

DRAFT

FILL MATERIAL SAMPLING REPORT

**14433 TACOMA STREET
DETROIT, WAYNE COUNTY, MICHIGAN 48205**



**OCTOBER 24, 2025
REVISED DECEMBER 12, 2025**

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



FILL MATERIAL SAMPLING REPORT

**14433 TACOMA STREET
DETROIT, WAYNE COUNTY, MICHIGAN 48205**

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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 14433 Tacoma 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); semivolatile organic compounds (SVOCs); polychlorinated biphenyls (PCBs); arsenic, barium, cadmium, chromium, copper, lead, mercury, selenium, silver, and zinc (10 Michigan metals); chloride; herbicides; and pesticides. Analytical results were compared to the current generic residential cleanup criteria (GRCC) promulgated under Part 201 of the *Natural Resources and Environmental Protection Act* (NREPA), 1994 P.A. 451, as amended (Part 201).

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

- The stratigraphy encountered during soil boring advancement of 14433 SB01, 14433 SB02, and 14433 SB03 generally consisted of one-half to one foot of brown sand, underlain by five to five and a half feet of brown to gray sandy clay, underlain by brown silt to six feet below ground surface (bgs), the maximum depth explored for this investigation. Field photoionization detector (PID) readings of the recovered soil cores ranged from 0.0 to 0.4 parts per million (ppm). There were no visual (staining) and/or olfactory (e.g., petroleum-like odors) indications of contamination observed during soil sampling activities; however, concrete debris was observed in 14433 SB03.
- Concentrations of arsenic and chromium (Total) were detected in soil samples 14433 SB01 (1-2') and/or 14433 SB02 (3-4') in excess of their respective Part 201 drinking water protection criteria (DWPC), groundwater surface water interface protection criteria (GSI PC), and/or direct contact criteria (DCC).
- Concentrations of 1-methylnaphthalene, 2-methylnaphthalene, anthracene, barium, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, cadmium, chloride, chrysene, copper, fluoranthene, indeno(1,2,3-cd)pyrene, lead, mercury, methylcyclohexane, naphthalene, phenanthrene, pyrene, selenium, toluene, and zinc were detected in soil samples 14433 SB01 (1-2'), 14433 SB02 (3-4'), and/or 14433 SB03 (5-6') at concentrations above laboratory method detection limits; however, detected concentrations were below their respective Part 201 GRCC and/or Statewide Default Background Levels.
- Toxicity Characteristic Leaching Procedure (TCLP) laboratory analytical results revealed that concentrations of arsenic and chromium were not in excess of 40 C.F.R. § 261.24 Title 40 - *Protection of Environment, Chapter I - Environmental Protection Agency, Subchapter I - Solid Wastes, Part 261- Identification and Listing of Hazardous Waste, Subpart C - Characteristics of Hazardous Waste*.
- PCBs, pesticides, and herbicides were not detected above laboratory method detection reporting limits.
- Groundwater was not encountered during soil boring activities completed as part of this investigation. Groundwater is not utilized as drinking water at or near the Site, as municipal water is supplied via the COD, and the general geology of the Site and surrounding area consists of fill materials underlain by clay overlying

bedrock. Therefore, the drinking water (DW) exposure pathway can be considered not applicable. Additionally, groundwater was not encountered during this investigation to transport contaminants to either storm sewers or surface water and the clay layer also inhibits migration. Therefore, the groundwater surface water exposure pathway can be considered not applicable. Given that the site is residential, exceedances of DCC 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 14433 Tacoma 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 August 7, 2025. The findings of this report are valid as of the report date, subject to the limitations presented in *Appendix A, Limitations*.

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

2.0 PURPOSE AND SCOPE OF WORK

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

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

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

Per the COD's *Sampling and Analysis of Fill Materials Scope of Services*, dated June 17, 2025, sample analyses included volatile organic compounds (VOCs); semivolatile organic compounds (SVOCs); polychlorinated biphenyls (PCBs); arsenic, barium, cadmium, chromium, copper, lead, mercury, selenium, silver, and zinc (10 Michigan metals); chloride; herbicides; and pesticides. 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 August 7, 2025 and October 10, 2025. Daily field activity reports prepared by MSG are presented in *Appendix B, Daily Field Reports*.

3.1 Preliminary Site Work Activities

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

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

3.2 Soil Sample Collection

The sampling plan for the Site was based on the COD's *Sampling and Analysis of Fill Materials Scope of Services*, dated June 17, 2025, and modified in the field (if necessary) based on encountered conditions and professional judgment of MSG's field personnel. MSG advanced three (3) soil borings, designated 14433 SB01, 14433 SB02, and 14433 SB03, using a direct push drill rig at the locations depicted on Figure 2. Photographs collected during completion of this work are provided in *Appendix C, Investigation Photographs*.

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

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

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

3.3 Toxicity Characteristic Leaching Procedure (TCLP) Soil Sample Collection

On October 10, 2025, MSG mobilized to the Site to collect an additional soil sample based on request from the COD. Sample location and analyte(s) were based on the laboratory results of the initial soil investigation. MSG personnel advanced one soil boring in the immediate vicinity of the soil boring location that exhibited the highest laboratory result(s) in excess of Part 201 GRCC. Soils were continuously profiled from the ground surface to the termination depth of six feet bgs using a direct push drill rig. These soils were homogenized in a stainless-steel bowl (or equivalent) to produce a single, composite soil sample. The composite soil sample was placed into unpreserved laboratory-supplied sample containers, as appropriate for the associated laboratory analyses.

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

3.4 Decontamination

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

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

3.5 Analytical Methods

A total of three (3) soil samples, designated 14433 SB01 (1-2'), 14433 SB02 (3-4'), and 14433 SB03 (5-6'), and one (1) composite soil sample designated 14433 Tacoma SB01 TCLP were collected as part of this investigation. These soil samples were submitted to ALS Environmental Laboratory (ALS) in Holland, Michigan for laboratory analysis of the following parameters per the requested parameters as described in the COD's *Sampling and Analysis of Fill Materials Scope of Services*, dated June 17, 2025, and individual TCLP analysis:

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

3.6 Quality Assurance/Quality Control

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

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

4.0 SUMMARY OF RESULTS

The following subsections include a discussion of the soil samples that were collected from the Site on August 7, 2025 and on October 10, 2025.

4.1 Site Geology and Hydrogeology

The stratigraphy encountered during soil boring advancement of 14433 SB01, 14433 SB02, and 14433 SB03 generally consisted of one-half to one foot of brown sand, underlain by five to five and a half feet of brown to gray sandy clay, underlain by brown silt to six feet bgs, the maximum depth explored for this investigation. Field PID readings of the recovered soil cores ranged from 0.0 to 0.4 ppm. There were no visual (staining) and/or olfactory (e.g., petroleum-like odors) indications of contamination observed during soil sampling activities; however, concrete debris was observed in 14433 SB03.

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

4.2 Soil Sample Analytical Results

A total of three (3) soil samples, designated 14433 SB01 (1-2'), 14433 SB02 (3-4'), and 14433 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 ($\mu\text{g}/\text{kg}^1$)	Maximum Detected Concentration ($\mu\text{g}/\text{kg}$)
Arsenic	7440-38-2	14433 SB01 (1-2')	DWPC ² / 4,600 GSIPC ³ / 4,600 DCC ⁴ / 7,600	14,800
Chromium (Total)	7440-47-3	14433 SB01 (1-2') 14433 SB02 (3-4')	DWPC / 30,000 GSIPC / 3,300	60,200

¹ $\mu\text{g}/\text{kg}$ – micrograms per kilogram;

²DWPC – Drinking Water Protection Criteria

³GSIPC – Groundwater Surface Water Interface Protection Criteria

⁴DCC – Direct Contact Criteria

4.3 TCLP Analytical Results

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

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

4.4 Exposure Evaluation

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

Groundwater was not encountered during soil boring activities completed as part of this investigation. Groundwater is not utilized as drinking water at or near the Site, as municipal water is supplied via the COD, and the general geology of the Site and surrounding area consists of fill materials underlain by clay overlying bedrock. Therefore, the drinking water (DW) exposure pathway can be considered not applicable. Additionally, groundwater was not encountered during this investigation to transport contaminants to either storm sewers or surface water and the clay layer also inhibits migration. Therefore, the groundwater surface water exposure pathway can be considered not applicable. Given that the site is residential, exceedances of DCC 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 14433 SB01, 14433 SB02, and 14433 SB03 generally consisted of one-half to one foot of brown sand, underlain by five to five and a half feet of brown to gray sandy clay, underlain by brown silt to six feet bgs, the maximum depth explored for this investigation.

Field PID readings of the recovered soil cores ranged from 0.0 to 0.4 ppm. There were no visual (staining) and/or olfactory (e.g., petroleum-like odors) indications of contamination observed during soil sampling activities; however, concrete debris was observed in 14433 SB03.

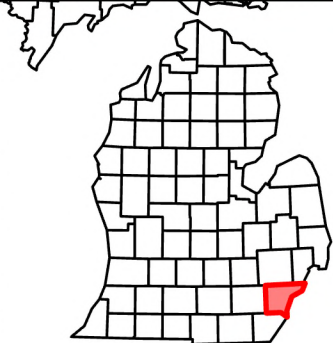
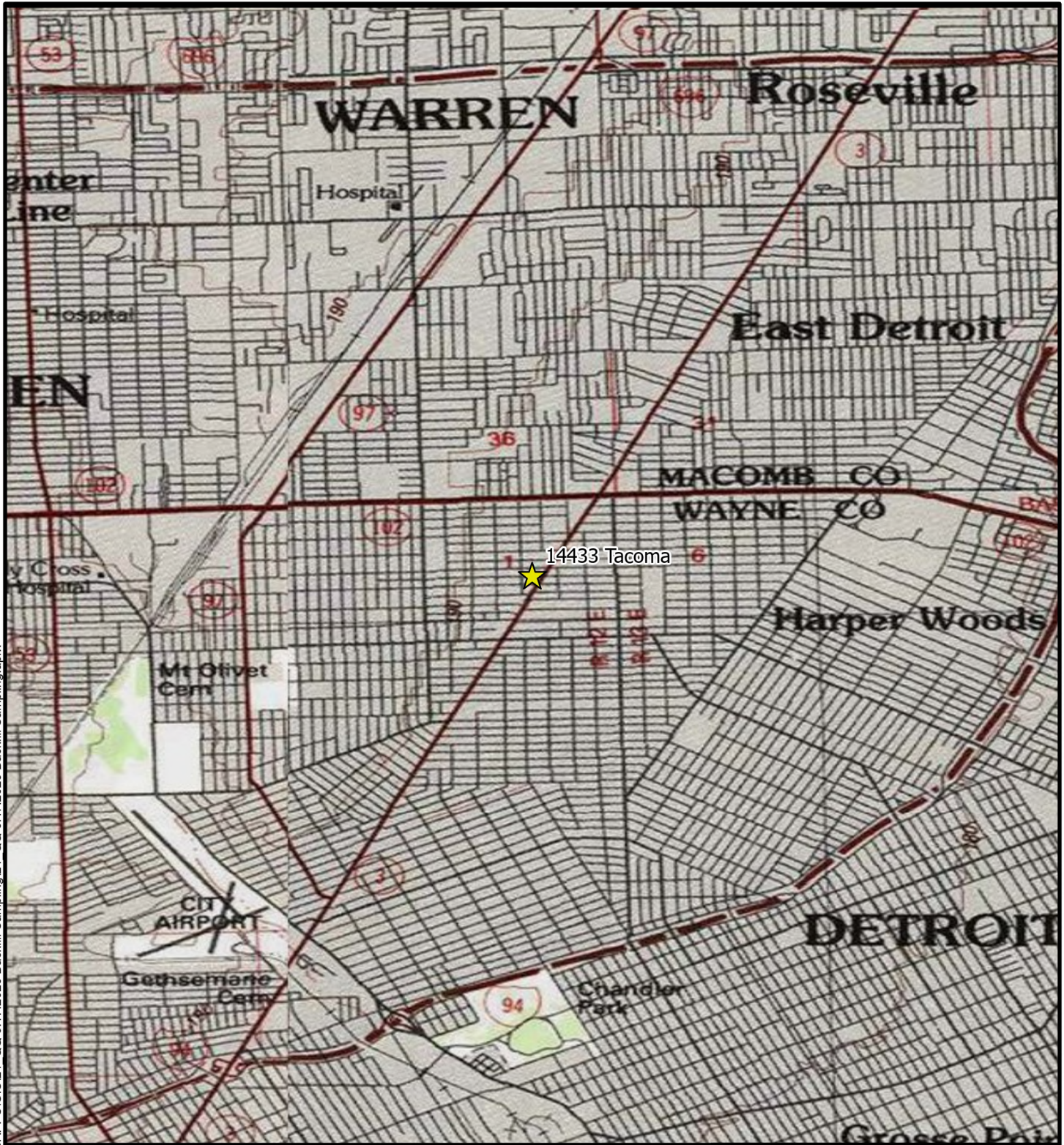
- Concentrations of arsenic and chromium (Total) were detected in soil samples 14433 SB01 (1-2') and/or 14433 SB02 (3-4') in excess of their respective Part 201 DWPC, GSIPC, and/or DCC.
- Concentrations of 1-methylnaphthalene, 2-methylnaphthalene, anthracene, barium, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, cadmium, chloride, chrysene, copper, fluoranthene, indeno(1,2,3-cd)pyrene, lead, mercury, methylcyclohexane, naphthalene, phenanthrene, pyrene, selenium, toluene, and zinc were detected in soil samples 14433 SB01 (1-2'), 14433 SB02 (3-4'), and/or 14433 SB03 (5-6') at concentrations above laboratory method detection limits; however, detected concentrations were below their respective Part 201 GRCC and/or Statewide Default Background Levels.
- TCLP laboratory analytical results revealed that concentrations of arsenic and chromium were not in excess of 40 C.F.R. § 261.24 Title 40 - Protection of Environment, Chapter I - Environmental Protection Agency, Subchapter I - Solid Wastes, Part 261- Identification and Listing of Hazardous Waste, Subpart C - Characteristics of Hazardous Waste.
- PCBs, pesticides, and herbicides were not detected above laboratory method detection reporting limits.
- Groundwater was not encountered during soil boring activities completed as part of this investigation. Groundwater is not utilized as drinking water at or near the Site, as municipal water is supplied via the COD, and the general geology of the Site and surrounding area consists of fill materials underlain by clay overlying bedrock. Therefore, the DW exposure pathway can be considered not applicable. Additionally, groundwater was not encountered during this investigation to transport contaminants to either storm sewers or surface water and the clay layer also inhibits migration. Therefore, the groundwater surface water exposure pathway can be considered not applicable. Given that the site is residential, exceedances of DCC 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.

FIGURES





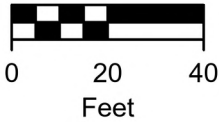
★ Site Location



FIGURE 1
SITE LOCATION

14433 Tacoma, Detroit, MI

DATE 9/23/2025	DRAWN BY JWW	DESIGNED BY JWW	PROJECT NO. DETR0060
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- Sample Locations
- Parcels (Current)
- - Subject Property

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



FIGURE 2
Site Layout

14433 Tacoma, Detroit, MI

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



Table 1
Soil Sample Analytical Detection Summary

Detroit Backfill Sampling
14433 Tacoma, Detroit, Michigan

SOIL: Part 201/213 Generic Residential Cleanup Criteria Revised October 12, 2023 Units: µg/kg			Volatile Organic Compounds (VOCs)		Semivolatile Organic Compounds (SVOCs)													
			Methylcyclohexane	Toluene	Anthracene	Benzo(a)anthracene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(g,h,i)perylene	Benzo(a)pyrene	Chrysene	Fluoranthene	Indeno(1,2,3-cd)pyrene	1-Methylnaphthalene	2-Methylnaphthalene	Naphthalene	Phenanthrene	Pyrene
CAS Number			108-87-2	108-88-3	120-12-7	56-55-3	205-99-2	207-08-9	191-24-2	50-32-8	218-01-9	206-44-0	193-39-5	NA	91-57-6	91-20-3	85-01-8	129-00-0
Statewide Default Background Levels			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Drinking Water Protection Criteria (DWPC)			NA	16,000	41,000	NLL	NLL	NLL	NLL	NLL	NLL	7.3E+05	NLL	NA	57,000	35,000	56,000	4.8E+05
Groundwater Surface Water Interface Protection Criteria (GSIPC)			NA	5,400	ID	NLL	NLL	NLL	NLL	NLL	NLL	5,500	NLL	NA	4,200	730	2,100	ID
Soil Volatilization to Indoor Air Inhalation (SVIIC)			NA	3.3E+5 (C)	1.0E+09 (D)	NLV	ID	NLV	NLV	NLV	ID	1.0E+09 (D)	NLV	NA	2.7E+06	2.5E+05	2.8E+06	1.0E+09 (D)
Soil Volatilization to Indoor Air Pathway (SVIAP)			--	3,700	1.3E+07	1.6E+05 (MM)	NA	NA	NA	NA	NA	NA	NA	NA	1,700	67 (M)	1,700	2.5E+07
Infinite Source Volatile Soil Inhalation Criteria (VSIC)			NA	2.8E+06	1.4E+09	NLV	ID	NLV	NLV	NLV	ID	7.4E+08	NLV	NA	1.5E+06	3.0E+05	1.6E+05	6.5E+08
Finite Source Volatile Soil Inhalation Criteria (5 m) (VSIC 5m)			NA	5.1E+06	1.4E+09	NLV	ID	NLV	NLV	NLV	ID	7.4E+08	NLV	NA	1.5E+06	3.0E+05	1.6E+05	6.5E+08
Finite Source Volatile Soil Inhalation Criteria (2 m) (VSIC 2m)			NA	1.2E+07	1.4E+09	NLV	ID	NLV	NLV	NLV	ID	7.4E+08	NLV	NA	1.5E+06	3.0E+05	1.6E+05	6.5E+08
Particulate Soil Inhalation Criteria (PSIC)			NA	2.7E+10	6.7E+10	ID	ID	ID	8.0E+08	1.5E+06	ID	9.3E+09	ID	NA	6.7E+08	2.0E+08	6.7E+06	6.7E+09
Direct Contact Criteria (DCC)			NA	5.0E+07 (C)	2.3E+08	20,000	20,000	2.0E+05	2.5E+06	2,000	2.0E+06	4.6E+07	20,000	NA	8.1E+06	1.6E+07	1.6E+06	2.9E+07
Soil Saturation Concentration Screening Levels (C _{sat})			NA	2.5E+05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Recommended Interim Action Screening Level (RIASL)			NA	3,700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SAMPLE ID	DEPTH	SAMPLE DATE																
14433 SB01	1-2	8/7/2025	<37.8	<37.8	<7.32	11.0	15.4	7.32	<7.32	11.0	9.51	23.4	<7.32	<7.32	<7.32	<7.32	11.7	24.9
14433 SB02	3-4	8/7/2025	60.3	48.8	18.4	100	133	46.9	68.4	93.0	90.0	184	67.7	13.8	19.2	16.9	71.5	180
14433 SB03	5-6	8/7/2025	<55.2	<55.2	<37.4	<37.4	<37.4	<37.4	<37.4	<37.4	<37.4	52.4	<37.4	<37.4	<37.4	<37.4	<37.4	48.6

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

Table 1
Soil Sample Analytical Detection Summary

Detroit Backfill Sampling
14433 Tacoma, Detroit, Michigan

SOIL: Part 201/213 Generic Residential Cleanup Criteria Revised October 12, 2023 Units: µg/kg			Michigan 10 Metals										Pesticides/Herbicides	Polychlorinated Biphenyls (PCBs)	Inorganic Anions/Ions
			Arsenic	Barium (B)	Cadmium (B)	Chromium (Total)	Copper (B)	Lead (B)	Mercury (B,Z)	Selenium (B)	Silver (B)	Zinc (B)			Chloride
CAS Number			7440-38-2	7440-39-3	7440-43-9	7440-47-3	7440-50-8	7439-92-1	7439-97-6	7782-49-2	7440-22-4	7440-66-6			16887006
Statewide Default Background Levels			5,800	75,000	1,200	18,000	32,000	21,000	130	410	1,000	47,000			NA
Drinking Water Protection Criteria (DWPC)			4,600	1.3E+06	6,000	30,000	5.8E+06	7.0E+05	1,700	4,000	4,500	2.4E+06			5.00E+06
Groundwater Surface Water Interface Protection Criteria (GSIPC)			4,600	(G)	(G,X)	3,300	(G)	(G,X)	50 (M); 1.2	400	100 (M); 27	(G)			(X)
Soil Volatilization to Indoor Air Inhalation (SVIIC)			NLV	NLV	NLV	NLV	NLV	NLV	48,000	NLV	NLV	NLV			NLV
Soil Volatilization to Indoor Air Pathway (SVIAP)			NA	NA	NA	--	NA	NA	22 (M)	NA	NA	NA			--
Infinite Source Volatile Soil Inhalation Criteria (VSIC)			NLV	NLV	NLV	NLV	NLV	NLV	52,000	NLV	NLV	NLV			NLV
Finite Source Volatile Soil Inhalation Criteria (5 m) (VSIC 5m)			NLV	NLV	NLV	NLV	NLV	NLV	52,000	NLV	NLV	NLV			NLV
Finite Source Volatile Soil Inhalation Criteria (2 m) (VSIC 2m)			NLV	NLV	NLV	NLV	NLV	NLV	52,000	NLV	NLV	NLV			NLV
Particulate Soil Inhalation Criteria (PSIC)			7.2E+05	3.3E+08	1.7E+06	2.6E+05	1.3E+08	1.0E+08	2.0E+07	1.3E+08	6.7E+06	ID			ID
Direct Contact Criteria (DCC)			7,600	3.7E+07	5.5E+05	2.5E+06	2.0E+07	4.0E+05	1.6E+05	2.6E+06	2.5E+06	1.7E+08			5.0E+5 (F)
Soil Saturation Concentration Screening Levels (C _{sat})			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			NA
Recommended Interim Action Screening Level (RIASL)			NA	NA	NA	NA	NA	NA	2.7E-02	NA	NA	NA			--
SAMPLE ID	DEPTH	SAMPLE DATE													
14433 SB01	1-2	8/7/2025	14,800	72,000	<134	60,200	29,500	14,800	36.2	388	<334	70,100	ND	ND	148,000
14433 SB02	3-4	8/7/2025	5,170	61,200	<142	24,700	28,600	14,500	26.2	<355	<355	83,700	ND	ND	260,000
14433 SB03	5-6	8/7/2025	5,360	57,200	165	10,700	10,700	26,400	28.6	<371	<371	51,400	ND	ND	113,000

