surr: 4-Terphenyl-d14</i>	<b>6500</b>	µg/kg		8283.6		78.4	55-111			
<i>Surr: Nitrobenzene-d5</i>	<b>6590</b>	µg/kg		8283.6		79.6	47-100			
<i>Surr: Phenol-d6</i>	<b>6350</b>	µg/kg		8283.6		76.7	49-110			

**MSD CLIENT ID: Batch QC Lab ID: QC-2355948-006**

**Method:** EPA 8270E **Dilution:** 1 **Analysis Date:** 12/03/25 16:13  
**Prep Date:** 11/26/25 08:40

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
1,1'-Biphenyl (BZ-0)	2800	µg/kg	98.8	3252.7	<13.2	86.0	57-101	8.64	30	
1,2,4,5-Tetrachlorobenzene	2920	µg/kg	997	3252.7	<18.8	89.7	54-98	9.11	30	
1-Methylnaphthalene	2980	µg/kg	20.0	3252.7	<11.7	91.5	56-100	9.07	30	
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methylethyl)ether	2450	µg/kg	98.8	3252.7	<19.1	75.4	50-101	4.81	30	
2,3,4,6-Tetrachlorophenol	2990	µg/kg	200	3252.7	<59.6	92.0	48-103	0.687	30	
2,4,5-Trichlorophenol	2930	µg/kg	98.8	3252.7	<48.2	90.2	54-98	0.776	30	
2,4,6-Trichlorophenol	2700	µg/kg	98.8	3252.7	<21.6	83.0	56-97	4.64	30	
2,4-Dichlorophenol	2870	µg/kg	98.8	3252.7	<43.8	88.3	54-99	2.27	30	
2,4-Dimethylphenol	2550	µg/kg	98.8	3252.7	<41.8	78.3	47-102	0.492	30	
2,4-Dinitrophenol	<595	µg/kg	997	3252.7	<595	18.9	10-100	0		U
2,4-Dinitrotoluene (2,4-DNT)	2790	µg/kg	98.8	3252.7	<52.8	85.9	62-105	8.45	30	
2,6-Dinitrotoluene (2,6-DNT)	2810	µg/kg	98.8	3252.7	<20.8	86.5	62-103	5.54	30	
2-Chloronaphthalene	2730	µg/kg	20.0	3252.7	<11.4	84.0	57-101	6.09	30	
2-Chlorophenol	2670	µg/kg	98.8	3252.7	<53.2	82.1	52-102	2.46	30	
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	2060	µg/kg	98.8	3252.7	<67.9	63.3	42-104	8.04	30	
2-Methylnaphthalene	2780	µg/kg	20.0	3252.7	<8.27	85.4	55-102	7.62	30	
2-Methylphenol (o-Cresol)	2520	µg/kg	98.8	3252.7	<22.0	77.6	54-103	0.210	30	
2-Nitroaniline	2760	µg/kg	98.8	3252.7	<45.2	84.9	57-103	1.09	30	
2-Nitrophenol	3180	µg/kg	98.8	3252.7	<23.2	97.6	52-102	13.0	30	
3&4-Methylphenol	2530	µg/kg	98.8	3252.7	<44.3	77.8	56-103	3.99	30	
3,3'-Dichlorobenzidine	2210	µg/kg	499	3252.7	<38.0	67.8	41-91	8.81	30	