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

Table 2
TCLP Analytical Detection Summary

Detroit Backfill Sampling
14433 Tacoma, Detroit, Michigan

40 C.F.R. § 261.24 Code of Federal Regulations Title 40 - Protection of Environment Chapter I - Environmental Protection Agency Subchapter I - Solid Wastes Part 261- Identification and Listing of Hazardous Waste Subpart C - Characteristics of Hazardous Waste <i>Units: mg/L</i>		TCLP Metals	
		Arsenic	Chromium
Maximum Concentration of Contaminants for the Toxicity Characteristic		5.00	5.00
SAMPLE ID	SAMPLE DATE		
14433 Tacoma SB01 TCLP	10/10/2025	<0.00190	<0.00610

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

APPENDIX A

LIMITATIONS



LIMITATIONS

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

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

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

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

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

APPENDIX B

DAILY FIELD REPORTS



**DAILY FIELD REPORT**

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

Report No.: 1
Job No.: DETR0060

Date: 08/07/2025	Day: Thursday	Temp: 70° F (AM) 80° F (PM)
MSG Personnel: SRK, BM	Cloud Cover: 0% (AM) 0% (PM)	Precip.: N/A (AM) N/A (PM)
Personnel: MSG		
MSG Hours On-Site: ~ 1 hours		
Contractors Information		
Contractor: MSG	No. Men and Type: 3; Operator/Helper/Geologist	Equipment Type: Geoprobe 7822DT
Summary of Work Performed:		
- Advanced three (3) onsite soil borings to a maximum depth of 6 feet below ground surface (bgs) - Collected soil samples from each soil boring (from the interval with the greatest potential to be impacted based on field indicators).		
Field Notes:		
0840 – SRK and BM onsite (14433 Tacoma Street) 0845 – Site safety meeting 0850 – Unloaded and prepared equipment 0855 – Marked out boring locations 0918 – Began drilling SB01 0920 – First boring mostly clay, SRK and BM unsure if first boring is fill as it appears native 0925 – SRK and BM scout area to determine site location, believe site is further east than marked 0950 – RM (MSG PM) informed field crew ER will re-GPR locations 0952 – MSG off site 1135 – SRK and BM onsite 1142 – Began drilling SB01 1144 – Finished drilling SB01 1146 – Began drilling SB02 1149 – Finished drilling SB02 1152 – Began drilling SB03 1155 – Finished drilling SB03 1156 – Sampled 14433 SB01 (1-2') 1205 – Sampled 14433 SB02 (3-4') 1220 – Sampled 14433 SB03 (5-6') 1222 – MSG off site		

Supporting Documentation

Photograph Taken	Yes ☒ No ☐	Samples Collected	Yes ☒ No ☐	Boring/MW Logs	Yes ☒ No ☐
Photo Log Attached	Yes ☒ No ☐	COC Attached	Yes ☒ No ☐	Field Note Book Taken	Yes ☒ No ☐

Problem Identification and Corrective Measures		
N/A		
Resolved?	Yes ☐	No ☐

**DAILY FIELD REPORT**

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

Report No.: 1
Job No.: DETR0060

Date: 10/10/2025	Day: Friday	Temp: 50 ° F	(AM)	N/A	(PM)
MSG Personnel: SRK, JF		Cloud Cover: 0%	(AM)	N/A	(PM)
		Precip.: N/A	(AM)	N/A	(PM)
Personnel: MSG					
MSG Hours On-Site: ~ 0.5 hours					
Contractors Information					
Contractor: MSG		No. Men and Type: 2; Operator/Geologist		Equipment Type: Geoprobe 7822DT	
Summary of Work Performed:					
- Advanced one (1) onsite soil borings to a maximum depth of 6 feet below ground surface (bgs) - Collected TCLP of fill material from soil boring (composite sample of from zero to 6 feet bgs).					
Field Notes:					
0957 – MSG (SRK, JF) onsite (14433 Tacoma) 1000 – Attempted to locate previous boring locations. Marked out new boring location. 1010 – Began drilling SB01 TCLP 1012 – Finished drilling SB01 TCLP 1020 – Sampled 14433 Tacoma SB01 TCLP 1030 – Collected GPS points 1032 – Packed up equipment 1035 – MSG off site					

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

APPENDIX C

INVESTIGATION PHOTOGRAPHS





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



Photo 2: Viewing 14433 SB01 Drilling, Facing West.



Photo 3: Viewing 14433 SB01 Soils, Facing North.

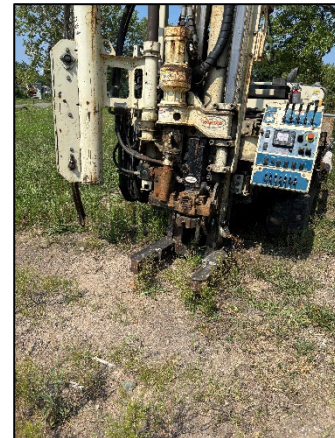


Photo 4: Viewing 14433 SB02 Drilling, Facing West.



Photo 5: Viewing 14433 SB02 Soils, Facing North.



Photo 6: Viewing 14433 SB03 Drilling, Facing West.



Photo 7: Viewing 14433 SB03 Soils, Facing North.



Photo 8: Viewing Site Post-Drilling at the time of initial soil boring activities. Facing North.



Photo 9: View of Site at the time of TCLP soil boring activities



Photo 10: View of soil recovery at the time of TCLP sampling



Photo 11: View of TCLP soil boring location

APPENDIX D

SOIL BORING LOGS





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

BORING ID: SB01

PAGE 1 OF 1

CLIENT <u>City of Detroit</u>	PROJECT NAME <u>14433 Tacoma</u>
PROJECT NUMBER <u>DETR0060</u>	PROJECT LOCATION <u>14433 Tacoma St, Detroit, Michigan</u>
DATE STARTED <u>8/7/25</u> COMPLETED <u>8/7/25</u>	BORING DIAMETER: <u>3.25 inches</u>
DRILLING CONTRACTOR <u>MSG</u>	SURVEY COORDINATES: <u>N/A</u>
DRILLING METHOD <u>Direct Push</u>	GROUND SURFACE ELEV.: <u>N/A</u>
LOGGED BY <u>SRK</u> CHECKED BY <u>PDH</u>	GROUND WATER ENCOUNTERED DURING DRILLING: <u>Not Encountered</u>
NOTES	WATER LEVEL AFTER DRILLING: <u>N/A</u>

ENV BORING LOG (PID) - GINT STD US LAB.GDT - 8/25/25 15:19 - W:\PROJECTS\PROJECTS A-EDETR0060\ADMIN\23_QQ 7.25.2025 BACKFILL SAMPLING (48 SITES)\14433 TACOMA\BORING LOGS\DETR0060_14433.GPJ

DEPTH (FEET)	SAMPLE TYPE NUMBER	RECOVERY (FEET)	GRAPHIC LOG	DEPTH (FEET)	MATERIAL DESCRIPTION	PID (ppm)	LABORATORY SAMPLE	REMARKS
0								
				1.0	Brown SAND, some gravel, dry	0.0		Collected soil sample 14433 SB01 (1-2) at 11:56
					Brown and Gray Sandy CLAY, some gravel	0.0		
						0.0		
						0.0		
						0.4		
5					Becomes Gray at 5 feet bgs Becomes moist at 5 feet bgs	0.0		
				6.0	Bottom of borehole at 6.0 feet.			

DEPTH (FEET)	SAMPLE TYPE NUMBER	RECOVERY (FEET)	GRAPHIC LOG	DEPTH (FEET)	MATERIAL DESCRIPTION	PID (ppm)	LABORATORY SAMPLE	REMARKS
0								
					Brown SAND, some gravel, dry			
				1.0		0.0		
					Brown and Gray Sandy CLAY, some gravel, dry	0.0		
						0.0		
	MC 1	4.0				0.0	X	Collected soil sample 14433 SB02 (3-4) at 12:05
						0.0		
5					Becomes moist at 5 feet bgs	0.0		
				5.5	Becomes Dark Gray at 5.25 feet bgs			
				6.0	Brown and Tan SILT, trace gravel, moist	0.0		
					Bottom of borehole at 6.0 feet.			



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

BORING ID: SB03

PAGE 1 OF 1

CLIENT	City of Detroit	PROJECT NAME	14433 Tacoma
PROJECT NUMBER	DETR0060	PROJECT LOCATION	14433 Tacoma St, Detroit, Michigan
DATE STARTED	8/7/25	COMPLETED	8/7/25
DRILLING CONTRACTOR	MSG	BORING DIAMETER:	3.25 inches
DRILLING METHOD	Direct Push	SURVEY COORDINATES:	N/A
LOGGED BY	SRK	CHECKED BY	PDH
NOTES	GROUND WATER ENCOUNTERED DURING DRILLING: Not Encountered		
		WATER LEVEL AFTER DRILLING: N/A	

ENV BORING LOG (PID) - GINT STD US LAB.GDT - 8/25/25 15:19 - W:\PROJECTS\PROJECTS A-EDETR0060\ADMIN\23_QQ 7.25.2025 BACKFILL SAMPLING (48 SITES)\14433 TACOMA\BORING LOGS\DETR0060_14433.GPJ

DEPTH (FEET)	SAMPLE TYPE NUMBER	RECOVERY (FEET)	GRAPHIC LOG	DEPTH (FEET)	MATERIAL DESCRIPTION	PID (ppm)	LABORATORY SAMPLE	REMARKS
0								
				0.5	Brown SAND, some gravel, dry			
					Brown Sandy CLAY, some gravel, dry	0.0		
						0.0		
						0.0		
				3.5		0.0		
				3.8	Concrete Debris (Fill)	0.0		
					Brown Sandy CLAY, some gravel, dry	0.0		
5						0.0		
				5.5		0.0		
				5.8	Concrete Debris (Fill)	0.0		
				6.0	Brown SILT, little gravel, dry	0.0		
					Bottom of borehole at 6.0 feet.			

Collected soil sample 14433 SB03 (5-6) at 12:20

APPENDIX E
LABORATORY ANALYTICAL REPORTS AND CHAIN OF CUSTODY FORMS





right solutions.
right partner.

CERTIFICATE OF ANALYSIS

Work Order

HN2511191

Client

The Mannik & Smith Group, Inc.

Project

14433_Tacoma

Project Date

August 09, 2025

Reporting Contact

Ryan Montri



right solutions.
right partner.

August 25, 2025

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

Work Order: **HN2511191**

Re: **14433_Tacoma**

Dear Ryan,

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

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

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

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

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

Bill Carey

/S/ **BILL CAREY**

Project Manager



Client: The Mannik & Smith Group, Inc.
Project: 14433_Tacoma

Work Order: HN2511191
Date Received: 09-Aug-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 09-Aug-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.

Inorganics

EPA 9056A-S (High)

Run ID: 3403361

The MSD recovery was below the lower control limit. The corresponding result in the parent sample may be biased low for the following analyte(s): Chloride, Bromide
Matrix spike value was outside upper limit of calibration. Processed at equivalent dilution level as the parent - Chloride.

Organics

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

Run ID: 3402692

The MSD recovery was above the upper control limit. The corresponding result in the parent sample was non-detect, therefore no qualification is necessary. trichloroethene, tetrachloroethene
The MS recovery was above the upper control limit. The corresponding result in the parent sample was non-detect, therefore no qualification is necessary: trichloroethene, tetrachloroethene
The MS recovery was below the lower control limit. The corresponding result in the parent sample may be biased low for this analyte: 1,1,2,2-tetrachloroethane
The following analytes failed calibration refit conditions. All samples in this batch were non-detect. No qualification is necessary for these analytes: chloroethane
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: methyl acetate, trichlorofluoromethane
The MSD recovery was below the lower control limit. The corresponding result in the parent sample may be biased low for the following analyte(s): 1,1,2,2-tetrachloroethane

Run ID: 3402980

The LCS recovery was below the lower control limit. Instrument sensitivity was verified as sufficient through the analysis of a low-level standard. The following non-detects are reported without qualification: methyl acetate
The MSD recovery was above the upper control limit. The corresponding result in the parent sample was non-detect, therefore no qualification is necessary. tetrachloroethene
The MS recovery was above the upper control limit. The corresponding result in the parent sample was non-detect, therefore no qualification is necessary: tetrachloroethene
The RPD between the MS and MSD was outside of the control limit. The corresponding result should be considered estimated for this compound: pentane

EPA 8270E-FULL HN-3546-S



Client: The Mannik & Smith Group, Inc.
Project: 14433_Tacoma

Work Order: HN2511191
Date Received: 09-Aug-2025

CASE NARRATIVE

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

Run ID: 3405824

The Continuing Calibration Verification did not meet acceptance criteria with high bias, however, the sample results were non-detect for the following analytes: 1,3-Dinitrobenzene; 1,4-Dinitrobenzene; 2,4-Dinitrophenol; 2-Nitroaniline; 2-Nitrophenol; 4,6-Dinitro-2-methylphenol; Di-n-octyl phthalate; N-Nitrosodimethylamine. The LCS recovery was above the upper control limit. All the sample results in the batch were non-detect. No qualification is necessary for this analyte: 2-Nitroaniline.

HN2511191-001: 2-Fluorobiphenyl - One or more of the surrogates were below the limits due to matrix interference.

HN2511191-001: 4-Terphenyl-d14 - One or more of the surrogates were below the limits due to matrix interference.

HN2511191-001: 2,4,6-Tribromophenol - One or more of the surrogates were below the limits due to matrix interference.

HN2511191-001: Phenol-d6 - One or more of the surrogates were below the limits due to matrix interference.

EPA 8082A-3546-S (High)

Run ID: 3417671

HN2511191-001: The Continuing Calibration Verification did not meet method acceptance criteria for the following analytes, results are to be considered estimated: TCMX

HN2511191-001: The Continuing Calibration Verification did not meet acceptance criteria with high bias, however, the sample results were non-detect for the following analytes: Aroclor 1016

HN2511191-002: The Continuing Calibration Verification did not meet method acceptance criteria for the following analytes, results are to be considered estimated: TCMX

HN2511191-002: The Continuing Calibration Verification did not meet acceptance criteria with high bias, however, the sample results were non-detect for the following analytes: Aroclor 1016

HN2511191-003: The Continuing Calibration Verification did not meet method acceptance criteria for the following analytes, results are to be considered estimated: TCMX

HN2511191-003: The Continuing Calibration Verification did not meet acceptance criteria with high bias, however, the sample results were non-detect for the following analytes: Aroclor 1016

EPA 8081B-3546-S (High)

Run ID: 3413988

HN2511191-001: The Continuing Calibration Verification did not meet acceptance criteria with low bias. Instrument sensitivity was verified as sufficient through the analysis of a low-level standard. The following surrogates are reported without qualification: DCB

HN2511191-002: 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 surrogates are reported without qualification: DCB

HN2511191-003: The Continuing Calibration Verification did not meet acceptance criteria with low bias. Instrument sensitivity was verified as sufficient through the analysis of a low-level standard. The following surrogates are reported without qualification: DCB

Metals

EPA 7471B-S (Mid)

Run ID: 3402960

The RPD between the MS and MSD was outside of the control limit. The corresponding result should be considered estimated for this compound: Hg Batch 2159501

The MSD recovery was above the upper control limit. The corresponding result in the parent sample may be biased high for this analyte: Hg Batch 2159501

EPA 6020B-3050B-S**Run ID: 3400811**

The MSD recovery was outside of the control limit; however, the result in the parent sample is greater than 4x the spike amount. No qualification is required for this analyte: Ba Pb batch 2159430

The MS recovery was outside of the control limit; however, the result in the parent sample is greater than 4x the spike amount. No qualification is required for this analyte: Ba Pb batch 2159430

Run ID: 3405204

The MSD recovery was outside of the control limit; however, the result in the parent sample is greater than 4x the spike amount. No qualification is required for this analyte: Cr, Zn Batch 2159430

The MS recovery was outside of the control limit; however, the result in the parent sample is greater than 4x the spike amount. No qualification is required for this analyte: Cr, Zn Batch 2159430

The MS recovery was below the lower control limit. The corresponding result in the parent sample may be biased low for this analyte: Cu Batch 2159430

The MS recovery was outside of the control limit. However, the MSD recovery and the RPD between the MS and MSD was in control. No qualification is required for this analyte: As Batch 2159430

The MSD recovery was above the upper control limit. The corresponding result in the parent sample may be biased high for this analyte: Cu Batch 2159430

The RPD between the MS and MSD was outside of the control limit. The corresponding result should be considered estimated for this compound: Cu Batch 2159430

SAMPLE DETECTION SUMMARY

This form includes only detections above the limits as presented.

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



CLIENT ID: 14433 SB01 (1-2)	Lab ID: HN2511191-001
-----------------------------	-----------------------

Analyte	Results	Flag	MRL	Units	Method
Arsenic	14.8		0.334	mg/kg	EPA 6020B
Barium	72.0		0.334	mg/kg	EPA 6020B
Benzo(a)anthracene	11.0		7.32	µg/kg	EPA 8270E
Benzo(a)pyrene	11.0		7.32	µg/kg	EPA 8270E
Benzo(b)fluoranthene	15.4		7.32	µg/kg	EPA 8270E
Benzo(k)fluoranthene	7.32		7.32	µg/kg	EPA 8270E
Chloride	148		11.7	mg/kg	EPA 9056A
Chromium	60.2		0.334	mg/kg	EPA 6020B
Chrysene	9.51		7.32	µg/kg	EPA 8270E
Copper	29.5		3.34	mg/kg	EPA 6020B
Fluoranthene	23.4		7.32	µg/kg	EPA 8270E
Lead	14.8		0.334	mg/kg	EPA 6020B
Mercury	0.0362		0.0200	mg/kg	EPA 7471B
Percent Moisture	13.8		0.1	%	EPA 3550C
Phenanthrene	11.7		7.32	µg/kg	EPA 8270E
Pyrene	24.9		7.32	µg/kg	EPA 8270E
Selenium	0.388		0.334	mg/kg	EPA 6020B
Zinc	70.1		6.68	mg/kg	EPA 6020B

CLIENT ID: 14433 SB02 (3-4)	Lab ID: HN2511191-002
-----------------------------	-----------------------

Analyte	Results	Flag	MRL	Units	Method
1-Methylnaphthalene	13.8		7.69	µg/kg	EPA 8270E
2-Methylnaphthalene	19.2		7.69	µg/kg	EPA 8270E
Anthracene	18.4		7.69	µg/kg	EPA 8270E
Arsenic	5.17		0.355	mg/kg	EPA 6020B
Barium	61.2		0.355	mg/kg	EPA 6020B
Benzo(a)anthracene	100		7.69	µg/kg	EPA 8270E
Benzo(a)pyrene	93.0		7.69	µg/kg	EPA 8270E
Benzo(b)fluoranthene	133		7.69	µg/kg	EPA 8270E
Benzo(g,h,i)perylene	68.4		7.69	µg/kg	EPA 8270E
Benzo(k)fluoranthene	46.9		7.69	µg/kg	EPA 8270E
Chloride	260		46.5	mg/kg	EPA 9056A
Chromium	24.7		0.355	mg/kg	EPA 6020B
Chrysene	90.0		7.69	µg/kg	EPA 8270E
Copper	28.6		3.55	mg/kg	EPA 6020B
Fluoranthene	184		7.69	µg/kg	EPA 8270E
Indeno(1,2,3-cd) pyrene	67.7		7.69	µg/kg	EPA 8270E
Lead	14.5		0.355	mg/kg	EPA 6020B
Mercury	0.0262		0.0224	mg/kg	EPA 7471B
Methylcyclohexane	60.3		40.7	µg/kg	EPA 8260D
Naphthalene	16.9		7.69	µg/kg	EPA 8270E

SAMPLE DETECTION SUMMARY

This form includes only detections above the limits as presented.

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



CLIENT ID: 14433 SB02 (3-4)	Lab ID: HN2511191-002
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Analyte	Results	Flag	MRL	Units	Method
Percent Moisture	14.5		0.1	%	EPA 3550C
Phenanthrene	71.5		7.69	µg/kg	EPA 8270E
Pyrene	180		7.69	µg/kg	EPA 8270E
Toluene	48.8		40.7	µg/kg	EPA 8260D
Zinc	83.7		7.10	mg/kg	EPA 6020B

CLIENT ID: 14433 SB03 (5-6)	Lab ID: HN2511191-003
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Analyte	Results	Flag	MRL	Units	Method
Arsenic	5.36		0.371	mg/kg	EPA 6020B
Barium	57.2		0.371	mg/kg	EPA 6020B
Cadmium	0.165		0.148	mg/kg	EPA 6020B
Chloride	113		14.0	mg/kg	EPA 9056A
Chromium	10.7		0.371	mg/kg	EPA 6020B
Copper	10.7		0.371	mg/kg	EPA 6020B
Fluoranthene	52.4		37.4	µg/kg	EPA 8270E
Lead	26.4		0.371	mg/kg	EPA 6020B
Mercury	0.0286		0.0237	mg/kg	EPA 7471B
Percent Moisture	28.3		0.1	%	EPA 3550C
Pyrene	48.6		37.4	µg/kg	EPA 8270E
Zinc	51.4		7.43	mg/kg	EPA 6020B

SAMPLE SUMMARY



Client: The Mannik & Smith Group, Inc.
Project: 14433_Tacoma
Workorder: HN2511191

Laboratory Sample ID	Client Sample ID	Sample Matrix	Collection Date	Date Received
HN2511191-001	14433 SB01 (1-2)	SOIL/SOLID	08/07/25 11:56	08/09/25 08:00
HN2511191-002	14433 SB02 (3-4)	SOIL/SOLID	08/07/25 12:05	08/09/25 08:00
HN2511191-003	14433 SB03 (5-6)	SOIL/SOLID	08/07/25 12:20	08/09/25 08:00



ALS Environmental

Laboratory location:

Chain of Custody Form

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Customer Information			Project Information				Parameter/Method Request for Analysis														
Purchase Order		Project Name	14433_Tacoma				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@mannaiksmithgroup.com		e-Mail Address					J													
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold				
1	14433 SB01 (1-2)	8/7/25	1156	Soil	7	3	X	X	X	X	X	X	X								
2	14433 SB02 (3-4)		1205	Soil	7	3	X	X	X	X	X	X	X								
3	14433 SB03 (5-6)		1220	Soil	7	3	X	X	X	X	X	X	X								
4																					
5																					
6																					
7																					
8																					
9																					
10																					

Sampler(s): Please Print & Sign Shannon Kuczmarski Adam Lowe			Shipment Method:		Required Turnaround Time: ☐ STD 10 Wk Days ☒ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour				Results Due Date:				
Relinquished by: Shannon Kuczmarski		Date: 8/8/25	Time: 0800	Received by: [Signature]		Notes: Quote# HN-061825-M&S-MA							
Relinquished by: [Signature]		Date: 8/8/25	Time: 1200	Received by (Laboratory): [Signature] 8/8/25 1700		Cooler Temp. 4.7°C TR6		QC Package: (Check Box Below)					
Logged by (Laboratory): BC		Date: 8/11/25	Time: 15:13	Checked by (Laboratory):				Level II: Standard QC		TRRP-Checklist			
								Level III: Std QC + Raw Data		TRRP Level IV			
								Level IV: SW846 CLP-Like					
Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035								Other: _____					

Environmental Division
Holland
Work Order Reference
HN2511191

Telephone : + 1 616 399 6070

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

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

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ALS Holland Sample Receiving Checklist

Received by: BC

Date/Time: 8/11/25 08:50

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): 4.7°C

Thermometer(s): IR6

Sample(s) received on ice? Yes / No

Matrix/Matrices: Soil

Cooler(s)/Kit(s): _____

Date/Time sample(s) sent to storage: 8/11/25 09:30

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

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

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

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

pH adjusted by: _____

Login Notes:

REPORT QUALIFIERS AND DEFINITIONS

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

Holland Laboratory Certifications¹

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

¹ - Scope available upon request

ANALYST SUMMARY



Client: The Mannik & Smith Group, Inc.
Project: 14433_Tacoma

Work Order: HN2511191

Sample Name: 14433 SB01 (1-2)
Laboratory Code: HN2511191-001
Sample Matrix: SOIL/SOLID

Date Collected: 08/07/25
Date Received: 08/09/25

Analysis Method	Container ID	Preparation	Prepared By	Analysis Lot	Analyzed By
EPA 3550C	001-AC	2157868		3396624	Nicole Maleski
EPA 6020B	001-AC	2159430	Denise Coffey	3400811	Denise Coffey
EPA 6020B	001-AC	2159430	Denise Coffey	3405204	Hunter Johnson
EPA 7471B	001-AC	2159499	Maxx Richey	3402960	Maxx Richey
EPA 8081B	001-AC	2166096	Sam Bruzan	3413988	Madison VandenBer
EPA 8082A	001-AC	2166119	Sam Bruzan	3417671	Nathaniel Dietlin
EPA 8151A	001-AC	2171332	Sam Bruzan	3431099	Sam Bruzan
EPA 8260D	001-AA	2153857	Jonathan Vazquez	3402980	John Garvale
EPA 8260D	001-AA	2153857	Jonathan Vazquez	3409777	Sean Bradfield
EPA 8270E	001-AC	2162090	Sam Bruzan	3405824	Erin Wall
EPA 9056A	001-AC	2157199	Quoc Nguyen	3395836	Quoc Nguyen

Sample Name: 14433 SB02 (3-4)
Laboratory Code: HN2511191-002
Sample Matrix: SOIL/SOLID

Date Collected: 08/07/25
Date Received: 08/09/25

Analysis Method	Container ID	Preparation	Prepared By	Analysis Lot	Analyzed By
EPA 3550C	002-AC	2157868		3396624	Nicole Maleski
EPA 6020B	002-AC	2159430	Denise Coffey	3400811	Denise Coffey
EPA 6020B	002-AC	2159430	Denise Coffey	3405204	Hunter Johnson
EPA 7471B	002-AC	2159499	Maxx Richey	3402960	Maxx Richey
EPA 8081B	002-AC	2166096	Sam Bruzan	3413988	Madison VandenBer
EPA 8082A	002-AC	2166119	Sam Bruzan	3417671	Nathaniel Dietlin
EPA 8151A	002-AC	2171332	Sam Bruzan	3431099	Sam Bruzan
EPA 8260D	002-AA	2153916	Jonathan Vazquez	3402692	Bailey Gilmore
EPA 8270E	002-AC	2162090	Sam Bruzan	3405824	Erin Wall
EPA 9056A	002-AC	2157199	Quoc Nguyen	3403361	Quoc Nguyen

ANALYST SUMMARY



Client: The Mannik & Smith Group, Inc.
Project: 14433_Tacoma

Work Order: HN2511191

Sample Name: 14433 SB03 (5-6)
Laboratory Code: HN2511191-003
Sample Matrix: SOIL/SOLID

Date Collected: 08/07/25
Date Received: 08/09/25

Analysis Method	Container ID	Preparation	Prepared By	Analysis Lot	Analyzed By
EPA 3550C	003-AC	2157868		3396624	Nicole Maleski
EPA 6020B	003-AC	2159430	Denise Coffey	3400811	Denise Coffey
EPA 6020B	003-AC	2159430	Denise Coffey	3405204	Hunter Johnson
EPA 7471B	003-AC	2159499	Maxx Richey	3402960	Maxx Richey
EPA 8081B	003-AC	2166096	Sam Bruzan	3413988	Madison VandenBer
EPA 8082A	003-AC	2166119	Sam Bruzan	3417671	Nathaniel Dietlin
EPA 8151A	003-AC	2171332	Sam Bruzan	3431099	Sam Bruzan
EPA 8260D	003-AA	2153916	Jonathan Vazquez	3402980	Nathan Jenkins
EPA 8270E	003-AC	2162090	Sam Bruzan	3405824	Erin Wall
EPA 9056A	003-AC	2157199	Quoc Nguyen	3395836	Quoc Nguyen

Analytical Report



Client: The Mannik & Smith Group, Inc.
Project: 14433_Tacoma
Matrix: SOIL/SOLID

Work Order: HN2511191
Date Collected: 08/07/25 11:56
Date Received: 08/09/25 08:00

CLIENT ID: 14433 SB01 (1-2) **Lab ID: HN2511191-001**

Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
General Chemistry Parameters								
Percent Moisture	EPA 3550C	13.8		%	0.1	1	08/13/25 15:37	NA
Chloride	EPA 9056A	148		mg/kg	11.7	1	08/13/25 16:15	08/13/25 11:05
Metals								
Arsenic	EPA 6020B	14.8		mg/kg	0.334	1	08/15/25 05:06	08/14/25 08:11
Barium	EPA 6020B	72.0		mg/kg	0.334	1	08/15/25 05:06	08/14/25 08:11
Cadmium	EPA 6020B	ND		mg/kg	0.134	1	08/15/25 05:06	08/14/25 08:11
Chromium	EPA 6020B	60.2		mg/kg	0.334	1	08/15/25 05:06	08/14/25 08:11
Copper	EPA 6020B	29.5		mg/kg	3.34	10	08/15/25 17:56	08/14/25 08:11
Lead	EPA 6020B	14.8		mg/kg	0.334	1	08/15/25 05:06	08/14/25 08:11
Selenium	EPA 6020B	0.388		mg/kg	0.334	1	08/15/25 05:06	08/14/25 08:11
Silver	EPA 6020B	ND		mg/kg	0.334	1	08/15/25 05:06	08/14/25 08:11
Zinc	EPA 6020B	70.1		mg/kg	6.68	10	08/15/25 17:56	08/14/25 08:11
Mercury	EPA 7471B	0.0362		mg/kg	0.0200	1	08/15/25 09:07	08/15/25 07:54
Organochlorine Pesticides by GC/ECD								
4,4'-DDD	EPA 8081B	ND		µg/kg	11.6	1	08/19/25 05:12	08/18/25 13:14
4,4'-DDE	EPA 8081B	ND		µg/kg	11.6	1	08/19/25 05:12	08/18/25 13:14
4,4'-DDT	EPA 8081B	ND		µg/kg	11.6	1	08/19/25 05:12	08/18/25 13:14
Aldrin	EPA 8081B	ND		µg/kg	11.6	1	08/19/25 05:12	08/18/25 13:14
alpha-BHC	EPA 8081B	ND		µg/kg	11.6	1	08/19/25 05:12	08/18/25 13:14
beta-BHC	EPA 8081B	ND		µg/kg	11.6	1	08/19/25 05:12	08/18/25 13:14
Chlordane, Technical	EPA 8081B	ND		µg/kg	28.9	1	08/19/25 05:12	08/18/25 13:14
cis-Chlordane	EPA 8081B	ND		µg/kg	11.6	1	08/19/25 05:12	08/18/25 13:14
delta-BHC	EPA 8081B	ND		µg/kg	11.6	1	08/19/25 05:12	08/18/25 13:14
Dieldrin	EPA 8081B	ND		µg/kg	11.6	1	08/19/25 05:12	08/18/25 13:14
Endosulfan I	EPA 8081B	ND		µg/kg	11.6	1	08/19/25 05:12	08/18/25 13:14
Endosulfan II	EPA 8081B	ND		µg/kg	11.6	1	08/19/25 05:12	08/18/25 13:14
Endosulfan sulfate	EPA 8081B	ND		µg/kg	11.6	1	08/19/25 05:12	08/18/25 13:14
Endrin	EPA 8081B	ND		µg/kg	11.6	1	08/19/25 05:12	08/18/25 13:14
Endrin aldehyde	EPA 8081B	ND		µg/kg	11.6	1	08/19/25 05:12	08/18/25 13:14
Endrin ketone	EPA 8081B	ND		µg/kg	11.6	1	08/19/25 05:12	08/18/25 13:14
gamma-BHC (Lindane)	EPA 8081B	ND		µg/kg	11.6	1	08/19/25 05:12	08/18/25 13:14

Analytical Report



Client: The Mannik & Smith Group, Inc.
Project: 14433_Tacoma
Matrix: SOIL/SOLID

Work Order: HN2511191
Date Collected: 08/07/25 11:56
Date Received: 08/09/25 08:00

CLIENT ID: 14433 SB01 (1-2) **Lab ID: HN2511191-001**

Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
Heptachlor	EPA 8081B	ND		µg/kg	11.6	1	08/19/25 05:12	08/18/25 13:14
Heptachlor epoxide	EPA 8081B	ND		µg/kg	11.6	1	08/19/25 05:12	08/18/25 13:14
Methoxychlor	EPA 8081B	ND		µg/kg	11.6	1	08/19/25 05:12	08/18/25 13:14
Toxaphene	EPA 8081B	ND		µg/kg	69.4	1	08/19/25 05:12	08/18/25 13:14
trans-Chlordane	EPA 8081B	ND		µg/kg	11.6	1	08/19/25 05:12	08/18/25 13:14
<i>Surr: Decachlorobiphenyl</i>	<i>EPA 8081B</i>	59.0		%REC	53-151	1	08/19/25 05:12	08/18/25 13:14
<i>Surr: Tetrachloro-m-xylene</i>	<i>EPA 8081B</i>	95.6		%REC	67-127	1	08/19/25 05:12	08/18/25 13:14

Semivolatile Organic Compounds by GC								
Aroclor 1016	EPA 8082A	ND		µg/kg	77.2	1	08/19/25 06:54	08/18/25 13:31
Aroclor 1221	EPA 8082A	ND		µg/kg	77.2	1	08/19/25 06:54	08/18/25 13:31
Aroclor 1232	EPA 8082A	ND		µg/kg	77.2	1	08/19/25 06:54	08/18/25 13:31
Aroclor 1242	EPA 8082A	ND		µg/kg	77.2	1	08/19/25 06:54	08/18/25 13:31
Aroclor 1248	EPA 8082A	ND		µg/kg	77.2	1	08/19/25 06:54	08/18/25 13:31
Aroclor 1254	EPA 8082A	ND		µg/kg	77.2	1	08/19/25 06:54	08/18/25 13:31
Aroclor 1260	EPA 8082A	ND		µg/kg	77.2	1	08/19/25 06:54	08/18/25 13:31
Aroclor 1262	EPA 8082A	ND		µg/kg	77.2	1	08/19/25 06:54	08/18/25 13:31
Aroclor 1268	EPA 8082A	ND		µg/kg	77.2	1	08/19/25 06:54	08/18/25 13:31
Total PCB	EPA 8082A	ND		µg/kg	77.2	1	08/19/25 06:54	08/18/25 13:31
<i>Surr: Decachlorobiphenyl</i>	<i>EPA 8082A</i>	83.6		%REC	54-146	1	08/19/25 06:54	08/18/25 13:31
<i>Surr: Tetrachloro-m-xylene</i>	<i>EPA 8082A</i>	117		%REC	58-140	1	08/19/25 06:54	08/18/25 13:31
2,4,5-T	EPA 8151A	ND		µg/kg	5.76	1	08/22/25 20:55	08/21/25 17:35
2,4,5-TP (Silvex)	EPA 8151A	ND		µg/kg	5.76	1	08/22/25 20:55	08/21/25 17:35
2,4-D	EPA 8151A	ND		µg/kg	11.5	1	08/22/25 20:55	08/21/25 17:35
<i>Surr: DCAA</i>	<i>EPA 8151A</i>	62.0		%REC	10-116	1	08/22/25 20:55	08/21/25 17:35

Semivolatile Organic Compounds by GC-MS								
1,1'-Biphenyl (BZ-0)	EPA 8270E	ND		µg/kg	36.2	1	08/15/25 22:16	08/15/25 09:51
1,2,4,5-Tetrachlorobenzene	EPA 8270E	ND		µg/kg	365	1	08/15/25 22:16	08/15/25 09:51
1,4-Dioxane (1,4-Diethyleneoxide)	EPA 8270E	ND		µg/kg	183	1	08/15/25 22:16	08/15/25 09:51
1-Methylnaphthalene	EPA 8270E	ND		µg/kg	7.32	1	08/15/25 22:16	08/15/25 09:51
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methylethyl) ether	EPA 8270E	ND		µg/kg	36.2	1	08/15/25 22:16	08/15/25 09:51

Analytical Report



Client: The Mannik & Smith Group, Inc.
Project: 14433_Tacoma
Matrix: SOIL/SOLID

Work Order: HN2511191
Date Collected: 08/07/25 11:56
Date Received: 08/09/25 08:00

CLIENT ID: 14433 SB01 (1-2) **Lab ID: HN2511191-001**

Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
2,3,4,6-Tetrachlorophenol	EPA 8270E	ND		µg/kg	73.2	1	08/15/25 22:16	08/15/25 09:51
2,4,5-Trichlorophenol	EPA 8270E	ND		µg/kg	36.2	1	08/15/25 22:16	08/15/25 09:51
2,4,6-Trichlorophenol	EPA 8270E	ND		µg/kg	36.2	1	08/15/25 22:16	08/15/25 09:51
2,4-Dichlorophenol	EPA 8270E	ND		µg/kg	36.2	1	08/15/25 22:16	08/15/25 09:51
2,4-Dimethylphenol	EPA 8270E	ND		µg/kg	36.2	1	08/15/25 22:16	08/15/25 09:51
2,4-Dinitrophenol	EPA 8270E	ND		µg/kg	365	1	08/15/25 22:16	08/15/25 09:51
2,4-Dinitrotoluene (2,4-DNT)	EPA 8270E	ND		µg/kg	36.2	1	08/15/25 22:16	08/15/25 09:51
2,6-Dinitrotoluene (2,6-DNT)	EPA 8270E	ND		µg/kg	36.2	1	08/15/25 22:16	08/15/25 09:51
2-Chloronaphthalene	EPA 8270E	ND		µg/kg	7.32	1	08/15/25 22:16	08/15/25 09:51
2-Chlorophenol	EPA 8270E	ND		µg/kg	36.2	1	08/15/25 22:16	08/15/25 09:51
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	EPA 8270E	ND		µg/kg	36.2	1	08/15/25 22:16	08/15/25 09:51
2-Methylnaphthalene	EPA 8270E	ND		µg/kg	7.32	1	08/15/25 22:16	08/15/25 09:51
2-Methylphenol (o-Cresol)	EPA 8270E	ND		µg/kg	36.2	1	08/15/25 22:16	08/15/25 09:51
2-Nitroaniline	EPA 8270E	ND	S	µg/kg	36.2	1	08/15/25 22:16	08/15/25 09:51
2-Nitrophenol	EPA 8270E	ND		µg/kg	36.2	1	08/15/25 22:16	08/15/25 09:51
3&4-Methylphenol	EPA 8270E	ND		µg/kg	36.2	1	08/15/25 22:16	08/15/25 09:51
3,3'-Dichlorobenzidine	EPA 8270E	ND		µg/kg	183	1	08/15/25 22:16	08/15/25 09:51
3-Nitroaniline	EPA 8270E	ND		µg/kg	36.2	1	08/15/25 22:16	08/15/25 09:51
4-Bromophenyl phenyl ether (BDE-3)	EPA 8270E	ND		µg/kg	36.2	1	08/15/25 22:16	08/15/25 09:51
4-Chloro-3-methylphenol	EPA 8270E	ND		µg/kg	36.2	1	08/15/25 22:16	08/15/25 09:51
4-Chloroaniline	EPA 8270E	ND		µg/kg	73.2	1	08/15/25 22:16	08/15/25 09:51
4-Chlorophenyl phenylether	EPA 8270E	ND		µg/kg	36.2	1	08/15/25 22:16	08/15/25 09:51
4-Nitroaniline	EPA 8270E	ND		µg/kg	183	1	08/15/25 22:16	08/15/25 09:51
4-Nitrophenol	EPA 8270E	ND		µg/kg	365	1	08/15/25 22:16	08/15/25 09:51
Acenaphthene	EPA 8270E	ND		µg/kg	7.32	1	08/15/25 22:16	08/15/25 09:51
Acenaphthylene	EPA 8270E	ND		µg/kg	7.32	1	08/15/25 22:16	08/15/25 09:51
Acetophenone	EPA 8270E	ND		µg/kg	36.2	1	08/15/25 22:16	08/15/25 09:51
Anthracene	EPA 8270E	ND		µg/kg	7.32	1	08/15/25 22:16	08/15/25 09:51
Atrazine	EPA 8270E	ND		µg/kg	36.2	1	08/15/25 22:16	08/15/25 09:51
Benzaldehyde	EPA 8270E	ND		µg/kg	73.2	1	08/15/25 22:16	08/15/25 09:51