QA/QC Report



**Client:** The Mannik & Smith Group, Inc.  
**Project:** 5558 Ivanhoe  
**Matrix:** SOIL/SOLID  
**QC Lot:** 2355948

**Work Order:** HN2517845  
**Date Collected:** NA  
**Date Received:** NA  
**Run ID:** 3739536

**MSD** CLIENT ID: Batch QC Lab ID: QC-2355948-006

**Method:** EPA 8270E **Dilution:** 1 **Analysis Date:** 12/03/25 16:13  
**Prep Date:** 11/26/25 08:40

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
3-Nitroaniline	841	µg/kg	98.8	3252.7	<47.2	25.9	35-107	83.4	30	RS
4-Bromophenyl phenyl ether (BDE-3)	2900	µg/kg	98.8	3252.7	<44.6	89.3	63-104	8.17	30	
4-Chloro-3-methylphenol	2890	µg/kg	98.8	3252.7	<23.2	89.0	57-103	3.53	30	
4-Chloroaniline	1760	µg/kg	200	3252.7	<41.3	54.2	32-99	38.6	30	R
4-Chlorophenyl phenylether	2750	µg/kg	98.8	3252.7	<22.5	84.5	62-100	7.13	30	
4-Nitroaniline	1710	µg/kg	499	3252.7	<126	52.5	19-124	1.85	30	
4-Nitrophenol	2520	µg/kg	997	3252.7	<191	77.4	44-106	7.79	30	
Acenaphthene	2740	µg/kg	20.0	3252.7	<11.8	84.3	60-101	5.42	30	
Acenaphthylene	2830	µg/kg	20.0	3252.7	<14.1	87.1	59-101	7.61	30	
Acetophenone	2530	µg/kg	98.8	3252.7	<12.7	77.7	54-102	6.76	30	
Anthracene	2890	µg/kg	20.0	3252.7	<11.5	88.8	63-96	9.66	30	
Atrazine	2830	µg/kg	98.8	3252.7	<47.7	87.0	60-110	3.54	30	
Benzaldehyde	633	µg/kg	200	3252.7	<125	19.5	10-143	49.2	30	R
Benzo(a)anthracene	2830	µg/kg	20.0	3252.7	<14.1	86.6	66-102	6.69	30	
Benzo(a)pyrene	2980	µg/kg	20.0	3252.7	<9.98	91.5	66-105	7.38	30	
Benzo(b)fluoranthene	2970	µg/kg	20.0	3252.7	<12.1	91.2	67-105	8.85	30	
Benzo(g,h,i)perylene	2900	µg/kg	20.0	3252.7	<12.5	89.3	59-110	7.98	30	
Benzo(k)fluoranthene	2870	µg/kg	20.0	3252.7	<12.3	88.2	68-106	5.52	30	
bis(2-Chloroethoxy)methane	2450	µg/kg	98.8	3252.7	<51.5	75.4	54-102	4.81	30	
bis(2-Chloroethyl) ether	2760	µg/kg	98.8	3252.7	<23.0	84.7	51-101	9.79	30	
Butyl benzyl phthalate	2940	µg/kg	200	3252.7	<102	90.5	59-107	8.76	30	
Caprolactam	2570	µg/kg	98.8	3252.7	<73.4	78.9	49-103	8.29	30	
Carbazole	2660	µg/kg	98.8	3252.7	<24.0	81.8	63-103	0.0153	30	
Chrysene	2870	µg/kg	20.0	3252.7	<13.9	88.2	66-105	9.56	30	
Di(2-ethylhexyl) phthalate (bis(2-Ethylhexyl)phthalate, DEHP)	3160	µg/kg	98.8	3252.7	<67.3	95.2	63-101	7.55	30	
Dibenz(a,h) anthracene	3020	µg/kg	98.8	3252.7	<8.78	92.7	61-109	8.02	30	
Dibenzofuran	2780	µg/kg	98.8	3252.7	<12.0	85.3	61-101	7.69	30	
Diethyl phthalate	2850	µg/kg	98.8	3252.7	<27.7	87.6	63-105	6.24	30	
Dimethyl phthalate	2790	µg/kg	98.8	3252.7	<15.9	85.9	64-104	3.79	30	
Fluoranthene	2880	µg/kg	20.0	3252.7	<7.81	88.5	66-105	7.45	30	
Fluorene	2780	µg/kg	20.0	3252.7	<11.8	85.6	62-101	8.69	30	
Hexachlorobenzene	2890	µg/kg	98.8	3252.7	<23.7	89.0	61-104	7.22	30	
Hexachlorobutadiene	2890	µg/kg	98.8	3252.7	<19.2	89.0	52-99	6.79	30	
Hexachlorocyclopentadiene	2080	µg/kg	98.8	3252.7	<79.5	63.8	39-106	20.7	30	
Hexachloroethane	2710	µg/kg	98.8	3252.7	<33.7	83.2	59-99	4.94	30	
Indeno(1,2,3-cd) pyrene	3000	µg/kg	20.0	3252.7	<11.3	92.2	57-114	7.60	30	
Isophorone	2930	µg/kg	499	3252.7	<15.9	90.0	55-101	8.14	30	
Methylphenol, Total	5050	µg/kg	98.8	6507.8	<22.0	77.7	54-103	1.87	30	
Naphthalene	2960	µg/kg	20.0	3252.7	0.0524	89.8	54-99	11.8	30	
Nitrobenzene	2750	µg/kg	499	3252.7	<27.3	84.7	53-100	5.20	30	
n-Nitrosodi-n-propylamine	2620	µg/kg	98.8	3252.7	<13.4	80.7	52-104	6.63	30	
N-Nitrosodiphenylamine	2880	µg/kg	98.8	3252.7	<47.1	88.6	61-104	7.69	30	
Pentachlorophenol	2290	µg/kg	98.8	3252.7	<64.6	70.3	35-100	0.685	30	
Phenanthrene	2820	µg/kg	20.0	3252.7	<7.56	86.6	64-101	6.78	30	
Phenol	2540	µg/kg	98.8	3252.7	<40.8	78.0	51-107	0.0895	30	

QA/QC Report



**Client:** The Mannik & Smith Group, Inc.  
**Project:** 5558 Ivanhoe  
**Matrix:** SOIL/SOLID  
**QC Lot:** 2355948

**Work Order:** HN2517845  
**Date Collected:** NA  
**Date Received:** NA  
**Run ID:** 3739536

**MSD** CLIENT ID: Batch QC Lab ID: QC-2355948-006

**Method:** EPA 8270E **Dilution:** 1 **Analysis Date:** 12/03/25 16:13  
**Prep Date:** 11/26/25 08:40

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Pyrene	2900	µg/kg	20.0	3252.7	0.0121	88.9	52-114	9.43	30	
Pyridine	2370	µg/kg	499	3252.7	<160	72.9	40-84	2.25	30	
<i>Surr: 2,4,6-Tribromophenol</i>	<b>7060</b>	µg/kg		8133		86.7	48-94	0.734	30	
<i>Surr: 2-Fluorobiphenyl</i>	<b>6830</b>	µg/kg		8133		83.9	50-103	5.48	30	
<i>Surr: 2-Fluorophenol</i>	<b>6850</b>	µg/kg		8133		84.2	43-105	3.30	30	
<i>Surr: 4-Terphenyl-d14</i>	<b>7070</b>	µg/kg		8133		87.0	55-111	8.54	30	
<i>Surr: Nitrobenzene-d5</i>	<b>6920</b>	µg/kg		8133		85.1	47-100	4.84	30	
<i>Surr: Phenol-d6</i>	<b>6590</b>	µg/kg		8133		81.0	49-110	3.67	30	

The following samples were analyzed in this batch: HN2517845-001, HN2517845-003, HN2517845-005



**Client:** The Mannik & Smith Group, Inc.  
**Project:** 5558 Ivanhoe  
**Matrix:** SOIL/SOLID  
**QC Lot:** 2354922

**Work Order:** HN2517845  
**Date Collected:** NA  
**Date Received:** NA  
**Run ID:** 3732196

**Volatile Organic Compounds by GC-MS**

**MB** CLIENT ID: Method Blank Lab ID: QC-2354922-001

**Method:** EPA 8260D **Dilution:** 1 **Analysis Date:** 11/27/25 05:04  
**Prep Date:** 11/25/25 14:26

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
1,1,1-Trichloroethane	<13.6	µg/kg	30.0							U
1,1,2,2-Tetrachloroethane	<13.2	µg/kg	30.0							U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	<19.0	µg/kg	30.0							U
1,1,2-Trichloroethane	<12.8	µg/kg	30.0							U
1,1-Dichloroethane	<10.9	µg/kg	30.0							U
1,1-Dichloroethylene	<9.72	µg/kg	30.0							U
1,2,3-Trichlorobenzene	<36.0	µg/kg	100							U
1,2,3-Trichloropropane	<12.6	µg/kg	30.0							U
1,2,4-Trichlorobenzene	<34.0	µg/kg	100							U
1,2,4-Trimethylbenzene	<22.0	µg/kg	30.0							U
1,2-Dibromo-3-chloropropane (DBCP)	<27.6	µg/kg	100							U
1,2-Dibromoethane (EDB, Ethylene dibromide)	<17.6	µg/kg	30.0							U
1,2-Dichlorobenzene (o-Dichlorobenzene)	<11.4	µg/kg	30.0							U
1,2-Dichloroethane (Ethylene dichloride)	<26.3	µg/kg	100							U
1,2-Dichloropropane	<22.1	µg/kg	30.0							U
1,3,5-Trimethylbenzene	<21.2	µg/kg	100							U
1,3-Dichlorobenzene (m-Dichlorobenzene)	<20.7	µg/kg	30.0							U
1,3-Dichloropropene	<16.8	µg/kg	60.0							U
1,4-Dichlorobenzene (p-Dichlorobenzene)	<24.4	µg/kg	30.0							U
2-Butanone (Methyl ethyl ketone, MEK)	<71.4	µg/kg	200							U
2-Hexanone	<14.9	µg/kg	30.0							U
4-Methyl-2-pentanone (MIBK)	<28.0	µg/kg	30.0							U
Acetone	<89.0	µg/kg	100							U
Benzene	<14.5	µg/kg	30.0							U
Bromochloromethane	<15.3	µg/kg	30.0							U
Bromodichloromethane	<16.8	µg/kg	30.0							U
Bromoform	<12.6	µg/kg	30.0							U
Carbon disulfide	<15.5	µg/kg	30.0							U
Carbon tetrachloride	<11.7	µg/kg	30.0							U
Chlorobenzene	<9.96	µg/kg	30.0							U
Chlorodibromomethane	<16.8	µg/kg	30.0							U
Chloroethane (Ethyl chloride)	<84.0	µg/kg	100							U
Chloroform	<11.0	µg/kg	30.0							U
cis-1,2-Dichloroethylene	<19.3	µg/kg	30.0							U
cis-1,3-Dichloropropene	<22.6	µg/kg	30.0							U
Cyclohexane	<23.0	µg/kg	100							U
Dichlorodifluoromethane (Freon-12)	<36.3	µg/kg	100							U
Ethylbenzene	<21.3	µg/kg	30.0							U