Analytical Report



Client: The Mannik & Smith Group, Inc.
Project: 14433_Tacoma
Matrix: SOIL/SOLID

Work Order: HN2511191
Date Collected: 08/07/25 11:56
Date Received: 08/09/25 08:00

CLIENT ID: 14433 SB01 (1-2) **Lab ID: HN2511191-001**

Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
Benzo(a)anthracene	EPA 8270E	11.0		µg/kg	7.32	1	08/15/25 22:16	08/15/25 09:51
Benzo(a)pyrene	EPA 8270E	11.0		µg/kg	7.32	1	08/15/25 22:16	08/15/25 09:51
Benzo(b)fluoranthene	EPA 8270E	15.4		µg/kg	7.32	1	08/15/25 22:16	08/15/25 09:51
Benzo(g,h,i)perylene	EPA 8270E	ND		µg/kg	7.32	1	08/15/25 22:16	08/15/25 09:51
Benzo(k)fluoranthene	EPA 8270E	7.32		µg/kg	7.32	1	08/15/25 22:16	08/15/25 09:51
bis(2-Chloroethoxy) methane	EPA 8270E	ND		µg/kg	36.2	1	08/15/25 22:16	08/15/25 09:51
bis(2-Chloroethyl) ether	EPA 8270E	ND		µg/kg	36.2	1	08/15/25 22:16	08/15/25 09:51
Butyl benzyl phthalate	EPA 8270E	ND		µg/kg	73.2	1	08/15/25 22:16	08/15/25 09:51
Caprolactam	EPA 8270E	ND		µg/kg	36.2	1	08/15/25 22:16	08/15/25 09:51
Carbazole	EPA 8270E	ND		µg/kg	36.2	1	08/15/25 22:16	08/15/25 09:51
Chrysene	EPA 8270E	9.51		µg/kg	7.32	1	08/15/25 22:16	08/15/25 09:51
Di(2-ethylhexyl) phthalate (bis(2-Ethylhexyl) phthalate, DEHP)	EPA 8270E	ND		µg/kg	36.2	1	08/15/25 22:16	08/15/25 09:51
Dibenz(a,h) anthracene	EPA 8270E	ND		µg/kg	36.2	1	08/15/25 22:16	08/15/25 09:51
Dibenzofuran	EPA 8270E	ND		µg/kg	36.2	1	08/15/25 22:16	08/15/25 09:51
Diethyl phthalate	EPA 8270E	ND		µg/kg	36.2	1	08/15/25 22:16	08/15/25 09:51
Dimethyl phthalate	EPA 8270E	ND		µg/kg	36.2	1	08/15/25 22:16	08/15/25 09:51
Di-n-butyl phthalate	EPA 8270E	ND		µg/kg	36.2	1	08/15/25 22:16	08/15/25 09:51
Di-n-octyl phthalate	EPA 8270E	ND		µg/kg	36.2	1	08/15/25 22:16	08/15/25 09:51
Fluoranthene	EPA 8270E	23.4		µg/kg	7.32	1	08/15/25 22:16	08/15/25 09:51
Fluorene	EPA 8270E	ND		µg/kg	7.32	1	08/15/25 22:16	08/15/25 09:51
Hexachlorobenzene	EPA 8270E	ND		µg/kg	36.2	1	08/15/25 22:16	08/15/25 09:51
Hexachlorobutadiene	EPA 8270E	ND		µg/kg	36.2	1	08/15/25 22:16	08/15/25 09:51
Hexachlorocyclopentadiene	EPA 8270E	ND		µg/kg	36.2	1	08/15/25 22:16	08/15/25 09:51
Hexachloroethane	EPA 8270E	ND		µg/kg	36.2	1	08/15/25 22:16	08/15/25 09:51
Indeno(1,2,3-cd) pyrene	EPA 8270E	ND		µg/kg	7.32	1	08/15/25 22:16	08/15/25 09:51
Isophorone	EPA 8270E	ND		µg/kg	183	1	08/15/25 22:16	08/15/25 09:51
Methylphenol, Total	EPA 8270E	ND		µg/kg	67.0	1	08/15/25 22:16	08/15/25 09:51
Naphthalene	EPA 8270E	ND		µg/kg	7.32	1	08/15/25 22:16	08/15/25 09:51
Nitrobenzene	EPA 8270E	ND		µg/kg	183	1	08/15/25 22:16	08/15/25 09:51
n-Nitrosodi-n-propylamine	EPA 8270E	ND		µg/kg	36.2	1	08/15/25 22:16	08/15/25 09:51
N-Nitrosodiphenylamine	EPA 8270E	ND		µg/kg	36.2	1	08/15/25 22:16	08/15/25 09:51

Analytical Report



Client: The Mannik & Smith Group, Inc.
Project: 14433_Tacoma
Matrix: SOIL/SOLID

Work Order: HN2511191
Date Collected: 08/07/25 11:56
Date Received: 08/09/25 08:00

CLIENT ID: 14433 SB01 (1-2)	Lab ID: HN2511191-001
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Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
Pentachlorophenol	EPA 8270E	ND		µg/kg	36.2	1	08/15/25 22:16	08/15/25 09:51
Phenanthrene	EPA 8270E	11.7		µg/kg	7.32	1	08/15/25 22:16	08/15/25 09:51
Phenol	EPA 8270E	ND		µg/kg	36.2	1	08/15/25 22:16	08/15/25 09:51
Pyrene	EPA 8270E	24.9		µg/kg	7.32	1	08/15/25 22:16	08/15/25 09:51
Pyridine	EPA 8270E	ND		µg/kg	183	1	08/15/25 22:16	08/15/25 09:51
Surr: 2,4,6-Tribromophenol	EPA 8270E	29.5	S	%REC	48-94	1	08/15/25 22:16	08/15/25 09:51
Surr: 2-Fluorobiphenyl	EPA 8270E	43.9	S	%REC	50-103	1	08/15/25 22:16	08/15/25 09:51
Surr: 2-Fluorophenol	EPA 8270E	47.0		%REC	43-105	1	08/15/25 22:16	08/15/25 09:51
Surr: 4-Terphenyl-d14	EPA 8270E	45.4	S	%REC	55-111	1	08/15/25 22:16	08/15/25 09:51
Surr: Nitrobenzene-d5	EPA 8270E	52.3		%REC	47-100	1	08/15/25 22:16	08/15/25 09:51
Surr: Phenol-d6	EPA 8270E	44.8	S	%REC	49-110	1	08/15/25 22:16	08/15/25 09:51

Volatile Organic Compounds by GC-MS

1,1,1-Trichloroethane	EPA 8260D	ND		µg/kg	37.8	1	08/14/25 23:12	08/11/25 17:04
1,1,2,2-Tetrachloroethane	EPA 8260D	ND		µg/kg	37.8	1	08/14/25 23:12	08/11/25 17:04
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	EPA 8260D	ND		µg/kg	37.8	1	08/14/25 23:12	08/11/25 17:04
1,1,2-Trichloroethane	EPA 8260D	ND		µg/kg	37.8	1	08/14/25 23:12	08/11/25 17:04
1,1-Dichloroethane	EPA 8260D	ND		µg/kg	37.8	1	08/14/25 23:12	08/11/25 17:04
1,1-Dichloroethylene	EPA 8260D	ND		µg/kg	37.8	1	08/14/25 23:12	08/11/25 17:04
1,2,3-Trichlorobenzene	EPA 8260D	ND		µg/kg	126	1	08/14/25 23:12	08/11/25 17:04
1,2,3-Trichloropropane	EPA 8260D	ND		µg/kg	37.8	1	08/14/25 23:12	08/11/25 17:04
1,2,4-Trichlorobenzene	EPA 8260D	ND		µg/kg	126	1	08/14/25 23:12	08/11/25 17:04
1,2,4-Trimethylbenzene	EPA 8260D	ND		µg/kg	37.8	1	08/14/25 23:12	08/11/25 17:04
1,2-Dibromo-3-chloropropane (DBCP)	EPA 8260D	ND		µg/kg	126	1	08/14/25 23:12	08/11/25 17:04
1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 8260D	ND		µg/kg	37.8	1	08/14/25 23:12	08/11/25 17:04
1,2-Dichlorobenzene (o-Dichlorobenzene)	EPA 8260D	ND		µg/kg	37.8	1	08/14/25 23:12	08/11/25 17:04
1,2-Dichloroethane (Ethylene dichloride)	EPA 8260D	ND		µg/kg	126	1	08/14/25 23:12	08/11/25 17:04
1,2-Dichloropropane	EPA 8260D	ND		µg/kg	37.8	1	08/14/25 23:12	08/11/25 17:04
1,3,5-Trimethylbenzene	EPA 8260D	ND		µg/kg	126	1	08/14/25 23:12	08/11/25 17:04
1,3-Dichlorobenzene (m-Dichlorobenzene)	EPA 8260D	ND		µg/kg	37.8	1	08/14/25 23:12	08/11/25 17:04
1,3-Dichloropropene	EPA 8260D	ND		µg/kg	75.6	1	08/14/25 23:12	08/11/25 17:04

Analytical Report



Client: The Mannik & Smith Group, Inc.
Project: 14433_Tacoma
Matrix: SOIL/SOLID

Work Order: HN2511191
Date Collected: 08/07/25 11:56
Date Received: 08/09/25 08:00

CLIENT ID: 14433 SB01 (1-2)	Lab ID: HN2511191-001
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Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
1,4-Dichlorobenzene (p-Dichlorobenzene)	EPA 8260D	ND		µg/kg	37.8	1	08/14/25 23:12	08/11/25 17:04
2-Butanone (Methyl ethyl ketone, MEK)	EPA 8260D	ND		µg/kg	252	1	08/14/25 23:12	08/11/25 17:04
2-Hexanone	EPA 8260D	ND		µg/kg	37.8	1	08/14/25 23:12	08/11/25 17:04
4-Methyl-2-pentanone (MIBK)	EPA 8260D	ND		µg/kg	37.8	1	08/14/25 23:12	08/11/25 17:04
Acetone	EPA 8260D	ND		µg/kg	126	1	08/14/25 23:12	08/11/25 17:04
Benzene	EPA 8260D	ND		µg/kg	37.8	1	08/14/25 23:12	08/11/25 17:04
Bromochloromethane	EPA 8260D	ND		µg/kg	37.8	1	08/14/25 23:12	08/11/25 17:04
Bromodichloromethane	EPA 8260D	ND		µg/kg	37.8	1	08/14/25 23:12	08/11/25 17:04
Bromoform	EPA 8260D	ND		µg/kg	37.8	1	08/14/25 23:12	08/11/25 17:04
Carbon disulfide	EPA 8260D	ND		µg/kg	37.8	1	08/14/25 23:12	08/11/25 17:04
Carbon tetrachloride	EPA 8260D	ND		µg/kg	37.8	1	08/14/25 23:12	08/11/25 17:04
Chlorobenzene	EPA 8260D	ND		µg/kg	37.8	1	08/14/25 23:12	08/11/25 17:04
Chlorodibromomethane	EPA 8260D	ND		µg/kg	37.8	1	08/14/25 23:12	08/11/25 17:04
Chloroethane (Ethyl chloride)	EPA 8260D	ND		µg/kg	126	1	08/14/25 23:12	08/11/25 17:04
Chloroform	EPA 8260D	ND		µg/kg	37.8	1	08/14/25 23:12	08/11/25 17:04
cis & trans-1,2-Dichloroethene	EPA 8260D	ND		µg/kg	75.6	1	08/14/25 23:12	08/11/25 17:04
cis-1,2-Dichloroethylene	EPA 8260D	ND		µg/kg	37.8	1	08/14/25 23:12	08/11/25 17:04
cis-1,3-Dichloropropene	EPA 8260D	ND		µg/kg	37.8	1	08/14/25 23:12	08/11/25 17:04
Cyclohexane	EPA 8260D	ND		µg/kg	126	1	08/14/25 23:12	08/11/25 17:04
Dichlorodifluoromethane (Freon-12)	EPA 8260D	ND		µg/kg	126	1	08/14/25 23:12	08/11/25 17:04
Ethylbenzene	EPA 8260D	ND		µg/kg	37.8	1	08/14/25 23:12	08/11/25 17:04
Isopropylbenzene	EPA 8260D	ND		µg/kg	37.8	1	08/14/25 23:12	08/11/25 17:04
m+p-Xylene	EPA 8260D	ND		µg/kg	75.6	1	08/14/25 23:12	08/11/25 17:04
Methyl acetate	EPA 8260D	ND		µg/kg	315	1	08/14/25 23:12	08/11/25 17:04
Methyl bromide (Bromomethane)	EPA 8260D	ND		µg/kg	126	1	08/14/25 23:12	08/11/25 17:04
Methyl chloride (Chloromethane)	EPA 8260D	ND		µg/kg	126	1	08/14/25 23:12	08/11/25 17:04
Methyl tert-butyl ether (MTBE)	EPA 8260D	ND		µg/kg	37.8	1	08/14/25 23:12	08/11/25 17:04
Methylcyclohexane	EPA 8260D	ND		µg/kg	37.8	1	08/14/25 23:12	08/11/25 17:04
Methylene chloride (Dichloromethane)	EPA 8260D	ND		µg/kg	315	1	08/14/25 23:12	08/11/25 17:04

Analytical Report



Client: The Mannik & Smith Group, Inc.
Project: 14433_Tacoma
Matrix: SOIL/SOLID

Work Order: HN2511191
Date Collected: 08/07/25 11:56
Date Received: 08/09/25 08:00

CLIENT ID: 14433 SB01 (1-2) **Lab ID: HN2511191-001**

Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
o-Xylene	EPA 8260D	ND		µg/kg	37.8	1	08/14/25 23:12	08/11/25 17:04
Styrene	EPA 8260D	ND		µg/kg	37.8	1	08/14/25 23:12	08/11/25 17:04
Tetrachloroethylene (Perchloroethylene)	EPA 8260D	ND		µg/kg	37.8	1	08/14/25 23:12	08/11/25 17:04
Toluene	EPA 8260D	ND		µg/kg	37.8	1	08/14/25 23:12	08/11/25 17:04
Total Xylene	EPA 8260D	ND		µg/kg	113	1	08/14/25 23:12	08/11/25 17:04
trans-1,2-Dichloroethylene	EPA 8260D	ND		µg/kg	37.8	1	08/14/25 23:12	08/11/25 17:04
trans-1,3-Dichloropropylene	EPA 8260D	ND		µg/kg	37.8	1	08/14/25 23:12	08/11/25 17:04
Trichloroethene (Trichloroethylene)	EPA 8260D	ND		µg/kg	37.8	1	08/14/25 23:12	08/11/25 17:04
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	EPA 8260D	ND		µg/kg	37.8	1	08/14/25 23:12	08/11/25 17:04
Vinyl chloride (Chloroethene)	EPA 8260D	ND		µg/kg	37.8	1	08/14/25 23:12	08/11/25 17:04
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>EPA 8260D</i>	94.8		%REC	80-120	1	08/14/25 23:12	08/11/25 17:04
<i>Surr: 4-Bromofluorobenzene</i>	<i>EPA 8260D</i>	96.5		%REC	80-120	1	08/14/25 23:12	08/11/25 17:04
<i>Surr: Dibromofluoromethane</i>	<i>EPA 8260D</i>	91.0		%REC	80-120	1	08/14/25 23:12	08/11/25 17:04
<i>Surr: Toluene-d8</i>	<i>EPA 8260D</i>	106		%REC	80-120	1	08/14/25 23:12	08/11/25 17:04

Analytical Report



Client: The Mannik & Smith Group, Inc.
Project: 14433_Tacoma
Matrix: SOIL/SOLID

Work Order: HN2511191
Date Collected: 08/07/25 12:05
Date Received: 08/09/25 08:00

CLIENT ID: 14433 SB02 (3-4)	Lab ID: HN2511191-002
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Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
General Chemistry Parameters								
Percent Moisture	EPA 3550C	14.5		%	0.1	1	08/13/25 15:37	NA
Chloride	EPA 9056A	260		mg/kg	46.5	4	08/14/25 17:05	08/13/25 11:05
Metals								
Arsenic	EPA 6020B	5.17		mg/kg	0.355	1	08/15/25 05:09	08/14/25 08:11
Barium	EPA 6020B	61.2		mg/kg	0.355	1	08/15/25 05:09	08/14/25 08:11
Cadmium	EPA 6020B	ND		mg/kg	0.142	1	08/15/25 05:09	08/14/25 08:11
Chromium	EPA 6020B	24.7		mg/kg	0.355	1	08/15/25 05:09	08/14/25 08:11
Copper	EPA 6020B	28.6		mg/kg	3.55	10	08/15/25 17:58	08/14/25 08:11
Lead	EPA 6020B	14.5		mg/kg	0.355	1	08/15/25 05:09	08/14/25 08:11
Selenium	EPA 6020B	ND		mg/kg	0.355	1	08/15/25 05:09	08/14/25 08:11
Silver	EPA 6020B	ND		mg/kg	0.355	1	08/15/25 05:09	08/14/25 08:11
Zinc	EPA 6020B	83.7		mg/kg	7.10	10	08/15/25 17:58	08/14/25 08:11
Mercury	EPA 7471B	0.0262		mg/kg	0.0224	1	08/15/25 09:09	08/15/25 07:54
Organochlorine Pesticides by GC/ECD								
4,4'-DDD	EPA 8081B	ND		µg/kg	11.4	1	08/19/25 05:26	08/18/25 13:14
4,4'-DDE	EPA 8081B	ND		µg/kg	11.4	1	08/19/25 05:26	08/18/25 13:14
4,4'-DDT	EPA 8081B	ND		µg/kg	11.4	1	08/19/25 05:26	08/18/25 13:14
Aldrin	EPA 8081B	ND		µg/kg	11.4	1	08/19/25 05:26	08/18/25 13:14
alpha-BHC	EPA 8081B	ND		µg/kg	11.4	1	08/19/25 05:26	08/18/25 13:14
beta-BHC	EPA 8081B	ND		µg/kg	11.4	1	08/19/25 05:26	08/18/25 13:14
Chlordane, Technical	EPA 8081B	ND		µg/kg	28.6	1	08/19/25 05:26	08/18/25 13:14
cis-Chlordane	EPA 8081B	ND		µg/kg	11.4	1	08/19/25 05:26	08/18/25 13:14
delta-BHC	EPA 8081B	ND		µg/kg	11.4	1	08/19/25 05:26	08/18/25 13:14
Dieldrin	EPA 8081B	ND		µg/kg	11.4	1	08/19/25 05:26	08/18/25 13:14
Endosulfan I	EPA 8081B	ND		µg/kg	11.4	1	08/19/25 05:26	08/18/25 13:14
Endosulfan II	EPA 8081B	ND		µg/kg	11.4	1	08/19/25 05:26	08/18/25 13:14
Endosulfan sulfate	EPA 8081B	ND		µg/kg	11.4	1	08/19/25 05:26	08/18/25 13:14
Endrin	EPA 8081B	ND		µg/kg	11.4	1	08/19/25 05:26	08/18/25 13:14
Endrin aldehyde	EPA 8081B	ND		µg/kg	11.4	1	08/19/25 05:26	08/18/25 13:14
Endrin ketone	EPA 8081B	ND		µg/kg	11.4	1	08/19/25 05:26	08/18/25 13:14
gamma-BHC (Lindane)	EPA 8081B	ND		µg/kg	11.4	1	08/19/25 05:26	08/18/25 13:14

Analytical Report



Client: The Mannik & Smith Group, Inc.
Project: 14433_Tacoma
Matrix: SOIL/SOLID

Work Order: HN2511191
Date Collected: 08/07/25 12:05
Date Received: 08/09/25 08:00

CLIENT ID: 14433 SB02 (3-4)

Lab ID: HN2511191-002

Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
Heptachlor	EPA 8081B	ND		µg/kg	11.4	1	08/19/25 05:26	08/18/25 13:14
Heptachlor epoxide	EPA 8081B	ND		µg/kg	11.4	1	08/19/25 05:26	08/18/25 13:14
Methoxychlor	EPA 8081B	ND		µg/kg	11.4	1	08/19/25 05:26	08/18/25 13:14
Toxaphene	EPA 8081B	ND		µg/kg	68.7	1	08/19/25 05:26	08/18/25 13:14
trans-Chlordane	EPA 8081B	ND		µg/kg	11.4	1	08/19/25 05:26	08/18/25 13:14
<i>Surr: Decachlorobiphenyl</i>	<i>EPA 8081B</i>	74.4		%REC	53-151	1	08/19/25 05:26	08/18/25 13:14
<i>Surr: Tetrachloro-m-xylene</i>	<i>EPA 8081B</i>	86.9		%REC	67-127	1	08/19/25 05:26	08/18/25 13:14

Semivolatile Organic Compounds by GC

Aroclor 1016	EPA 8082A	ND		µg/kg	76.3	1	08/19/25 07:05	08/18/25 13:31
Aroclor 1221	EPA 8082A	ND		µg/kg	76.3	1	08/19/25 07:05	08/18/25 13:31
Aroclor 1232	EPA 8082A	ND		µg/kg	76.3	1	08/19/25 07:05	08/18/25 13:31
Aroclor 1242	EPA 8082A	ND		µg/kg	76.3	1	08/19/25 07:05	08/18/25 13:31
Aroclor 1248	EPA 8082A	ND		µg/kg	76.3	1	08/19/25 07:05	08/18/25 13:31
Aroclor 1254	EPA 8082A	ND		µg/kg	76.3	1	08/19/25 07:05	08/18/25 13:31
Aroclor 1260	EPA 8082A	ND		µg/kg	76.3	1	08/19/25 07:05	08/18/25 13:31
Aroclor 1262	EPA 8082A	ND		µg/kg	76.3	1	08/19/25 07:05	08/18/25 13:31
Aroclor 1268	EPA 8082A	ND		µg/kg	76.3	1	08/19/25 07:05	08/18/25 13:31
Total PCB	EPA 8082A	ND		µg/kg	76.3	1	08/19/25 07:05	08/18/25 13:31
<i>Surr: Decachlorobiphenyl</i>	<i>EPA 8082A</i>	122		%REC	54-146	1	08/19/25 07:05	08/18/25 13:31
<i>Surr: Tetrachloro-m-xylene</i>	<i>EPA 8082A</i>	107		%REC	58-140	1	08/19/25 07:05	08/18/25 13:31
2,4,5-T	EPA 8151A	ND		µg/kg	5.80	1	08/22/25 21:08	08/21/25 17:35
2,4,5-TP (Silvex)	EPA 8151A	ND		µg/kg	5.80	1	08/22/25 21:08	08/21/25 17:35
2,4-D	EPA 8151A	ND		µg/kg	11.6	1	08/22/25 21:08	08/21/25 17:35
<i>Surr: DCAA</i>	<i>EPA 8151A</i>	64.0		%REC	10-116	1	08/22/25 21:08	08/21/25 17:35

Semivolatile Organic Compounds by GC-MS

1,1'-Biphenyl (BZ-0)	EPA 8270E	ND		µg/kg	38.1	1	08/15/25 22:37	08/15/25 09:51
1,2,4,5-Tetrachlorobenzene	EPA 8270E	ND		µg/kg	384	1	08/15/25 22:37	08/15/25 09:51
1,4-Dioxane (1,4-Diethyleneoxide)	EPA 8270E	ND		µg/kg	192	1	08/15/25 22:37	08/15/25 09:51
1-Methylnaphthalene	EPA 8270E	13.8		µg/kg	7.69	1	08/15/25 22:37	08/15/25 09:51
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methylethyl) ether	EPA 8270E	ND		µg/kg	38.1	1	08/15/25 22:37	08/15/25 09:51

Analytical Report



Client: The Mannik & Smith Group, Inc.
Project: 14433_Tacoma
Matrix: SOIL/SOLID

Work Order: HN2511191
Date Collected: 08/07/25 12:05
Date Received: 08/09/25 08:00

CLIENT ID: 14433 SB02 (3-4)	Lab ID: HN2511191-002
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Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
2,3,4,6-Tetrachlorophenol	EPA 8270E	ND		µg/kg	76.9	1	08/15/25 22:37	08/15/25 09:51
2,4,5-Trichlorophenol	EPA 8270E	ND		µg/kg	38.1	1	08/15/25 22:37	08/15/25 09:51
2,4,6-Trichlorophenol	EPA 8270E	ND		µg/kg	38.1	1	08/15/25 22:37	08/15/25 09:51
2,4-Dichlorophenol	EPA 8270E	ND		µg/kg	38.1	1	08/15/25 22:37	08/15/25 09:51
2,4-Dimethylphenol	EPA 8270E	ND		µg/kg	38.1	1	08/15/25 22:37	08/15/25 09:51
2,4-Dinitrophenol	EPA 8270E	ND		µg/kg	384	1	08/15/25 22:37	08/15/25 09:51
2,4-Dinitrotoluene (2,4-DNT)	EPA 8270E	ND		µg/kg	38.1	1	08/15/25 22:37	08/15/25 09:51
2,6-Dinitrotoluene (2,6-DNT)	EPA 8270E	ND		µg/kg	38.1	1	08/15/25 22:37	08/15/25 09:51
2-Chloronaphthalene	EPA 8270E	ND		µg/kg	7.69	1	08/15/25 22:37	08/15/25 09:51
2-Chlorophenol	EPA 8270E	ND		µg/kg	38.1	1	08/15/25 22:37	08/15/25 09:51
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	EPA 8270E	ND		µg/kg	38.1	1	08/15/25 22:37	08/15/25 09:51
2-Methylnaphthalene	EPA 8270E	19.2		µg/kg	7.69	1	08/15/25 22:37	08/15/25 09:51
2-Methylphenol (o-Cresol)	EPA 8270E	ND		µg/kg	38.1	1	08/15/25 22:37	08/15/25 09:51
2-Nitroaniline	EPA 8270E	ND	S	µg/kg	38.1	1	08/15/25 22:37	08/15/25 09:51
2-Nitrophenol	EPA 8270E	ND		µg/kg	38.1	1	08/15/25 22:37	08/15/25 09:51
3&4-Methylphenol	EPA 8270E	ND		µg/kg	38.1	1	08/15/25 22:37	08/15/25 09:51
3,3'-Dichlorobenzidine	EPA 8270E	ND		µg/kg	192	1	08/15/25 22:37	08/15/25 09:51
3-Nitroaniline	EPA 8270E	ND		µg/kg	38.1	1	08/15/25 22:37	08/15/25 09:51
4-Bromophenyl phenyl ether (BDE-3)	EPA 8270E	ND		µg/kg	38.1	1	08/15/25 22:37	08/15/25 09:51
4-Chloro-3-methylphenol	EPA 8270E	ND		µg/kg	38.1	1	08/15/25 22:37	08/15/25 09:51
4-Chloroaniline	EPA 8270E	ND		µg/kg	76.9	1	08/15/25 22:37	08/15/25 09:51
4-Chlorophenyl phenylether	EPA 8270E	ND		µg/kg	38.1	1	08/15/25 22:37	08/15/25 09:51
4-Nitroaniline	EPA 8270E	ND		µg/kg	192	1	08/15/25 22:37	08/15/25 09:51
4-Nitrophenol	EPA 8270E	ND		µg/kg	384	1	08/15/25 22:37	08/15/25 09:51
Acenaphthene	EPA 8270E	ND		µg/kg	7.69	1	08/15/25 22:37	08/15/25 09:51
Acenaphthylene	EPA 8270E	ND		µg/kg	7.69	1	08/15/25 22:37	08/15/25 09:51
Acetophenone	EPA 8270E	ND		µg/kg	38.1	1	08/15/25 22:37	08/15/25 09:51
Anthracene	EPA 8270E	18.4		µg/kg	7.69	1	08/15/25 22:37	08/15/25 09:51
Atrazine	EPA 8270E	ND		µg/kg	38.1	1	08/15/25 22:37	08/15/25 09:51
Benzaldehyde	EPA 8270E	ND		µg/kg	76.9	1	08/15/25 22:37	08/15/25 09:51

Analytical Report



Client: The Mannik & Smith Group, Inc.
Project: 14433_Tacoma
Matrix: SOIL/SOLID

Work Order: HN2511191
Date Collected: 08/07/25 12:05
Date Received: 08/09/25 08:00

CLIENT ID: 14433 SB02 (3-4)	Lab ID: HN2511191-002
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Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
Benzo(a)anthracene	EPA 8270E	100		µg/kg	7.69	1	08/15/25 22:37	08/15/25 09:51
Benzo(a)pyrene	EPA 8270E	93.0		µg/kg	7.69	1	08/15/25 22:37	08/15/25 09:51
Benzo(b)fluoranthene	EPA 8270E	133		µg/kg	7.69	1	08/15/25 22:37	08/15/25 09:51
Benzo(g,h,i)perylene	EPA 8270E	68.4		µg/kg	7.69	1	08/15/25 22:37	08/15/25 09:51
Benzo(k)fluoranthene	EPA 8270E	46.9		µg/kg	7.69	1	08/15/25 22:37	08/15/25 09:51
bis(2-Chloroethoxy) methane	EPA 8270E	ND		µg/kg	38.1	1	08/15/25 22:37	08/15/25 09:51
bis(2-Chloroethyl) ether	EPA 8270E	ND		µg/kg	38.1	1	08/15/25 22:37	08/15/25 09:51
Butyl benzyl phthalate	EPA 8270E	ND		µg/kg	76.9	1	08/15/25 22:37	08/15/25 09:51
Caprolactam	EPA 8270E	ND		µg/kg	38.1	1	08/15/25 22:37	08/15/25 09:51
Carbazole	EPA 8270E	ND		µg/kg	38.1	1	08/15/25 22:37	08/15/25 09:51
Chrysene	EPA 8270E	90.0		µg/kg	7.69	1	08/15/25 22:37	08/15/25 09:51
Di(2-ethylhexyl) phthalate (bis(2-Ethylhexyl) phthalate, DEHP)	EPA 8270E	ND		µg/kg	38.1	1	08/15/25 22:37	08/15/25 09:51
Dibenz(a,h) anthracene	EPA 8270E	ND		µg/kg	38.1	1	08/15/25 22:37	08/15/25 09:51
Dibenzofuran	EPA 8270E	ND		µg/kg	38.1	1	08/15/25 22:37	08/15/25 09:51
Diethyl phthalate	EPA 8270E	ND		µg/kg	38.1	1	08/15/25 22:37	08/15/25 09:51
Dimethyl phthalate	EPA 8270E	ND		µg/kg	38.1	1	08/15/25 22:37	08/15/25 09:51
Di-n-butyl phthalate	EPA 8270E	ND		µg/kg	38.1	1	08/15/25 22:37	08/15/25 09:51
Di-n-octyl phthalate	EPA 8270E	ND		µg/kg	38.1	1	08/15/25 22:37	08/15/25 09:51
Fluoranthene	EPA 8270E	184		µg/kg	7.69	1	08/15/25 22:37	08/15/25 09:51
Fluorene	EPA 8270E	ND		µg/kg	7.69	1	08/15/25 22:37	08/15/25 09:51
Hexachlorobenzene	EPA 8270E	ND		µg/kg	38.1	1	08/15/25 22:37	08/15/25 09:51
Hexachlorobutadiene	EPA 8270E	ND		µg/kg	38.1	1	08/15/25 22:37	08/15/25 09:51
Hexachlorocyclopentadiene	EPA 8270E	ND		µg/kg	38.1	1	08/15/25 22:37	08/15/25 09:51
Hexachloroethane	EPA 8270E	ND		µg/kg	38.1	1	08/15/25 22:37	08/15/25 09:51
Indeno(1,2,3-cd) pyrene	EPA 8270E	67.7		µg/kg	7.69	1	08/15/25 22:37	08/15/25 09:51
Isophorone	EPA 8270E	ND		µg/kg	192	1	08/15/25 22:37	08/15/25 09:51
Methylphenol, Total	EPA 8270E	ND		µg/kg	67.0	1	08/15/25 22:37	08/15/25 09:51
Naphthalene	EPA 8270E	16.9		µg/kg	7.69	1	08/15/25 22:37	08/15/25 09:51
Nitrobenzene	EPA 8270E	ND		µg/kg	192	1	08/15/25 22:37	08/15/25 09:51
n-Nitrosodi-n-propylamine	EPA 8270E	ND		µg/kg	38.1	1	08/15/25 22:37	08/15/25 09:51
N-Nitrosodiphenylamine	EPA 8270E	ND		µg/kg	38.1	1	08/15/25 22:37	08/15/25 09:51

Analytical Report



Client: The Mannik & Smith Group, Inc.
Project: 14433_Tacoma
Matrix: SOIL/SOLID

Work Order: HN2511191
Date Collected: 08/07/25 12:05
Date Received: 08/09/25 08:00

CLIENT ID: 14433 SB02 (3-4)	Lab ID: HN2511191-002
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Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
Pentachlorophenol	EPA 8270E	ND		µg/kg	38.1	1	08/15/25 22:37	08/15/25 09:51
Phenanthrene	EPA 8270E	71.5		µg/kg	7.69	1	08/15/25 22:37	08/15/25 09:51
Phenol	EPA 8270E	ND		µg/kg	38.1	1	08/15/25 22:37	08/15/25 09:51
Pyrene	EPA 8270E	180		µg/kg	7.69	1	08/15/25 22:37	08/15/25 09:51
Pyridine	EPA 8270E	ND		µg/kg	192	1	08/15/25 22:37	08/15/25 09:51
<i>Surr: 2,4,6-Tribromophenol</i>	<i>EPA 8270E</i>	<i>55.8</i>		<i>%REC</i>	<i>48-94</i>	<i>1</i>	<i>08/15/25 22:37</i>	<i>08/15/25 09:51</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>EPA 8270E</i>	<i>62.6</i>		<i>%REC</i>	<i>50-103</i>	<i>1</i>	<i>08/15/25 22:37</i>	<i>08/15/25 09:51</i>
<i>Surr: 2-Fluorophenol</i>	<i>EPA 8270E</i>	<i>65.5</i>		<i>%REC</i>	<i>43-105</i>	<i>1</i>	<i>08/15/25 22:37</i>	<i>08/15/25 09:51</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>EPA 8270E</i>	<i>66.3</i>		<i>%REC</i>	<i>55-111</i>	<i>1</i>	<i>08/15/25 22:37</i>	<i>08/15/25 09:51</i>
<i>Surr: Nitrobenzene-d5</i>	<i>EPA 8270E</i>	<i>66.9</i>		<i>%REC</i>	<i>47-100</i>	<i>1</i>	<i>08/15/25 22:37</i>	<i>08/15/25 09:51</i>
<i>Surr: Phenol-d6</i>	<i>EPA 8270E</i>	<i>67.3</i>		<i>%REC</i>	<i>49-110</i>	<i>1</i>	<i>08/15/25 22:37</i>	<i>08/15/25 09:51</i>

Volatile Organic Compounds by GC-MS

1,1,1-Trichloroethane	EPA 8260D	ND		µg/kg	40.7	1	08/14/25 19:14	08/11/25 16:58
1,1,2,2-Tetrachloroethane	EPA 8260D	ND	S	µg/kg	40.7	1	08/14/25 19:14	08/11/25 16:58
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	EPA 8260D	ND		µg/kg	40.7	1	08/14/25 19:14	08/11/25 16:58
1,1,2-Trichloroethane	EPA 8260D	ND		µg/kg	40.7	1	08/14/25 19:14	08/11/25 16:58
1,1-Dichloroethane	EPA 8260D	ND		µg/kg	40.7	1	08/14/25 19:14	08/11/25 16:58
1,1-Dichloroethylene	EPA 8260D	ND		µg/kg	40.7	1	08/14/25 19:14	08/11/25 16:58
1,2,3-Trichlorobenzene	EPA 8260D	ND		µg/kg	136	1	08/14/25 19:14	08/11/25 16:58
1,2,3-Trichloropropane	EPA 8260D	ND		µg/kg	40.7	1	08/14/25 19:14	08/11/25 16:58
1,2,4-Trichlorobenzene	EPA 8260D	ND		µg/kg	136	1	08/14/25 19:14	08/11/25 16:58
1,2,4-Trimethylbenzene	EPA 8260D	ND		µg/kg	40.7	1	08/14/25 19:14	08/11/25 16:58
1,2-Dibromo-3-chloropropane (DBCP)	EPA 8260D	ND		µg/kg	136	1	08/14/25 19:14	08/11/25 16:58
1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 8260D	ND		µg/kg	40.7	1	08/14/25 19:14	08/11/25 16:58
1,2-Dichlorobenzene (o-Dichlorobenzene)	EPA 8260D	ND		µg/kg	40.7	1	08/14/25 19:14	08/11/25 16:58
1,2-Dichloroethane (Ethylene dichloride)	EPA 8260D	ND		µg/kg	136	1	08/14/25 19:14	08/11/25 16:58
1,2-Dichloropropane	EPA 8260D	ND		µg/kg	40.7	1	08/14/25 19:14	08/11/25 16:58
1,3,5-Trimethylbenzene	EPA 8260D	ND		µg/kg	136	1	08/14/25 19:14	08/11/25 16:58
1,3-Dichlorobenzene (m-Dichlorobenzene)	EPA 8260D	ND		µg/kg	40.7	1	08/14/25 19:14	08/11/25 16:58
1,3-Dichloropropene	EPA 8260D	ND		µg/kg	81.3	1	08/14/25 19:14	08/11/25 16:58

Analytical Report



Client: The Mannik & Smith Group, Inc.
Project: 14433_Tacoma
Matrix: SOIL/SOLID

Work Order: HN2511191
Date Collected: 08/07/25 12:05
Date Received: 08/09/25 08:00

CLIENT ID: 14433 SB02 (3-4) **Lab ID: HN2511191-002**

Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
1,4-Dichlorobenzene (p-Dichlorobenzene)	EPA 8260D	ND		µg/kg	40.7	1	08/14/25 19:14	08/11/25 16:58
2-Butanone (Methyl ethyl ketone, MEK)	EPA 8260D	ND		µg/kg	271	1	08/14/25 19:14	08/11/25 16:58
2-Hexanone	EPA 8260D	ND		µg/kg	40.7	1	08/14/25 19:14	08/11/25 16:58
4-Methyl-2-pentanone (MIBK)	EPA 8260D	ND		µg/kg	40.7	1	08/14/25 19:14	08/11/25 16:58
Acetone	EPA 8260D	ND		µg/kg	136	1	08/14/25 19:14	08/11/25 16:58
Benzene	EPA 8260D	ND		µg/kg	40.7	1	08/14/25 19:14	08/11/25 16:58
Bromochloromethane	EPA 8260D	ND		µg/kg	40.7	1	08/14/25 19:14	08/11/25 16:58
Bromodichloromethane	EPA 8260D	ND		µg/kg	40.7	1	08/14/25 19:14	08/11/25 16:58
Bromoform	EPA 8260D	ND		µg/kg	40.7	1	08/14/25 19:14	08/11/25 16:58
Carbon disulfide	EPA 8260D	ND		µg/kg	40.7	1	08/14/25 19:14	08/11/25 16:58
Carbon tetrachloride	EPA 8260D	ND		µg/kg	40.7	1	08/14/25 19:14	08/11/25 16:58
Chlorobenzene	EPA 8260D	ND		µg/kg	40.7	1	08/14/25 19:14	08/11/25 16:58
Chlorodibromomethane	EPA 8260D	ND		µg/kg	40.7	1	08/14/25 19:14	08/11/25 16:58
Chloroethane (Ethyl chloride)	EPA 8260D	ND		µg/kg	136	1	08/14/25 19:14	08/11/25 16:58
Chloroform	EPA 8260D	ND		µg/kg	40.7	1	08/14/25 19:14	08/11/25 16:58
cis & trans-1,2-Dichloroethene	EPA 8260D	ND		µg/kg	81.3	1	08/14/25 19:14	08/11/25 16:58
cis-1,2-Dichloroethylene	EPA 8260D	ND		µg/kg	40.7	1	08/14/25 19:14	08/11/25 16:58
cis-1,3-Dichloropropene	EPA 8260D	ND		µg/kg	40.7	1	08/14/25 19:14	08/11/25 16:58
Cyclohexane	EPA 8260D	ND		µg/kg	136	1	08/14/25 19:14	08/11/25 16:58
Dichlorodifluoromethane (Freon-12)	EPA 8260D	ND		µg/kg	136	1	08/14/25 19:14	08/11/25 16:58
Ethylbenzene	EPA 8260D	ND		µg/kg	40.7	1	08/14/25 19:14	08/11/25 16:58
Isopropylbenzene	EPA 8260D	ND		µg/kg	40.7	1	08/14/25 19:14	08/11/25 16:58
m+p-Xylene	EPA 8260D	ND		µg/kg	81.3	1	08/14/25 19:14	08/11/25 16:58
Methyl acetate	EPA 8260D	ND		µg/kg	339	1	08/14/25 19:14	08/11/25 16:58
Methyl bromide (Bromomethane)	EPA 8260D	ND		µg/kg	136	1	08/14/25 19:14	08/11/25 16:58
Methyl chloride (Chloromethane)	EPA 8260D	ND		µg/kg	136	1	08/14/25 19:14	08/11/25 16:58
Methyl tert-butyl ether (MTBE)	EPA 8260D	ND		µg/kg	40.7	1	08/14/25 19:14	08/11/25 16:58
Methylcyclohexane	EPA 8260D	60.3		µg/kg	40.7	1	08/14/25 19:14	08/11/25 16:58
Methylene chloride (Dichloromethane)	EPA 8260D	ND		µg/kg	339	1	08/14/25 19:14	08/11/25 16:58