**Client:** The Mannik & Smith Group, Inc.  
**Project:** 5558 Ivanhoe  
**Matrix:** SOIL/SOLID  
**QC Lot:** 2354922

**Work Order:** HN2517845  
**Date Collected:** NA  
**Date Received:** NA  
**Run ID:** 3732196

**MB** CLIENT ID: Method Blank Lab ID: QC-2354922-001

**Method:** EPA 8260D **Dilution:** 1 **Analysis Date:** 11/27/25 05:04  
**Prep Date:** 11/25/25 14:26

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Isopropylbenzene	<19.0	µg/kg	30.0							U
m+p-Xylene	<40.0	µg/kg	60.0							U
Methyl acetate	<35.9	µg/kg	250							U
Methyl bromide (Bromomethane)	<57.4	µg/kg	100							U
Methyl chloride (Chloromethane)	<82.0	µg/kg	100							U
Methyl tert-butyl ether (MTBE)	<21.9	µg/kg	30.0							U
Methylcyclohexane	<11.4	µg/kg	30.0							U
Methylene chloride (Dichloromethane)	<79.6	µg/kg	250							U
o-Xylene	<11.6	µg/kg	30.0							U
Styrene	<11.9	µg/kg	30.0							U
Tetrachloroethylene (Perchloroethylene)	<18.1	µg/kg	30.0							U
Toluene	<24.7	µg/kg	30.0							U
Total Xylene	<11.6	µg/kg	90.0							U
trans-1,2-Dichloroethylene	<24.8	µg/kg	30.0							U
trans-1,3-Dichloropropylene	<16.8	µg/kg	30.0							U
Trichloroethene (Trichloroethylene)	<13.4	µg/kg	30.0							U
Trichlorofluoromethane	<15.3	µg/kg	30.0							U
(Fluorotrichloromethane, Freon 11)										
Vinyl chloride (Chloroethene)	<19.9	µg/kg	30.0							U
Surr: 1,2-Dichloroethane-d4	1000	µg/kg		1000		100	80-120			
Surr: 4-Bromofluorobenzene	969	µg/kg		1000		96.9	80-120			
Surr: Dibromofluoromethane	948	µg/kg		1000		94.8	72-120			
Surr: Toluene-d8	969	µg/kg		1000		96.9	80-120			

**LCS** CLIENT ID: Laboratory Control Sample Lab ID: QC-2354922-002

**Method:** EPA 8260D **Dilution:** 1 **Analysis Date:** 11/27/25 04:32  
**Prep Date:** 11/25/25 14:26

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
1,1,1-Trichloroethane	1110	µg/kg	30.0	1000		111	75-121			
1,1,2,2-Tetrachloroethane	907	µg/kg	30.0	1000		90.7	79-125			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	969	µg/kg	30.0	1000		96.9	62-129			
1,1,2-Trichloroethane	952	µg/kg	30.0	1000		95.2	80-123			
1,1-Dichloroethane	852	µg/kg	30.0	1000		85.2	74-124			
1,1-Dichloroethylene	896	µg/kg	30.0	1000		89.6	68-131			
1,2,3-Trichlorobenzene	956	µg/kg	100	1000		95.6	60-135			
1,2,3-Trichloropropane	940	µg/kg	30.0	1000		94.0	77-121			
1,2,4-Trichlorobenzene	939	µg/kg	100	1000		93.9	63-130			
1,2,4-Trimethylbenzene	930	µg/kg	30.0	1000		93.0	64-126			
1,2-Dibromo-3-chloropropane (DBCP)	983	µg/kg	100	1000		98.3	55-135			
1,2-Dibromoethane (EDB, Ethylene dibromide)	960	µg/kg	30.0	1000		96.0	63-155			
1,2-Dichlorobenzene (o-Dichlorobenzene)	966	µg/kg	30.0	1000		96.6	77-122			