Analytical Report



Client: The Mannik & Smith Group, Inc.
Project: 14433_Tacoma
Matrix: SOIL/SOLID

Work Order: HN2511191
Date Collected: 08/07/25 12:05
Date Received: 08/09/25 08:00

CLIENT ID: 14433 SB02 (3-4)

Lab ID: HN2511191-002

Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
o-Xylene	EPA 8260D	ND		µg/kg	40.7	1	08/14/25 19:14	08/11/25 16:58
Styrene	EPA 8260D	ND		µg/kg	40.7	1	08/14/25 19:14	08/11/25 16:58
Tetrachloroethylene (Perchloroethylene)	EPA 8260D	ND	S	µg/kg	40.7	1	08/14/25 19:14	08/11/25 16:58
Toluene	EPA 8260D	48.8		µg/kg	40.7	1	08/14/25 19:14	08/11/25 16:58
Total Xylene	EPA 8260D	ND		µg/kg	122	1	08/14/25 19:14	08/11/25 16:58
trans-1,2-Dichloroethylene	EPA 8260D	ND		µg/kg	40.7	1	08/14/25 19:14	08/11/25 16:58
trans-1,3-Dichloropropylene	EPA 8260D	ND		µg/kg	40.7	1	08/14/25 19:14	08/11/25 16:58
Trichloroethene (Trichloroethylene)	EPA 8260D	ND	S	µg/kg	40.7	1	08/14/25 19:14	08/11/25 16:58
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	EPA 8260D	ND		µg/kg	40.7	1	08/14/25 19:14	08/11/25 16:58
Vinyl chloride (Chloroethene)	EPA 8260D	ND		µg/kg	40.7	1	08/14/25 19:14	08/11/25 16:58
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>EPA 8260D</i>	97.9		%REC	80-120	1	08/14/25 19:14	08/11/25 16:58
<i>Surr: 4-Bromofluorobenzene</i>	<i>EPA 8260D</i>	91.4		%REC	80-120	1	08/14/25 19:14	08/11/25 16:58
<i>Surr: Dibromofluoromethane</i>	<i>EPA 8260D</i>	84.6		%REC	80-120	1	08/14/25 19:14	08/11/25 16:58
<i>Surr: Toluene-d8</i>	<i>EPA 8260D</i>	103		%REC	80-120	1	08/14/25 19:14	08/11/25 16:58

Analytical Report



Client: The Mannik & Smith Group, Inc.
Project: 14433_Tacoma
Matrix: SOIL/SOLID

Work Order: HN2511191
Date Collected: 08/07/25 12:20
Date Received: 08/09/25 08:00

CLIENT ID: 14433 SB03 (5-6)	Lab ID: HN2511191-003
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Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
General Chemistry Parameters								
Percent Moisture	EPA 3550C	28.3		%	0.1	1	08/13/25 15:37	NA
Chloride	EPA 9056A	113		mg/kg	14.0	1	08/13/25 16:48	08/13/25 11:05
Metals								
Arsenic	EPA 6020B	5.36		mg/kg	0.371	1	08/15/25 05:11	08/14/25 08:11
Barium	EPA 6020B	57.2		mg/kg	0.371	1	08/15/25 05:11	08/14/25 08:11
Cadmium	EPA 6020B	0.165		mg/kg	0.148	1	08/15/25 05:11	08/14/25 08:11
Chromium	EPA 6020B	10.7		mg/kg	0.371	1	08/15/25 05:11	08/14/25 08:11
Copper	EPA 6020B	10.7		mg/kg	0.371	1	08/15/25 05:11	08/14/25 08:11
Lead	EPA 6020B	26.4		mg/kg	0.371	1	08/15/25 05:11	08/14/25 08:11
Selenium	EPA 6020B	ND		mg/kg	0.371	1	08/15/25 05:11	08/14/25 08:11
Silver	EPA 6020B	ND		mg/kg	0.371	1	08/15/25 05:11	08/14/25 08:11
Zinc	EPA 6020B	51.4		mg/kg	7.43	10	08/15/25 18:00	08/14/25 08:11
Mercury	EPA 7471B	0.0286		mg/kg	0.0237	1	08/15/25 09:10	08/15/25 07:54
Organochlorine Pesticides by GC/ECD								
4,4'-DDD	EPA 8081B	ND		µg/kg	32.8	1	08/19/25 05:40	08/18/25 13:14
4,4'-DDE	EPA 8081B	ND		µg/kg	32.8	1	08/19/25 05:40	08/18/25 13:14
4,4'-DDT	EPA 8081B	ND		µg/kg	32.8	1	08/19/25 05:40	08/18/25 13:14
Aldrin	EPA 8081B	ND		µg/kg	32.8	1	08/19/25 05:40	08/18/25 13:14
alpha-BHC	EPA 8081B	ND		µg/kg	32.8	1	08/19/25 05:40	08/18/25 13:14
beta-BHC	EPA 8081B	ND		µg/kg	32.8	1	08/19/25 05:40	08/18/25 13:14
Chlordane, Technical	EPA 8081B	ND		µg/kg	82.1	1	08/19/25 05:40	08/18/25 13:14
cis-Chlordane	EPA 8081B	ND		µg/kg	32.8	1	08/19/25 05:40	08/18/25 13:14
delta-BHC	EPA 8081B	ND		µg/kg	32.8	1	08/19/25 05:40	08/18/25 13:14
Dieldrin	EPA 8081B	ND		µg/kg	32.8	1	08/19/25 05:40	08/18/25 13:14
Endosulfan I	EPA 8081B	ND		µg/kg	32.8	1	08/19/25 05:40	08/18/25 13:14
Endosulfan II	EPA 8081B	ND		µg/kg	32.8	1	08/19/25 05:40	08/18/25 13:14
Endosulfan sulfate	EPA 8081B	ND		µg/kg	32.8	1	08/19/25 05:40	08/18/25 13:14
Endrin	EPA 8081B	ND		µg/kg	32.8	1	08/19/25 05:40	08/18/25 13:14
Endrin aldehyde	EPA 8081B	ND		µg/kg	32.8	1	08/19/25 05:40	08/18/25 13:14
Endrin ketone	EPA 8081B	ND		µg/kg	32.8	1	08/19/25 05:40	08/18/25 13:14
gamma-BHC (Lindane)	EPA 8081B	ND		µg/kg	32.8	1	08/19/25 05:40	08/18/25 13:14

Analytical Report



Client: The Mannik & Smith Group, Inc.
Project: 14433_Tacoma
Matrix: SOIL/SOLID

Work Order: HN2511191
Date Collected: 08/07/25 12:20
Date Received: 08/09/25 08:00

CLIENT ID: 14433 SB03 (5-6)	Lab ID: HN2511191-003
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Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
Heptachlor	EPA 8081B	ND		µg/kg	32.8	1	08/19/25 05:40	08/18/25 13:14
Heptachlor epoxide	EPA 8081B	ND		µg/kg	32.8	1	08/19/25 05:40	08/18/25 13:14
Methoxychlor	EPA 8081B	ND		µg/kg	32.8	1	08/19/25 05:40	08/18/25 13:14
Toxaphene	EPA 8081B	ND		µg/kg	197	1	08/19/25 05:40	08/18/25 13:14
trans-Chlordane	EPA 8081B	ND		µg/kg	32.8	1	08/19/25 05:40	08/18/25 13:14
<i>Surr: Decachlorobiphenyl</i>	<i>EPA 8081B</i>	96.7		%REC	53-151	1	08/19/25 05:40	08/18/25 13:14
<i>Surr: Tetrachloro-m-xylene</i>	<i>EPA 8081B</i>	98.4		%REC	67-127	1	08/19/25 05:40	08/18/25 13:14

Semivolatile Organic Compounds by GC								
Aroclor 1016	EPA 8082A	ND		µg/kg	219	1	08/19/25 07:16	08/18/25 13:31
Aroclor 1221	EPA 8082A	ND		µg/kg	219	1	08/19/25 07:16	08/18/25 13:31
Aroclor 1232	EPA 8082A	ND		µg/kg	219	1	08/19/25 07:16	08/18/25 13:31
Aroclor 1242	EPA 8082A	ND		µg/kg	219	1	08/19/25 07:16	08/18/25 13:31
Aroclor 1248	EPA 8082A	ND		µg/kg	219	1	08/19/25 07:16	08/18/25 13:31
Aroclor 1254	EPA 8082A	ND		µg/kg	219	1	08/19/25 07:16	08/18/25 13:31
Aroclor 1260	EPA 8082A	ND		µg/kg	219	1	08/19/25 07:16	08/18/25 13:31
Aroclor 1262	EPA 8082A	ND		µg/kg	219	1	08/19/25 07:16	08/18/25 13:31
Aroclor 1268	EPA 8082A	ND		µg/kg	219	1	08/19/25 07:16	08/18/25 13:31
Total PCB	EPA 8082A	ND		µg/kg	219	1	08/19/25 07:16	08/18/25 13:31
<i>Surr: Decachlorobiphenyl</i>	<i>EPA 8082A</i>	128		%REC	54-146	1	08/19/25 07:16	08/18/25 13:31
<i>Surr: Tetrachloro-m-xylene</i>	<i>EPA 8082A</i>	119		%REC	58-140	1	08/19/25 07:16	08/18/25 13:31
2,4,5-T	EPA 8151A	ND		µg/kg	6.92	1	08/22/25 21:21	08/21/25 17:35
2,4,5-TP (Silvex)	EPA 8151A	ND		µg/kg	6.92	1	08/22/25 21:21	08/21/25 17:35
2,4-D	EPA 8151A	ND		µg/kg	13.8	1	08/22/25 21:21	08/21/25 17:35
<i>Surr: DCAA</i>	<i>EPA 8151A</i>	60.0		%REC	10-116	1	08/22/25 21:21	08/21/25 17:35

Semivolatile Organic Compounds by GC-MS								
1,1'-Biphenyl (BZ-0)	EPA 8270E	ND		µg/kg	185	1	08/15/25 22:59	08/15/25 09:51
1,2,4,5-Tetrachlorobenzene	EPA 8270E	ND		µg/kg	1870	1	08/15/25 22:59	08/15/25 09:51
1,4-Dioxane (1,4-Diethyleneoxide)	EPA 8270E	ND		µg/kg	936	1	08/15/25 22:59	08/15/25 09:51
1-Methylnaphthalene	EPA 8270E	ND		µg/kg	37.4	1	08/15/25 22:59	08/15/25 09:51
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methylethyl) ether	EPA 8270E	ND		µg/kg	185	1	08/15/25 22:59	08/15/25 09:51

Analytical Report



Client: The Mannik & Smith Group, Inc.
Project: 14433_Tacoma
Matrix: SOIL/SOLID

Work Order: HN2511191
Date Collected: 08/07/25 12:20
Date Received: 08/09/25 08:00

CLIENT ID: 14433 SB03 (5-6) **Lab ID: HN2511191-003**

Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
2,3,4,6-Tetrachlorophenol	EPA 8270E	ND		µg/kg	374	1	08/15/25 22:59	08/15/25 09:51
2,4,5-Trichlorophenol	EPA 8270E	ND		µg/kg	185	1	08/15/25 22:59	08/15/25 09:51
2,4,6-Trichlorophenol	EPA 8270E	ND		µg/kg	185	1	08/15/25 22:59	08/15/25 09:51
2,4-Dichlorophenol	EPA 8270E	ND		µg/kg	185	1	08/15/25 22:59	08/15/25 09:51
2,4-Dimethylphenol	EPA 8270E	ND		µg/kg	185	1	08/15/25 22:59	08/15/25 09:51
2,4-Dinitrophenol	EPA 8270E	ND		µg/kg	1870	1	08/15/25 22:59	08/15/25 09:51
2,4-Dinitrotoluene (2,4-DNT)	EPA 8270E	ND		µg/kg	185	1	08/15/25 22:59	08/15/25 09:51
2,6-Dinitrotoluene (2,6-DNT)	EPA 8270E	ND		µg/kg	185	1	08/15/25 22:59	08/15/25 09:51
2-Chloronaphthalene	EPA 8270E	ND		µg/kg	37.4	1	08/15/25 22:59	08/15/25 09:51
2-Chlorophenol	EPA 8270E	ND		µg/kg	185	1	08/15/25 22:59	08/15/25 09:51
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	EPA 8270E	ND		µg/kg	185	1	08/15/25 22:59	08/15/25 09:51
2-Methylnaphthalene	EPA 8270E	ND		µg/kg	37.4	1	08/15/25 22:59	08/15/25 09:51
2-Methylphenol (o-Cresol)	EPA 8270E	ND		µg/kg	185	1	08/15/25 22:59	08/15/25 09:51
2-Nitroaniline	EPA 8270E	ND	S	µg/kg	185	1	08/15/25 22:59	08/15/25 09:51
2-Nitrophenol	EPA 8270E	ND		µg/kg	185	1	08/15/25 22:59	08/15/25 09:51
3&4-Methylphenol	EPA 8270E	ND		µg/kg	185	1	08/15/25 22:59	08/15/25 09:51
3,3'-Dichlorobenzidine	EPA 8270E	ND		µg/kg	936	1	08/15/25 22:59	08/15/25 09:51
3-Nitroaniline	EPA 8270E	ND		µg/kg	185	1	08/15/25 22:59	08/15/25 09:51
4-Bromophenyl phenyl ether (BDE-3)	EPA 8270E	ND		µg/kg	185	1	08/15/25 22:59	08/15/25 09:51
4-Chloro-3-methylphenol	EPA 8270E	ND		µg/kg	185	1	08/15/25 22:59	08/15/25 09:51
4-Chloroaniline	EPA 8270E	ND		µg/kg	374	1	08/15/25 22:59	08/15/25 09:51
4-Chlorophenyl phenylether	EPA 8270E	ND		µg/kg	185	1	08/15/25 22:59	08/15/25 09:51
4-Nitroaniline	EPA 8270E	ND		µg/kg	936	1	08/15/25 22:59	08/15/25 09:51
4-Nitrophenol	EPA 8270E	ND		µg/kg	1870	1	08/15/25 22:59	08/15/25 09:51
Acenaphthene	EPA 8270E	ND		µg/kg	37.4	1	08/15/25 22:59	08/15/25 09:51
Acenaphthylene	EPA 8270E	ND		µg/kg	37.4	1	08/15/25 22:59	08/15/25 09:51
Acetophenone	EPA 8270E	ND		µg/kg	185	1	08/15/25 22:59	08/15/25 09:51
Anthracene	EPA 8270E	ND		µg/kg	37.4	1	08/15/25 22:59	08/15/25 09:51
Atrazine	EPA 8270E	ND		µg/kg	185	1	08/15/25 22:59	08/15/25 09:51
Benzaldehyde	EPA 8270E	ND		µg/kg	374	1	08/15/25 22:59	08/15/25 09:51

Analytical Report



Client: The Mannik & Smith Group, Inc.
Project: 14433_Tacoma
Matrix: SOIL/SOLID

Work Order: HN2511191
Date Collected: 08/07/25 12:20
Date Received: 08/09/25 08:00

CLIENT ID: 14433 SB03 (5-6)	Lab ID: HN2511191-003
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Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
Benzo(a)anthracene	EPA 8270E	ND		µg/kg	37.4	1	08/15/25 22:59	08/15/25 09:51
Benzo(a)pyrene	EPA 8270E	ND		µg/kg	37.4	1	08/15/25 22:59	08/15/25 09:51
Benzo(b)fluoranthene	EPA 8270E	ND		µg/kg	37.4	1	08/15/25 22:59	08/15/25 09:51
Benzo(g,h,i)perylene	EPA 8270E	ND		µg/kg	37.4	1	08/15/25 22:59	08/15/25 09:51
Benzo(k)fluoranthene	EPA 8270E	ND		µg/kg	37.4	1	08/15/25 22:59	08/15/25 09:51
bis(2-Chloroethoxy) methane	EPA 8270E	ND		µg/kg	185	1	08/15/25 22:59	08/15/25 09:51
bis(2-Chloroethyl) ether	EPA 8270E	ND		µg/kg	185	1	08/15/25 22:59	08/15/25 09:51
Butyl benzyl phthalate	EPA 8270E	ND		µg/kg	374	1	08/15/25 22:59	08/15/25 09:51
Caprolactam	EPA 8270E	ND		µg/kg	185	1	08/15/25 22:59	08/15/25 09:51
Carbazole	EPA 8270E	ND		µg/kg	185	1	08/15/25 22:59	08/15/25 09:51
Chrysene	EPA 8270E	ND		µg/kg	37.4	1	08/15/25 22:59	08/15/25 09:51
Di(2-ethylhexyl) phthalate (bis(2-Ethylhexyl) phthalate, DEHP)	EPA 8270E	ND		µg/kg	185	1	08/15/25 22:59	08/15/25 09:51
Dibenz(a,h) anthracene	EPA 8270E	ND		µg/kg	185	1	08/15/25 22:59	08/15/25 09:51
Dibenzofuran	EPA 8270E	ND		µg/kg	185	1	08/15/25 22:59	08/15/25 09:51
Diethyl phthalate	EPA 8270E	ND		µg/kg	185	1	08/15/25 22:59	08/15/25 09:51
Dimethyl phthalate	EPA 8270E	ND		µg/kg	185	1	08/15/25 22:59	08/15/25 09:51
Di-n-butyl phthalate	EPA 8270E	ND		µg/kg	185	1	08/15/25 22:59	08/15/25 09:51
Di-n-octyl phthalate	EPA 8270E	ND		µg/kg	185	1	08/15/25 22:59	08/15/25 09:51
Fluoranthene	EPA 8270E	52.4		µg/kg	37.4	1	08/15/25 22:59	08/15/25 09:51
Fluorene	EPA 8270E	ND		µg/kg	37.4	1	08/15/25 22:59	08/15/25 09:51
Hexachlorobenzene	EPA 8270E	ND		µg/kg	185	1	08/15/25 22:59	08/15/25 09:51
Hexachlorobutadiene	EPA 8270E	ND		µg/kg	185	1	08/15/25 22:59	08/15/25 09:51
Hexachlorocyclopentadiene	EPA 8270E	ND		µg/kg	185	1	08/15/25 22:59	08/15/25 09:51
Hexachloroethane	EPA 8270E	ND		µg/kg	185	1	08/15/25 22:59	08/15/25 09:51
Indeno(1,2,3-cd) pyrene	EPA 8270E	ND		µg/kg	37.4	1	08/15/25 22:59	08/15/25 09:51
Isophorone	EPA 8270E	ND		µg/kg	936	1	08/15/25 22:59	08/15/25 09:51
Methylphenol, Total	EPA 8270E	ND		µg/kg	185	1	08/15/25 22:59	08/15/25 09:51
Naphthalene	EPA 8270E	ND		µg/kg	37.4	1	08/15/25 22:59	08/15/25 09:51
Nitrobenzene	EPA 8270E	ND		µg/kg	936	1	08/15/25 22:59	08/15/25 09:51
n-Nitrosodi-n-propylamine	EPA 8270E	ND		µg/kg	185	1	08/15/25 22:59	08/15/25 09:51
N-Nitrosodiphenylamine	EPA 8270E	ND		µg/kg	185	1	08/15/25 22:59	08/15/25 09:51

Analytical Report



Client: The Mannik & Smith Group, Inc.
Project: 14433_Tacoma
Matrix: SOIL/SOLID

Work Order: HN2511191
Date Collected: 08/07/25 12:20
Date Received: 08/09/25 08:00

CLIENT ID: 14433 SB03 (5-6) **Lab ID: HN2511191-003**

Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
Pentachlorophenol	EPA 8270E	ND		µg/kg	185	1	08/15/25 22:59	08/15/25 09:51
Phenanthrene	EPA 8270E	ND		µg/kg	37.4	1	08/15/25 22:59	08/15/25 09:51
Phenol	EPA 8270E	ND		µg/kg	185	1	08/15/25 22:59	08/15/25 09:51
Pyrene	EPA 8270E	48.6		µg/kg	37.4	1	08/15/25 22:59	08/15/25 09:51
Pyridine	EPA 8270E	ND		µg/kg	936	1	08/15/25 22:59	08/15/25 09:51
Surr: 2,4,6-Tribromophenol	EPA 8270E	78.6		%REC	48-94	1	08/15/25 22:59	08/15/25 09:51
Surr: 2-Fluorobiphenyl	EPA 8270E	75.7		%REC	50-103	1	08/15/25 22:59	08/15/25 09:51
Surr: 2-Fluorophenol	EPA 8270E	81.0		%REC	43-105	1	08/15/25 22:59	08/15/25 09:51
Surr: 4-Terphenyl-d14	EPA 8270E	89.5		%REC	55-111	1	08/15/25 22:59	08/15/25 09:51
Surr: Nitrobenzene-d5	EPA 8270E	78.4		%REC	47-100	1	08/15/25 22:59	08/15/25 09:51
Surr: Phenol-d6	EPA 8270E	84.9		%REC	49-110	1	08/15/25 22:59	08/15/25 09:51

Volatile Organic Compounds by GC-MS

1,1,1-Trichloroethane	EPA 8260D	ND		µg/kg	55.2	1	08/14/25 23:28	08/11/25 16:58
1,1,2,2-Tetrachloroethane	EPA 8260D	ND		µg/kg	55.2	1	08/14/25 23:28	08/11/25 16:58
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	EPA 8260D	ND		µg/kg	55.2	1	08/14/25 23:28	08/11/25 16:58
1,1,2-Trichloroethane	EPA 8260D	ND		µg/kg	55.2	1	08/14/25 23:28	08/11/25 16:58
1,1-Dichloroethane	EPA 8260D	ND		µg/kg	55.2	1	08/14/25 23:28	08/11/25 16:58
1,1-Dichloroethylene	EPA 8260D	ND		µg/kg	55.2	1	08/14/25 23:28	08/11/25 16:58
1,2,3-Trichlorobenzene	EPA 8260D	ND		µg/kg	184	1	08/14/25 23:28	08/11/25 16:58
1,2,3-Trichloropropane	EPA 8260D	ND		µg/kg	55.2	1	08/14/25 23:28	08/11/25 16:58
1,2,4-Trichlorobenzene	EPA 8260D	ND		µg/kg	184	1	08/14/25 23:28	08/11/25 16:58
1,2,4-Trimethylbenzene	EPA 8260D	ND		µg/kg	55.2	1	08/14/25 23:28	08/11/25 16:58
1,2-Dibromo-3-chloropropane (DBCP)	EPA 8260D	ND		µg/kg	184	1	08/14/25 23:28	08/11/25 16:58
1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 8260D	ND		µg/kg	55.2	1	08/14/25 23:28	08/11/25 16:58
1,2-Dichlorobenzene (o-Dichlorobenzene)	EPA 8260D	ND		µg/kg	55.2	1	08/14/25 23:28	08/11/25 16:58
1,2-Dichloroethane (Ethylene dichloride)	EPA 8260D	ND		µg/kg	184	1	08/14/25 23:28	08/11/25 16:58
1,2-Dichloropropane	EPA 8260D	ND		µg/kg	55.2	1	08/14/25 23:28	08/11/25 16:58
1,3,5-Trimethylbenzene	EPA 8260D	ND		µg/kg	184	1	08/14/25 23:28	08/11/25 16:58
1,3-Dichlorobenzene (m-Dichlorobenzene)	EPA 8260D	ND		µg/kg	55.2	1	08/14/25 23:28	08/11/25 16:58
1,3-Dichloropropene	EPA 8260D	ND		µg/kg	110	1	08/14/25 23:28	08/11/25 16:58

Analytical Report



Client: The Mannik & Smith Group, Inc.
Project: 14433_Tacoma
Matrix: SOIL/SOLID

Work Order: HN2511191
Date Collected: 08/07/25 12:20
Date Received: 08/09/25 08:00

CLIENT ID: 14433 SB03 (5-6)	Lab ID: HN2511191-003
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Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
1,4-Dichlorobenzene (p-Dichlorobenzene)	EPA 8260D	ND		µg/kg	55.2	1	08/14/25 23:28	08/11/25 16:58
2-Butanone (Methyl ethyl ketone, MEK)	EPA 8260D	ND		µg/kg	368	1	08/14/25 23:28	08/11/25 16:58
2-Hexanone	EPA 8260D	ND		µg/kg	55.2	1	08/14/25 23:28	08/11/25 16:58
4-Methyl-2-pentanone (MIBK)	EPA 8260D	ND		µg/kg	55.2	1	08/14/25 23:28	08/11/25 16:58
Acetone	EPA 8260D	ND		µg/kg	184	1	08/14/25 23:28	08/11/25 16:58
Benzene	EPA 8260D	ND		µg/kg	55.2	1	08/14/25 23:28	08/11/25 16:58
Bromochloromethane	EPA 8260D	ND		µg/kg	55.2	1	08/14/25 23:28	08/11/25 16:58
Bromodichloromethane	EPA 8260D	ND		µg/kg	55.2	1	08/14/25 23:28	08/11/25 16:58
Bromoform	EPA 8260D	ND		µg/kg	55.2	1	08/14/25 23:28	08/11/25 16:58
Carbon disulfide	EPA 8260D	ND		µg/kg	55.2	1	08/14/25 23:28	08/11/25 16:58
Carbon tetrachloride	EPA 8260D	ND		µg/kg	55.2	1	08/14/25 23:28	08/11/25 16:58
Chlorobenzene	EPA 8260D	ND		µg/kg	55.2	1	08/14/25 23:28	08/11/25 16:58
Chlorodibromomethane	EPA 8260D	ND		µg/kg	55.2	1	08/14/25 23:28	08/11/25 16:58
Chloroethane (Ethyl chloride)	EPA 8260D	ND		µg/kg	184	1	08/14/25 23:28	08/11/25 16:58
Chloroform	EPA 8260D	ND		µg/kg	55.2	1	08/14/25 23:28	08/11/25 16:58
cis & trans-1,2-Dichloroethene	EPA 8260D	ND		µg/kg	110	1	08/14/25 23:28	08/11/25 16:58
cis-1,2-Dichloroethylene	EPA 8260D	ND		µg/kg	55.2	1	08/14/25 23:28	08/11/25 16:58
cis-1,3-Dichloropropene	EPA 8260D	ND		µg/kg	55.2	1	08/14/25 23:28	08/11/25 16:58
Cyclohexane	EPA 8260D	ND		µg/kg	184	1	08/14/25 23:28	08/11/25 16:58
Dichlorodifluoromethane (Freon-12)	EPA 8260D	ND		µg/kg	184	1	08/14/25 23:28	08/11/25 16:58
Ethylbenzene	EPA 8260D	ND		µg/kg	55.2	1	08/14/25 23:28	08/11/25 16:58
Isopropylbenzene	EPA 8260D	ND		µg/kg	55.2	1	08/14/25 23:28	08/11/25 16:58
m+p-Xylene	EPA 8260D	ND		µg/kg	110	1	08/14/25 23:28	08/11/25 16:58
Methyl acetate	EPA 8260D	ND		µg/kg	460	1	08/14/25 23:28	08/11/25 16:58
Methyl bromide (Bromomethane)	EPA 8260D	ND		µg/kg	184	1	08/14/25 23:28	08/11/25 16:58
Methyl chloride (Chloromethane)	EPA 8260D	ND		µg/kg	184	1	08/14/25 23:28	08/11/25 16:58
Methyl tert-butyl ether (MTBE)	EPA 8260D	ND		µg/kg	55.2	1	08/14/25 23:28	08/11/25 16:58
Methylcyclohexane	EPA 8260D	ND		µg/kg	55.2	1	08/14/25 23:28	08/11/25 16:58
Methylene chloride (Dichloromethane)	EPA 8260D	ND		µg/kg	460	1	08/14/25 23:28	08/11/25 16:58

Analytical Report



Client: The Mannik & Smith Group, Inc.
Project: 14433_Tacoma
Matrix: SOIL/SOLID

Work Order: HN2511191
Date Collected: 08/07/25 12:20
Date Received: 08/09/25 08:00

CLIENT ID: 14433 SB03 (5-6) **Lab ID: HN2511191-003**

Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
o-Xylene	EPA 8260D	ND		µg/kg	55.2	1	08/14/25 23:28	08/11/25 16:58
Styrene	EPA 8260D	ND		µg/kg	55.2	1	08/14/25 23:28	08/11/25 16:58
Tetrachloroethylene (Perchloroethylene)	EPA 8260D	ND		µg/kg	55.2	1	08/14/25 23:28	08/11/25 16:58
Toluene	EPA 8260D	ND		µg/kg	55.2	1	08/14/25 23:28	08/11/25 16:58
Total Xylene	EPA 8260D	ND		µg/kg	166	1	08/14/25 23:28	08/11/25 16:58
trans-1,2-Dichloroethylene	EPA 8260D	ND		µg/kg	55.2	1	08/14/25 23:28	08/11/25 16:58
trans-1,3-Dichloropropylene	EPA 8260D	ND		µg/kg	55.2	1	08/14/25 23:28	08/11/25 16:58
Trichloroethene (Trichloroethylene)	EPA 8260D	ND		µg/kg	55.2	1	08/14/25 23:28	08/11/25 16:58
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	EPA 8260D	ND		µg/kg	55.2	1	08/14/25 23:28	08/11/25 16:58
Vinyl chloride (Chloroethene)	EPA 8260D	ND		µg/kg	55.2	1	08/14/25 23:28	08/11/25 16:58
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>EPA 8260D</i>	101		%REC	80-120	1	08/14/25 23:28	08/11/25 16:58
<i>Surr: 4-Bromofluorobenzene</i>	<i>EPA 8260D</i>	88.4		%REC	80-120	1	08/14/25 23:28	08/11/25 16:58
<i>Surr: Dibromofluoromethane</i>	<i>EPA 8260D</i>	83.4		%REC	80-120	1	08/14/25 23:28	08/11/25 16:58
<i>Surr: Toluene-d8</i>	<i>EPA 8260D</i>	103		%REC	80-120	1	08/14/25 23:28	08/11/25 16:58



Client: The Mannik & Smith Group, Inc.
Project: 14433_Tacoma
Matrix: SOIL/SOLID
QC Lot: 2157199

Work Order: HN2511191
Date Collected: NA
Date Received: NA
Run ID: 3395836

General Chemistry Parameters

MB	CLIENT ID: Method Blank	Lab ID: QC-2157199-001
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Method: EPA 9056A **Dilution:** 1 **Analysis Date:** 08/13/25 15:02
Prep Date: 08/13/25 11:06

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

LCS	CLIENT ID: Laboratory Control Sample	Lab ID: QC-2157199-002
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Method: EPA 9056A **Dilution:** 1 **Analysis Date:** 08/13/25 15:10
Prep Date: 08/13/25 11:06

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Chloride	96.0	mg/kg	10.0	100		96.0	87-110			

The following samples were analyzed in this batch: HN2511191-001, HN2511191-002, HN2511191-003



Client: The Mannik & Smith Group, Inc.
Project: 14433_Tacoma
Matrix: SOIL/SOLID
QC Lot: 2157868

Work Order: HN2511191
Date Collected: NA
Date Received: NA
Run ID: 3396624

General Chemistry Parameters

MB	CLIENT ID: Method Blank	Lab ID: QC-2157868-001
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Method: EPA 3550C **Dilution:** 1 **Analysis Date:** 08/13/25 15:37
Prep Date: NA

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

LCS	CLIENT ID: Laboratory Control Sample	Lab ID: QC-2157868-002
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Method: EPA 3550C **Dilution:** 1 **Analysis Date:** 08/13/25 15:37
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	98-102			

The following samples were analyzed in this batch: HN2511191-001, HN2511191-002, HN2511191-003

QA/QC Report



Client: The Mannik & Smith Group, Inc.
Project: 14433_Tacoma
Matrix: SOIL/SOLID
QC Lot: 2159430

Work Order: HN2511191
Date Collected: NA
Date Received: NA
Run ID: 3400811

Metals

MB	CLIENT ID: Method Blank	Lab ID: QC-2159430-001
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Method: EPA 6020B

Dilution: 1

Analysis Date: 08/15/25 04:36

Prep Date: 08/14/25 08:12

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

LCS	CLIENT ID: Laboratory Control Sample	Lab ID: QC-2159430-002
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Method: EPA 6020B

Dilution: 1

Analysis Date: 08/15/25 04:38

Prep Date: 08/14/25 08:12

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Arsenic	4.84	mg/kg	0.250	5		96.8	80-120			
Barium	4.90	mg/kg	0.250	5		98.0	80-120			
Cadmium	4.88	mg/kg	0.100	5		97.7	80-120			
Chromium	4.97	mg/kg	0.250	5		99.4	80-120			
Copper	5.14	mg/kg	0.250	5		103	80-120			
Lead	4.96	mg/kg	0.250	5		99.2	80-120			
Selenium	4.91	mg/kg	0.250	5		98.2	80-120			
Silver	4.77	mg/kg	0.250	5		95.4	80-120			
Zinc	4.91	mg/kg	0.500	5		98.2	80-120			

The following samples were analyzed in this batch: HN2511191-001, HN2511191-002, HN2511191-003



Client: The Mannik & Smith Group, Inc.
Project: 14433_Tacoma
Matrix: SOIL/SOLID
QC Lot: 2159499

Work Order: HN2511191
Date Collected: NA
Date Received: NA
Run ID: 3402960

Metals

MB	CLIENT ID: Method Blank	Lab ID: QC-2159499-001
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Method: EPA 7471B **Dilution:** 1 **Analysis Date:** 08/15/25 08:38
Prep Date: 08/15/25 07:55

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

LCS	CLIENT ID: Laboratory Control Sample	Lab ID: QC-2159499-002
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Method: EPA 7471B **Dilution:** 1 **Analysis Date:** 08/15/25 08:40
Prep Date: 08/15/25 07:55

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Mercury	0.168	mg/kg	0.0200	0.1665		101	80-120			

The following samples were analyzed in this batch: HN2511191-001, HN2511191-002, HN2511191-003



Client: The Mannik & Smith Group, Inc.
Project: 14433_Tacoma
Matrix: SOIL/SOLID
QC Lot: 2166096

Work Order: HN2511191
Date Collected: NA
Date Received: NA
Run ID: 3413988

Organochlorine Pesticides by GC/ECD

MB	CLIENT ID: Method Blank	Lab ID: QC-2166096-001
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Method: EPA 8081B**Dilution:** 1**Analysis Date:** 08/18/25 22:56**Prep Date:** 08/18/25 13:15

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
4,4'-DDD	ND	µg/kg	10.0							
4,4'-DDE	ND	µg/kg	10.0							
4,4'-DDT	ND	µg/kg	10.0							
Aldrin	ND	µg/kg	10.0							
alpha-BHC	ND	µg/kg	10.0							
beta-BHC	ND	µg/kg	10.0							
Chlordane, Technical	ND	µg/kg	25.0							
cis-Chlordane	ND	µg/kg	10.0							
delta-BHC	ND	µg/kg	10.0							
Dieldrin	ND	µg/kg	10.0							
Endosulfan I	ND	µg/kg	10.0							
Endosulfan II	ND	µg/kg	10.0							
Endosulfan sulfate	ND	µg/kg	10.0							
Endrin	ND	µg/kg	10.0							
Endrin aldehyde	ND	µg/kg	10.0							
Endrin ketone	ND	µg/kg	10.0							
gamma-BHC (Lindane)	ND	µg/kg	10.0							
Heptachlor	ND	µg/kg	10.0							
Heptachlor epoxide	ND	µg/kg	10.0							
Methoxychlor	ND	µg/kg	10.0							
Toxaphene	ND	µg/kg	60.0							
trans-Chlordane	ND	µg/kg	10.0							
Surr: Decachlorobiphenyl	32.1	µg/kg		33.33		96.2	53-151			
Surr: Tetrachloro-m-xylene	32.9	µg/kg		33.33		98.6	67-127			

LCS	CLIENT ID: Laboratory Control Sample	Lab ID: QC-2166096-002
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Method: EPA 8081B**Dilution:** 1**Analysis Date:** 08/18/25 23:10**Prep Date:** 08/18/25 13:15

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
4,4'-DDD	34.1	µg/kg	10.0	33.33		102	55-141			
4,4'-DDE	34.1	µg/kg	10.0	33.33		102	55-143			
4,4'-DDT	36.4	µg/kg	10.0	33.33		109	50-144			
Aldrin	35.9	µg/kg	10.0	33.33		108	57-141			
alpha-BHC	36.6	µg/kg	10.0	33.33		110	58-144			
beta-BHC	37.0	µg/kg	10.0	33.33		111	55-147			
cis-Chlordane	35.0	µg/kg	10.0	33.33		105	58-142			
delta-BHC	35.2	µg/kg	10.0	33.33		106	59-142			
Dieldrin	36.2	µg/kg	10.0	33.33		108	59-142			
Endosulfan I	35.2	µg/kg	10.0	33.33		105	57-145			
Endosulfan II	36.2	µg/kg	10.0	33.33		109	58-138			
Endosulfan sulfate	35.3	µg/kg	10.0	33.33		106	54-136			
Endrin	35.2	µg/kg	10.0	33.33		106	45-150			

QA/QC Report



Client: The Mannik & Smith Group, Inc.
Project: 14433_Tacoma
Matrix: SOIL/SOLID
QC Lot: 2166096

Work Order: HN2511191
Date Collected: NA
Date Received: NA
Run ID: 3413988

LCS		CLIENT ID: Laboratory Control Sample				Lab ID: QC-2166096-002			
Method: EPA 8081B		Dilution: 1		Analysis Date: 08/18/25 23:10		Prep Date: 08/18/25 13:15			
Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit Qual
Endrin aldehyde	39.3	µg/kg	10.0	33.33		118	41-147		
Endrin ketone	35.7	µg/kg	10.0	33.33		107	54-146		
gamma-BHC (Lindane)	36.3	µg/kg	10.0	33.33		109	58-145		
Heptachlor	36.9	µg/kg	10.0	33.33		111	51-145		
Heptachlor epoxide	35.3	µg/kg	10.0	33.33		106	59-143		
Methoxychlor	31.9	µg/kg	10.0	33.33		95.8	43-144		
trans-Chlordane	36.5	µg/kg	10.0	33.33		109	56-145		
Surr: Decachlorobiphenyl	30.9	µg/kg		33.33		92.8	51-151		
Surr: Tetrachloro-m-xylene	32.1	µg/kg		33.33		96.2	67-127		

The following samples were analyzed in this batch: HN2511191-001, HN2511191-002, HN2511191-003



Client: The Mannik & Smith Group, Inc.
Project: 14433_Tacoma
Matrix: SOIL/SOLID
QC Lot: 2166119

Work Order: HN2511191
Date Collected: NA
Date Received: NA
Run ID: 3418329

Semivolatile Organic Compounds by GC

MB	CLIENT ID: Method Blank	Lab ID: QC-2166119-001
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Method: EPA 8082A

Dilution: 1

Analysis Date: 08/20/25 06:13

Prep Date: 08/18/25 13:32

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Aroclor 1016	ND	µg/kg	66.7							
Aroclor 1221	ND	µg/kg	66.7							
Aroclor 1232	ND	µg/kg	66.7							
Aroclor 1242	ND	µg/kg	66.7							
Aroclor 1248	ND	µg/kg	66.7							
Aroclor 1254	ND	µg/kg	66.7							
Aroclor 1260	ND	µg/kg	66.7							
Aroclor 1262	ND	µg/kg	66.7							
Aroclor 1268	ND	µg/kg	66.7							
Total PCB	ND	µg/kg	66.7							
Surr: Decachlorobiphenyl	41.7	µg/kg		33.3		125	54-146			
Surr: Tetrachloro-m-xylene	38.5	µg/kg		33.3		116	58-140			

LCS	CLIENT ID: Laboratory Control Sample	Lab ID: QC-2166119-002
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Method: EPA 8082A

Dilution: 1

Analysis Date: 08/20/25 06:24

Prep Date: 08/18/25 13:32

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Aroclor 1016	1100	µg/kg	66.7	833		132	71-135			
Aroclor 1260	1060	µg/kg	66.7	833		127	67-135			
Surr: Decachlorobiphenyl	45.4	µg/kg		33.3		136	54-146			
Surr: Tetrachloro-m-xylene	37.4	µg/kg		33.3		112	58-140			

The following samples were analyzed in this batch: HN2511191-001, HN2511191-002, HN2511191-003



Client: The Mannik & Smith Group, Inc.
Project: 14433_Tacoma
Matrix: SOIL/SOLID
QC Lot: 2171332

Work Order: HN2511191
Date Collected: NA
Date Received: NA
Run ID: 3431099

Semivolatile Organic Compounds by GC

MB	CLIENT ID: Method Blank	Lab ID: QC-2171332-001
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Method: EPA 8151A **Dilution:** 1 **Analysis Date:** 08/22/25 18:05
Prep Date: 08/21/25 17:36

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
2,4,5-T	ND	µg/kg	5.00							
2,4,5-TP (Silvex)	ND	µg/kg	5.00							
2,4-D	ND	µg/kg	10.0							
Surr: DCAA	33.0	µg/kg		50		66.0	10-116			

LCS	CLIENT ID: Laboratory Control Sample	Lab ID: QC-2171332-002
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Method: EPA 8151A **Dilution:** 1 **Analysis Date:** 08/22/25 18:18
Prep Date: 08/21/25 17:36

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
2,4,5-T	31.0	µg/kg	5.00	50		62.0	10-119			
2,4,5-TP (Silvex)	31.0	µg/kg	5.00	50		62.0	10-101			
2,4-D	34.0	µg/kg	10.0	50		68.0	10-128			
Surr: DCAA	37.0	µg/kg		50		74.0	10-116			

The following samples were analyzed in this batch: HN2511191-001, HN2511191-002, HN2511191-003



Client: The Mannik & Smith Group, Inc.
Project: 14433_Tacoma
Matrix: SOIL/SOLID
QC Lot: 2162090