**Client:** The Mannik & Smith Group, Inc.  
**Project:** 5558 Ivanhoe  
**Matrix:** SOIL/SOLID  
**QC Lot:** 2354922

**Work Order:** HN2517845  
**Date Collected:** NA  
**Date Received:** NA  
**Run ID:** 3732196

**LCS** CLIENT ID: Laboratory Control Sample Lab ID: QC-2354922-002

**Method:** EPA 8260D **Dilution:** 1 **Analysis Date:** 11/27/25 04:32  
**Prep Date:** 11/25/25 14:26

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
1,2-Dichloroethane (Ethylene dichloride)	941	µg/kg	100	1000		94.1	70-130			
1,2-Dichloropropane	864	µg/kg	30.0	1000		86.4	71-130			
1,3,5-Trimethylbenzene	958	µg/kg	100	1000		95.8	66-130			
1,3-Dichlorobenzene (m-Dichlorobenzene)	976	µg/kg	30.0	1000		97.6	78-121			
1,3-Dichloropropene	1640	µg/kg	60.0	2000		82.1	62-124			
1,4-Dichlorobenzene (p-Dichlorobenzene)	956	µg/kg	30.0	1000		95.6	78-122			
2-Butanone (Methyl ethyl ketone, MEK)	702	µg/kg	200	1000		70.2	47-164			
2-Hexanone	852	µg/kg	30.0	1000		85.2	70-137			
4-Methyl-2-pentanone (MIBK)	1150	µg/kg	30.0	1000		115	57-200			
Acetone	1030	µg/kg	100	1000		103	52-190			
Benzene	952	µg/kg	30.0	1000		95.2	78-122			
Bromochloromethane	791	µg/kg	30.0	1000		79.1	68-130			
Bromodichloromethane	1070	µg/kg	30.0	1000		107	75-125			
Bromoform	979	µg/kg	30.0	1000		97.9	59-120			
Carbon disulfide	1100	µg/kg	30.0	1000		110	60-163			
Carbon tetrachloride	1080	µg/kg	30.0	1000		108	69-123			
Chlorobenzene	972	µg/kg	30.0	1000		97.2	79-120			
Chlorodibromomethane	972	µg/kg	30.0	1000		97.2	57-123			
Chloroethane (Ethyl chloride)	644	µg/kg	100	1000		64.4	38-132			
Chloroform	906	µg/kg	30.0	1000		90.6	72-122			
cis-1,2-Dichloroethylene	880	µg/kg	30.0	1000		88.0	74-125			
cis-1,3-Dichloropropene	856	µg/kg	30.0	1000		85.6	62-124			
Dichlorodifluoromethane (Freon-12)	507	µg/kg	100	1000		50.7	28-137			
Ethylbenzene	960	µg/kg	30.0	1000		96.0	75-121			
Isopropylbenzene	952	µg/kg	30.0	1000		95.2	74-121			
m+p-Xylene	1910	µg/kg	60.0	2000		95.7	67-129			
Methyl acetate	710	µg/kg	250	1000		71.0	61-125			
Methyl bromide (Bromomethane)	693	µg/kg	100	1000		69.3	31-169			
Methyl chloride (Chloromethane)	502	µg/kg	100	1000		50.2	24-119			
Methyl tert-butyl ether (MTBE)	872	µg/kg	30.0	1000		87.2	79-139			
Methylene chloride (Dichloromethane)	840	µg/kg	250	1000		84.0	62-135			
o-Xylene	974	µg/kg	30.0	1000		97.4	75-120			
Styrene	964	µg/kg	30.0	1000		96.4	74-126			
Tetrachloroethylene (Perchloroethylene)	1050	µg/kg	30.0	1000		105	76-128			
Toluene	953	µg/kg	30.0	1000		95.3	76-120			
Total Xylene	2890	µg/kg	90.0	3000		96.3	67-129			
trans-1,2-Dichloroethylene	876	µg/kg	30.0	1000		87.6	72-127			
trans-1,3-Dichloropropylene	786	µg/kg	30.0	1000		78.6	66-120			
Trichloroethene (Trichloroethylene)	1020	µg/kg	30.0	1000		102	75-122			
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	802	µg/kg	30.0	1000		80.2	51-115			
Vinyl chloride (Chloroethene)	641	µg/kg	30.0	1000		64.1	43-128			



**Client:** The Mannik & Smith Group, Inc.  
**Project:** 5558 Ivanhoe  
**Matrix:** SOIL/SOLID  
**QC Lot:** 2354922

**Work Order:** HN2517845  
**Date Collected:** NA  
**Date Received:** NA  
**Run ID:** 3732196

**LCS** CLIENT ID: Laboratory Control Sample Lab ID: QC-2354922-002

**Method:** EPA 8260D **Dilution:** 1 **Analysis Date:** 11/27/25 04:32  
**Prep Date:** 11/25/25 14:26

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Surr: 1,2-Dichloroethane-d4	988	µg/kg		1000		98.8	80-120			
Surr: 4-Bromofluorobenzene	992	µg/kg		1000		99.2	80-120			
Surr: Dibromofluoromethane	1060	µg/kg		1000		106	72-120			
Surr: Toluene-d8	1010	µg/kg		1000		101	80-120			

**MS** CLIENT ID: Batch QC Lab ID: QC-2354922-005

**Method:** EPA 8260D **Dilution:** 1 **Analysis Date:** 11/27/25 10:42  
**Prep Date:** 11/25/25 14:26

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
1,1,1-Trichloroethane	1200	µg/kg	42.5	1053.7	<14.3	114	75-121			
1,1,2,2-Tetrachloroethane	595	µg/kg	42.5	1053.7	<14.0	56.4	79-125			S
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	1140	µg/kg	42.5	1053.7	<20.0	108	62-129			
1,1,2-Trichloroethane	1070	µg/kg	42.5	1053.7	<13.4	102	80-123			
1,1-Dichloroethane	978	µg/kg	42.5	1053.7	<11.5	92.8	74-124			
1,1-Dichloroethylene	1040	µg/kg	42.5	1053.7	<10.2	99.0	68-131			
1,2,3-Trichlorobenzene	983	µg/kg	142	1053.7	<37.9	93.3	60-135			
1,2,3-Trichloropropane	1080	µg/kg	42.5	1053.7	<13.2	103	77-121			
1,2,4-Trichlorobenzene	962	µg/kg	142	1053.7	<35.8	91.2	63-130			
1,2,4-Trimethylbenzene	1030	µg/kg	42.5	1053.7	<23.2	97.4	64-126			
1,2-Dibromo-3-chloropropane (DBCP)	854	µg/kg	142	1053.7	<29.1	81.0	55-135			
1,2-Dibromoethane (EDB, Ethylene dibromide)	1050	µg/kg	42.5	1053.7	<18.6	99.2	63-155			
1,2-Dichlorobenzene (o-Dichlorobenzene)	1080	µg/kg	42.5	1053.7	<12.0	102	77-122			
1,2-Dichloroethane (Ethylene dichloride)	1110	µg/kg	142	1053.7	<27.7	105	70-130			
1,2-Dichloropropane	976	µg/kg	42.5	1053.7	<23.3	92.6	71-130			
1,3,5-Trimethylbenzene	1090	µg/kg	142	1053.7	<22.3	103	66-130			
1,3-Dichlorobenzene (m-Dichlorobenzene)	1040	µg/kg	42.5	1053.7	<21.8	99.2	78-121			
1,3-Dichloropropene	1570	µg/kg	84.9	2107.5	<17.7	74.6	62-124			
1,4-Dichlorobenzene (p-Dichlorobenzene)	1060	µg/kg	42.5	1053.7	<25.7	101	78-122			
2-Butanone (Methyl ethyl ketone, MEK)	769	µg/kg	283	1053.7	<75.2	73.0	47-164			
2-Hexanone	1040	µg/kg	42.5	1053.7	<15.7	98.6	70-137			
4-Methyl-2-pentanone (MIBK)	997	µg/kg	42.5	1053.7	<29.5	94.6	57-200			
Acetone	1620	µg/kg	142	1053.7	<93.8	153	52-190			
Benzene	1100	µg/kg	42.5	1053.7	<15.3	104	78-122			
Bromochloromethane	905	µg/kg	42.5	1053.7	<16.1	85.8	68-130			
Bromodichloromethane	1060	µg/kg	42.5	1053.7	<17.7	101	75-125			
Bromoform	942	µg/kg	42.5	1053.7	<13.3	89.4	59-120			
Carbon disulfide	1030	µg/kg	42.5	1053.7	<16.4	98.2	60-163			
Carbon tetrachloride	1300	µg/kg	42.5	1053.7	<12.4	123	69-123			
Chlorobenzene	1070	µg/kg	42.5	1053.7	<10.5	102	79-120			



**Client:** The Mannik & Smith Group, Inc.  
**Project:** 5558 Ivanhoe  
**Matrix:** SOIL/SOLID  
**QC Lot:** 2354922

**Work Order:** HN2517845  
**Date Collected:** NA  
**Date Received:** NA  
**Run ID:** 3732196

**MS** CLIENT ID: Batch QC Lab ID: QC-2354922-005

**Method:** EPA 8260D **Dilution:** 1 **Analysis Date:** 11/27/25 10:42  
**Prep Date:** 11/25/25 14:26

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Chlorodibromomethane	896	µg/kg	42.5	1053.7	<17.8	85.0	57-123			
Chloroethane (Ethyl chloride)	807	µg/kg	142	1053.7	<88.5	76.6	38-132			
Chloroform	991	µg/kg	42.5	1053.7	<11.6	94.0	72-122			
cis-1,2-Dichloroethylene	939	µg/kg	42.5	1053.7	<20.3	89.2	74-125			
cis-1,3-Dichloropropene	830	µg/kg	42.5	1053.7	<23.8	78.8	62-124			
Dichlorodifluoromethane (Freon-12)	796	µg/kg	142	1053.7	<38.3	75.5	28-137			
Ethylbenzene	1080	µg/kg	42.5	1053.7	<22.4	103	75-121			
Isopropylbenzene	1090	µg/kg	42.5	1053.7	<20.0	104	74-121			
m+p-Xylene	2170	µg/kg	84.9	2107.5	58.7	101	67-129			
Methyl acetate	674	µg/kg	354	1053.7	<37.9	64.0	61-125			
Methyl bromide (Bromomethane)	893	µg/kg	142	1053.7	<60.5	84.8	31-169			
Methyl chloride (Chloromethane)	815	µg/kg	142	1053.7	<86.4	77.4	24-119			
Methyl tert-butyl ether (MTBE)	932	µg/kg	42.5	1053.7	<23.1	88.4	79-139			
Methylene chloride (Dichloromethane)	985	µg/kg	354	1053.7	<83.9	93.4	62-135			
o-Xylene	1090	µg/kg	42.5	1053.7	21.2	102	75-120			
Styrene	1050	µg/kg	42.5	1053.7	<12.5	100	74-126			
Tetrachloroethylene (Perchloroethylene)	2070	µg/kg	42.5	1053.7	<19.0	197	76-128			S
Toluene	1090	µg/kg	42.5	1053.7	<26.1	103	76-120			
Total Xylene	3260	µg/kg	127	3161.2	<12.2	103	67-129			
trans-1,2-Dichloroethylene	949	µg/kg	42.5	1053.7	<26.1	90.0	72-127			
trans-1,3-Dichloropropylene	743	µg/kg	42.5	1053.7	<17.7	70.6	66-120			
Trichloroethene (Trichloroethylene)	1470	µg/kg	42.5	1053.7	<14.2	140	75-122			S
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	867	µg/kg	42.5	1053.7	<16.2	82.3	51-115			
Vinyl chloride (Chloroethene)	851	µg/kg	42.5	1053.7	<21.0	80.8	43-128			
Surr: 1,2-Dichloroethane-d4	1060	µg/kg		1053.7		100	80-120			
Surr: 4-Bromofluorobenzene	1070	µg/kg		1053.7		102	80-120			
Surr: Dibromofluoromethane	1080	µg/kg		1053.7		103	72-120			
Surr: Toluene-d8	1030	µg/kg		1053.7		98.1	80-120			

**MSD** CLIENT ID: Batch QC Lab ID: QC-2354922-006

**Method:** EPA 8260D **Dilution:** 1 **Analysis Date:** 11/27/25 10:58  
**Prep Date:** 11/25/25 14:26

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
1,1,1-Trichloroethane	1250	µg/kg	42.5	1053.7	<14.3	118	75-121	3.96	30	
1,1,2,2-Tetrachloroethane	630	µg/kg	42.5	1053.7	<14.0	59.8	79-125	5.76	30	S
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	1210	µg/kg	42.5	1053.7	<20.0	115	62-129	6.28	30	
1,1,2-Trichloroethane	1070	µg/kg	42.5	1053.7	<13.4	101	80-123	0.591	30	
1,1-Dichloroethane	1030	µg/kg	42.5	1053.7	<11.5	98.0	74-124	5.40	30	
1,1-Dichloroethylene	1120	µg/kg	42.5	1053.7	<10.2	106	68-131	6.88	30	
1,2,3-Trichlorobenzene	1120	µg/kg	142	1053.7	<37.9	106	60-135	12.7	30	
1,2,3-Trichloropropane	1090	µg/kg	42.5	1053.7	<13.2	103	77-121	0.486	30	
1,2,4-Trichlorobenzene	1050	µg/kg	142	1053.7	<35.8	99.3	63-130	8.45	30	

QA/QC Report



**Client:** The Mannik & Smith Group, Inc.  
**Project:** 5558 Ivanhoe  
**Matrix:** SOIL/SOLID  
**QC Lot:** 2354922

**Work Order:** HN2517845  
**Date Collected:** NA  
**Date Received:** NA  
**Run ID:** 3732196

<b>MSD</b>	<b>CLIENT ID: Batch QC</b>	<b>Lab ID: QC-2354922-006</b>
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**Method:** EPA 8260D      **Dilution:** 1      **Analysis Date:** 11/27/25 10:58  
**Prep Date:** 11/25/25 14:26

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
1,2,4-Trimethylbenzene	1070	µg/kg	42.5	1053.7	<23.2	102	64-126	4.07	30	
1,2-Dibromo-3-chloropropane (DBCP)	896	µg/kg	142	1053.7	<29.1	85.0	55-135	4.82	30	
1,2-Dibromoethane (EDB, Ethylene dibromide)	1030	µg/kg	42.5	1053.7	<18.6	97.8	63-155	1.42	30	
1,2-Dichlorobenzene (o-Dichlorobenzene)	1140	µg/kg	42.5	1053.7	<12.0	108	77-122	5.74	30	
1,2-Dichloroethane (Ethylene dichloride)	1090	µg/kg	142	1053.7	<27.7	103	70-130	1.58	30	
1,2-Dichloropropane	978	µg/kg	42.5	1053.7	<23.3	92.8	71-130	0.216	30	
1,3,5-Trimethylbenzene	1120	µg/kg	142	1053.7	<22.3	106	66-130	2.96	30	
1,3-Dichlorobenzene (m-Dichlorobenzene)	1080	µg/kg	42.5	1053.7	<21.8	103	78-121	3.47	30	
1,3-Dichloropropene	1690	µg/kg	84.9	2107.5	<17.7	80.4	62-124	7.35	30	
1,4-Dichlorobenzene (p-Dichlorobenzene)	1120	µg/kg	42.5	1053.7	<25.7	106	78-122	4.84	30	
2-Butanone (Methyl ethyl ketone, MEK)	801	µg/kg	283	1053.7	<75.2	76.0	47-164	4.09	30	
2-Hexanone	1100	µg/kg	42.5	1053.7	<15.7	104	70-137	5.38	30	
4-Methyl-2-pentanone (MIBK)	986	µg/kg	42.5	1053.7	<29.5	93.6	57-200	1.12	30	
Acetone	1670	µg/kg	142	1053.7	<93.8	158	52-190	3.27	30	
Benzene	1130	µg/kg	42.5	1053.7	<15.3	107	78-122	2.98	30	
Bromochloromethane	923	µg/kg	42.5	1053.7	<16.1	87.6	68-130	1.96	30	
Bromodichloromethane	1130	µg/kg	42.5	1053.7	<17.7	108	75-125	6.37	30	
Bromoform	987	µg/kg	42.5	1053.7	<13.3	93.6	59-120	4.70	30	
Carbon disulfide	1160	µg/kg	42.5	1053.7	<16.4	110	60-163	11.1	30	
Carbon tetrachloride	1370	µg/kg	42.5	1053.7	<12.4	130	69-123	5.59	30	S
Chlorobenzene	1100	µg/kg	42.5	1053.7	<10.5	105	79-120	2.81	30	
Chlorodibromomethane	925	µg/kg	42.5	1053.7	<17.8	87.8	57-123	3.18	30	
Chloroethane (Ethyl chloride)	887	µg/kg	142	1053.7	<88.5	84.2	38-132	9.52	30	
Chloroform	1050	µg/kg	42.5	1053.7	<11.6	100.0	72-122	6.08	30	
cis-1,2-Dichloroethylene	999	µg/kg	42.5	1053.7	<20.3	94.8	74-125	6.20	30	
cis-1,3-Dichloropropene	921	µg/kg	42.5	1053.7	<23.8	87.4	62-124	10.4	30	
Dichlorodifluoromethane (Freon-12)	815	µg/kg	142	1053.7	<38.3	77.4	28-137	2.42	30	
Ethylbenzene	1110	µg/kg	42.5	1053.7	<22.4	105	75-121	2.79	30	
Isopropylbenzene	1100	µg/kg	42.5	1053.7	<20.0	104	74-121	0.433	30	
m+p-Xylene	2260	µg/kg	84.9	2107.5	58.7	105	67-129	4.23	30	
Methyl acetate	753	µg/kg	354	1053.7	<37.9	71.4	61-125	11.1	30	
Methyl bromide (Bromomethane)	850	µg/kg	142	1053.7	<60.5	80.6	31-169	4.96	30	
Methyl chloride (Chloromethane)	817	µg/kg	142	1053.7	<86.4	77.5	24-119	0.194	30	
Methyl tert-butyl ether (MTBE)	962	µg/kg	42.5	1053.7	<23.1	91.3	79-139	3.23	30	
Methylene chloride (Dichloromethane)	1030	µg/kg	354	1053.7	<83.9	98.0	62-135	4.80	30	
o-Xylene	1120	µg/kg	42.5	1053.7	21.2	105	75-120	2.82	30	
Styrene	1100	µg/kg	42.5	1053.7	<12.5	104	74-126	3.77	30	
Tetrachloroethylene (Perchloroethylene)	2050	µg/kg	42.5	1053.7	<19.0	195	76-128	0.919	30	S
Toluene	1130	µg/kg	42.5	1053.7	<26.1	107	76-120	3.71	30	
Total Xylene	3380	µg/kg	127	3161.2	<12.2	107	67-129	3.76	30	

QA/QC Report



**Client:** The Mannik & Smith Group, Inc.  
**Project:** 5558 Ivanhoe  
**Matrix:** SOIL/SOLID  
**QC Lot:** 2354922

**Work Order:** HN2517845  
**Date Collected:** NA  
**Date Received:** NA  
**Run ID:** 3732196

**MSD** CLIENT ID: Batch QC Lab ID: QC-2354922-006

**Method:** EPA 8260D **Dilution:** 1 **Analysis Date:** 11/27/25 10:58  
**Prep Date:** 11/25/25 14:26

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
trans-1,2-Dichloroethylene	1030	µg/kg	42.5	1053.7	<26.1	98.0	72-127	8.46	30	
trans-1,3-Dichloropropylene	772	µg/kg	42.5	1053.7	<17.7	73.3	66-120	3.82	30	
Trichloroethene (Trichloroethylene)	1520	µg/kg	42.5	1053.7	<14.2	144	75-122	2.89	30	S
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	930	µg/kg	42.5	1053.7	<16.2	88.3	51-115	7.03	30	
Vinyl chloride (Chloroethene)	919	µg/kg	42.5	1053.7	<21.0	87.2	43-128	7.68	30	
Surr: 1,2-Dichloroethane-d4	<b>1030</b>	µg/kg		1053.7		98.0	80-120	2.12	30	
Surr: 4-Bromofluorobenzene	<b>1060</b>	µg/kg		1053.7		101	80-120	0.889	30	
Surr: Dibromofluoromethane	<b>1070</b>	µg/kg		1053.7		102	72-120	0.782	30	
Surr: Toluene-d8	<b>1030</b>	µg/kg		1053.7		97.9	80-120	0.204	30	

The following samples were analyzed in this batch: HN2517845-001, HN2517845-003, HN2517845-005