Work Order: HN2511191
Date Collected: NA
Date Received: NA
Run ID: 3405824

Semivolatile Organic Compounds by GC-MS

MB	CLIENT ID: Method Blank	Lab ID: QC-2162090-001
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Method: EPA 8270E**Dilution:** 1**Analysis Date:** 08/15/25 17:14**Prep Date:** 08/15/25 09:52

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

QA/QC Report



Client: The Mannik & Smith Group, Inc.
Project: 14433_Tacoma
Matrix: SOIL/SOLID
QC Lot: 2162090

Work Order: HN2511191
Date Collected: NA
Date Received: NA
Run ID: 3405824

MB	CLIENT ID: Method Blank	Lab ID: QC-2162090-001
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Method: EPA 8270E

Dilution: 1

Analysis Date: 08/15/25 17:14

Prep Date: 08/15/25 09:52

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Butyl benzyl phthalate	ND	µg/kg	67.0							
Caprolactam	ND	µg/kg	33.0							
Carbazole	ND	µg/kg	33.0							
Chrysene	ND	µg/kg	6.67							
Di(2-ethylhexyl) phthalate (bis(2-Ethylhexyl)phthalate, DEHP)	ND	µg/kg	33.0							
Dibenz(a,h) anthracene	ND	µg/kg	33.0							
Dibenzofuran	ND	µg/kg	33.0							
Diethyl phthalate	ND	µg/kg	33.0							
Dimethyl phthalate	ND	µg/kg	33.0							
Di-n-butyl phthalate	ND	µg/kg	33.0							
Di-n-octyl phthalate	ND	µg/kg	33.0							
Fluoranthene	ND	µg/kg	6.67							
Fluorene	ND	µg/kg	6.67							
Hexachlorobenzene	ND	µg/kg	33.0							
Hexachlorobutadiene	ND	µg/kg	33.0							
Hexachlorocyclopentadiene	ND	µg/kg	33.0							
Hexachloroethane	ND	µg/kg	33.0							
Indeno(1,2,3-cd) pyrene	ND	µg/kg	6.67							
Isophorone	ND	µg/kg	167							
Methylphenol, Total	ND	µg/kg	67.0							
Naphthalene	ND	µg/kg	6.67							
Nitrobenzene	ND	µg/kg	167							
n-Nitrosodi-n-propylamine	ND	µg/kg	33.0							
N-Nitrosodiphenylamine	ND	µg/kg	33.0							
Pentachlorophenol	ND	µg/kg	33.0							
Phenanthrene	ND	µg/kg	6.67							
Phenol	ND	µg/kg	33.0							
Pyrene	ND	µg/kg	6.67							
Pyridine	ND	µg/kg	167							
Surr: 2,4,6-Tribromophenol	2230	µg/kg		3333		66.9	48-94			
Surr: 2-Fluorobiphenyl	2140	µg/kg		3333		64.2	50-103			
Surr: 2-Fluorophenol	2270	µg/kg		3333		68.2	43-105			
Surr: 4-Terphenyl-d14	2580	µg/kg		3333		77.4	55-111			
Surr: Nitrobenzene-d5	2190	µg/kg		3333		65.7	47-100			
Surr: Phenol-d6	2310	µg/kg		3333		69.4	49-110			

LCS	CLIENT ID: Laboratory Control Sample	Lab ID: QC-2162090-002
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Method: EPA 8270E

Dilution: 1

Analysis Date: 08/15/25 17:36

Prep Date: 08/15/25 09:52

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
1,1'-Biphenyl (BZ-0)	1070	µg/kg	33.0	1333		80.0	57-101			
1,2,4,5-Tetrachlorobenzene	1080	µg/kg	33.0	1333		81.0	54-98			
1-Methylnaphthalene	1080	µg/kg	6.67	1333		81.3	56-100			

QA/QC Report



Client: The Mannik & Smith Group, Inc.
Project: 14433_Tacoma
Matrix: SOIL/SOLID
QC Lot: 2162090

Work Order: HN2511191
Date Collected: NA
Date Received: NA
Run ID: 3405824

LCS	CLIENT ID: Laboratory Control Sample	Lab ID: QC-2162090-002
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Method: EPA 8270E

Dilution: 1

Analysis Date: 08/15/25 17:36

Prep Date: 08/15/25 09:52

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
2,2'-Oxybis(1-chloropropane), bis(2-Chloro-1-methylethyl)ether	1160	µg/kg	33.0	1333		87.1	50-101			
2,3,4,6-Tetrachlorophenol	1220	µg/kg	67.0	1333		91.8	48-103			
2,4,5-Trichlorophenol	1090	µg/kg	33.0	1333		81.8	54-98			
2,4,6-Trichlorophenol	1100	µg/kg	33.0	1333		82.3	56-97			
2,4-Dichlorophenol	1100	µg/kg	33.0	1333		82.2	54-99			
2,4-Dimethylphenol	1230	µg/kg	33.0	1333		92.3	47-102			
2,4-Dinitrophenol	840	µg/kg	333	1333		63.0	10-100			
2,4-Dinitrotoluene (2,4-DNT)	1280	µg/kg	33.0	1333		96.0	62-105			
2,6-Dinitrotoluene (2,6-DNT)	1230	µg/kg	33.0	1333		92.2	62-103			
2-Chloronaphthalene	1080	µg/kg	6.67	1333		81.1	57-101			
2-Chlorophenol	1080	µg/kg	33.0	1333		80.7	52-102			
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	1210	µg/kg	33.0	1333		90.5	42-104			
2-Methylnaphthalene	1050	µg/kg	6.67	1333		79.1	55-102			
2-Methylphenol (o-Cresol)	1110	µg/kg	33.0	1333		83.5	54-103			
2-Nitroaniline	1380	µg/kg	33.0	1333		104	57-103			S
2-Nitrophenol	1310	µg/kg	33.0	1333		98.1	52-102			
3&4-Methylphenol	1120	µg/kg	33.0	1333		84.3	56-103			
3,3'-Dichlorobenzidine	939	µg/kg	167	1333		70.5	41-91			
3-Nitroaniline	1040	µg/kg	33.0	1333		77.8	35-107			
4-Bromophenyl phenyl ether (BDE-3)	1170	µg/kg	33.0	1333		87.5	63-104			
4-Chloro-3-methylphenol	1130	µg/kg	33.0	1333		85.0	57-103			
4-Chloroaniline	1120	µg/kg	67.0	1333		84.2	32-99			
4-Chlorophenyl phenylether	1190	µg/kg	33.0	1333		89.5	62-100			
4-Nitroaniline	891	µg/kg	167	1333		66.8	19-124			
4-Nitrophenol	1240	µg/kg	333	1333		92.7	44-106			
Acenaphthene	1090	µg/kg	6.67	1333		82.0	60-101			
Acenaphthylene	1100	µg/kg	6.67	1333		82.8	59-101			
Acetophenone	1080	µg/kg	33.0	1333		81.0	54-102			
Anthracene	1150	µg/kg	6.67	1333		86.4	63-96			
Atrazine	1350	µg/kg	33.0	1333		101	60-110			
Benzaldehyde	544	µg/kg	67.0	1333		40.8	10-143			
Benzo(a)anthracene	1150	µg/kg	6.67	1333		86.0	66-102			
Benzo(a)pyrene	1170	µg/kg	6.67	1333		87.6	66-105			
Benzo(b)fluoranthene	1170	µg/kg	6.67	1333		87.9	67-105			
Benzo(g,h,i)perylene	1160	µg/kg	6.67	1333		87.0	59-110			
Benzo(k)fluoranthene	1200	µg/kg	6.67	1333		90.4	68-106			
bis(2-Chloroethoxy)methane	1160	µg/kg	33.0	1333		87.1	54-102			
bis(2-Chloroethyl) ether	1180	µg/kg	33.0	1333		88.9	51-101			
Butyl benzyl phthalate	1280	µg/kg	67.0	1333		96.0	59-107			
Caprolactam	1230	µg/kg	33.0	1333		92.5	49-103			
Carbazole	1120	µg/kg	33.0	1333		84.1	63-103			
Chrysene	1120	µg/kg	6.67	1333		84.3	66-105			
Di(2-ethylhexyl) phthalate (bis(2-Ethylhexyl)phthalate, DEHP)	1330	µg/kg	33.0	1333		100	63-101			

QA/QC Report



Client: The Mannik & Smith Group, Inc.
Project: 14433_Tacoma
Matrix: SOIL/SOLID
QC Lot: 2162090

Work Order: HN2511191
Date Collected: NA
Date Received: NA
Run ID: 3405824

LCS		CLIENT ID: Laboratory Control Sample				Lab ID: QC-2162090-002			
Method: EPA 8270E		Dilution: 1		Analysis Date: 08/15/25 17:36		Prep Date: 08/15/25 09:52			
Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit Qual
Dibenz(a,h) anthracene	1100	µg/kg	33.0	1333		82.6	61-109		
Dibenzofuran	1130	µg/kg	33.0	1333		84.5	61-101		
Diethyl phthalate	1210	µg/kg	33.0	1333		91.1	63-105		
Dimethyl phthalate	1160	µg/kg	33.0	1333		86.7	64-104		
Di-n-butyl phthalate	1230	µg/kg	33.0	1333		92.2	66-108		
Di-n-octyl phthalate	1410	µg/kg	33.0	1333		106	53-126		
Fluoranthene	1120	µg/kg	6.67	1333		84.3	66-105		
Fluorene	1160	µg/kg	6.67	1333		87.0	62-101		
Hexachlorobenzene	1150	µg/kg	33.0	1333		86.1	61-104		
Hexachlorobutadiene	1050	µg/kg	33.0	1333		79.1	52-99		
Hexachlorocyclopentadiene	1080	µg/kg	33.0	1333		80.9	39-106		
Hexachloroethane	1080	µg/kg	33.0	1333		81.0	59-99		
Indeno(1,2,3-cd) pyrene	1170	µg/kg	6.67	1333		87.6	57-114		
Isophorone	1150	µg/kg	167	1333		86.3	55-101		
Methylphenol, Total	2240	µg/kg	67.0	2667		83.9	54-103		
Naphthalene	1020	µg/kg	6.67	1333		76.2	54-99		
Nitrobenzene	1170	µg/kg	167	1333		87.6	53-100		
n-Nitrosodi-n-propylamine	1230	µg/kg	33.0	1333		92.6	52-104		
N-Nitrosodiphenylamine	1120	µg/kg	33.0	1333		84.2	61-104		
Pentachlorophenol	1020	µg/kg	33.0	1333		76.2	35-100		
Phenanthrene	1080	µg/kg	6.67	1333		81.0	64-101		
Phenol	1100	µg/kg	33.0	1333		82.8	51-107		
Pyrene	1220	µg/kg	6.67	1333		91.4	62-114		
Pyridine	939	µg/kg	167	1333		70.5	40-84		
Surr: 2,4,6-Tribromophenol	2970	µg/kg		3333		89.2	48-94		
Surr: 2-Fluorobiphenyl	2530	µg/kg		3333		76.0	50-103		
Surr: 2-Fluorophenol	2630	µg/kg		3333		78.8	43-105		
Surr: 4-Terphenyl-d14	2980	µg/kg		3333		89.4	55-111		
Surr: Nitrobenzene-d5	2720	µg/kg		3333		81.6	47-100		
Surr: Phenol-d6	2770	µg/kg		3333		83.2	49-110		

The following samples were analyzed in this batch: HN2511191-001, HN2511191-002, HN2511191-003



Client: The Mannik & Smith Group, Inc.
Project: 14433_Tacoma
Matrix: SOIL/SOLID
QC Lot: 2153857

Work Order: HN2511191
Date Collected: NA
Date Received: NA
Run ID: 3399174

Volatile Organic Compounds by GC-MS

MB	CLIENT ID: Method Blank	Lab ID: QC-2153857-001
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Method: EPA 8260D**Dilution:** 1**Analysis Date:** 08/13/25 22:00**Prep Date:** 08/11/25 17:05

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



Client: The Mannik & Smith Group, Inc.
Project: 14433_Tacoma
Matrix: SOIL/SOLID
QC Lot: 2153857

Work Order: HN2511191
Date Collected: NA
Date Received: NA
Run ID: 3399174

MB	CLIENT ID: Method Blank	Lab ID: QC-2153857-001
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Method: EPA 8260D

Dilution: 1

Analysis Date: 08/13/25 22:00

Prep Date: 08/11/25 17:05

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Ethylbenzene	ND	µg/kg	30.0							
Isopropylbenzene	ND	µg/kg	30.0							
m+p-Xylene	ND	µg/kg	60.0							
Methyl acetate	ND	µg/kg	250							
Methyl bromide (Bromomethane)	ND	µg/kg	100							
Methyl chloride (Chloromethane)	ND	µg/kg	100							
Methyl tert-butyl ether (MTBE)	ND	µg/kg	30.0							
Methylcyclohexane	ND	µg/kg	30.0							
Methylene chloride (Dichloromethane)	ND	µg/kg	250							
o-Xylene	ND	µg/kg	30.0							
Styrene	ND	µg/kg	30.0							
Tetrachloroethylene (Perchloroethylene)	ND	µg/kg	30.0							
Toluene	ND	µg/kg	30.0							
Total Xylene	ND	µg/kg	90.0							
trans-1,2-Dichloroethylene	ND	µg/kg	30.0							
trans-1,3-Dichloropropylene	ND	µg/kg	30.0							
Trichloroethene (Trichloroethylene)	ND	µg/kg	30.0							
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	ND	µg/kg	30.0							
Vinyl chloride (Chloroethene)	ND	µg/kg	30.0							
Surr: 1,2-Dichloroethane-d4	996	µg/kg		1000		99.6	80-120			
Surr: 4-Bromofluorobenzene	973	µg/kg		1000		97.3	80-120			
Surr: Dibromofluoromethane	952	µg/kg		1000		95.2	80-120			
Surr: Toluene-d8	1010	µg/kg		1000		101	80-120			

LCS	CLIENT ID: Laboratory Control Sample	Lab ID: QC-2153857-002
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Method: EPA 8260D

Dilution: 1

Analysis Date: 08/13/25 21:27

Prep Date: 08/11/25 17:05

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
1,1,1-Trichloroethane	876	µg/kg	30.0	1000		87.6	75-121			
1,1,2,2-Tetrachloroethane	908	µg/kg	30.0	1000		90.8	79-125			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	836	µg/kg	30.0	1000		83.6	62-129			
1,1,2-Trichloroethane	862	µg/kg	30.0	1000		86.2	80-123			
1,1-Dichloroethane	880	µg/kg	30.0	1000		88.0	74-124			
1,1-Dichloroethylene	870	µg/kg	30.0	1000		87.0	68-131			
1,2,3-Trichlorobenzene	826	µg/kg	100	1000		82.6	60-135			
1,2,3-Trichloropropane	861	µg/kg	30.0	1000		86.1	77-121			
1,2,4-Trichlorobenzene	830	µg/kg	100	1000		83.0	63-130			
1,2,4-Trimethylbenzene	886	µg/kg	30.0	1000		88.6	64-126			
1,2-Dibromo-3-chloropropane (DBCP)	870	µg/kg	100	1000		87.0	55-135			
1,2-Dibromoethane (EDB, Ethylene dibromide)	934	µg/kg	30.0	1000		93.4	63-155			

QA/QC Report



Client: The Mannik & Smith Group, Inc.
Project: 14433_Tacoma
Matrix: SOIL/SOLID
QC Lot: 2153857

Work Order: HN2511191
Date Collected: NA
Date Received: NA
Run ID: 3399174

LCS	CLIENT ID: Laboratory Control Sample	Lab ID: QC-2153857-002
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Method: EPA 8260D

Dilution: 1

Analysis Date: 08/13/25 21:27

Prep Date: 08/11/25 17:05

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
1,2-Dichlorobenzene (o-Dichlorobenzene)	906	µg/kg	30.0	1000		90.6	77-122			
1,2-Dichloroethane (Ethylene dichloride)	882	µg/kg	100	1000		88.2	70-130			
1,2-Dichloropropane	891	µg/kg	30.0	1000		89.1	71-130			
1,3,5-Trimethylbenzene	887	µg/kg	100	1000		88.7	66-130			
1,3-Dichlorobenzene (m-Dichlorobenzene)	901	µg/kg	30.0	1000		90.1	78-121			
1,3-Dichloropropene	1820	µg/kg	60.0	2000		91.0	62-124			
1,4-Dichlorobenzene (p-Dichlorobenzene)	920	µg/kg	30.0	1000		92.0	78-122			
2-Butanone (Methyl ethyl ketone, MEK)	970	µg/kg	200	1000		97.0	47-164			
2-Hexanone	958	µg/kg	30.0	1000		95.8	70-137			
4-Methyl-2-pentanone (MIBK)	1520	µg/kg	30.0	1000		152	57-200			
Acetone	1040	µg/kg	100	1000		104	52-190			
Benzene	944	µg/kg	30.0	1000		94.4	78-122			
Bromochloromethane	868	µg/kg	30.0	1000		86.8	68-130			
Bromodichloromethane	954	µg/kg	30.0	1000		95.4	75-125			
Bromoform	809	µg/kg	30.0	1000		80.9	59-120			
Carbon disulfide	1010	µg/kg	30.0	1000		101	60-163			
Carbon tetrachloride	1050	µg/kg	30.0	1000		105	69-123			
Chlorobenzene	886	µg/kg	30.0	1000		88.6	79-120			
Chlorodibromomethane	822	µg/kg	30.0	1000		82.2	57-123			
Chloroethane (Ethyl chloride)	920	µg/kg	100	1000		92.0	38-132			
Chloroform	846	µg/kg	30.0	1000		84.6	72-122			
cis & trans-1,2-Dichloroethene	1690	µg/kg	60.0	2000		84.4	72-127			
cis-1,2-Dichloroethylene	850	µg/kg	30.0	1000		85.0	74-125			
cis-1,3-Dichloropropene	1010	µg/kg	30.0	1000		101	62-124			
Dichlorodifluoromethane (Freon-12)	884	µg/kg	100	1000		88.4	28-137			
Ethylbenzene	872	µg/kg	30.0	1000		87.2	75-121			
Isopropylbenzene	914	µg/kg	30.0	1000		91.4	74-121			
m+p-Xylene	1840	µg/kg	60.0	2000		91.9	67-129			
Methyl acetate	676	µg/kg	250	1000		67.6	61-125			
Methyl bromide (Bromomethane)	892	µg/kg	100	1000		89.2	31-169			
Methyl chloride (Chloromethane)	904	µg/kg	100	1000		90.4	24-119			
Methyl tert-butyl ether (MTBE)	1020	µg/kg	30.0	1000		102	79-139			
Methylene chloride (Dichloromethane)	853	µg/kg	250	1000		85.3	62-135			
o-Xylene	923	µg/kg	30.0	1000		92.3	75-120			
Styrene	903	µg/kg	30.0	1000		90.3	74-126			
Tetrachloroethylene (Perchloroethylene)	866	µg/kg	30.0	1000		86.6	76-128			
Toluene	919	µg/kg	30.0	1000		91.9	76-120			
Total Xylene	2760	µg/kg	90.0	3000		92.0	67-129			
trans-1,2-Dichloroethylene	839	µg/kg	30.0	1000		83.9	72-127			
trans-1,3-Dichloropropylene	812	µg/kg	30.0	1000		81.2	66-120			
Trichloroethene (Trichloroethylene)	900	µg/kg	30.0	1000		90.0	75-122			

QA/QC Report



Client: The Mannik & Smith Group, Inc.
Project: 14433_Tacoma
Matrix: SOIL/SOLID
QC Lot: 2153857

Work Order: HN2511191
Date Collected: NA
Date Received: NA
Run ID: 3399174

LCS	CLIENT ID: Laboratory Control Sample	Lab ID: QC-2153857-002
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Method: EPA 8260D

Dilution: 1

Analysis Date: 08/13/25 21:27

Prep Date: 08/11/25 17:05

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	702	µg/kg	30.0	1000		70.2	51-115			
Vinyl chloride (Chloroethene)	1030	µg/kg	30.0	1000		103	43-128			
<i>Surr: 1,2-Dichloroethane-d4</i>	987	<i>µg/kg</i>		1000		98.7	80-120			
<i>Surr: 4-Bromofluorobenzene</i>	1020	<i>µg/kg</i>		1000		102	80-120			
<i>Surr: Dibromofluoromethane</i>	1070	<i>µg/kg</i>		1000		107	80-120			
<i>Surr: Toluene-d8</i>	973	<i>µg/kg</i>		1000		97.3	80-120			

The following samples were analyzed in this batch: HN2511191-001



Client: The Mannik & Smith Group, Inc.
Project: 14433_Tacoma
Matrix: SOIL/SOLID
QC Lot: 2153916

Work Order: HN2511191
Date Collected: NA
Date Received: NA
Run ID: 3402692

Volatile Organic Compounds by GC-MS

MB	CLIENT ID: Method Blank	Lab ID: QC-2153916-001
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Method: EPA 8260D

Dilution: 1

Analysis Date: 08/14/25 14:10

Prep Date: 08/11/25 16:59

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



Client: The Mannik & Smith Group, Inc.
Project: 14433_Tacoma
Matrix: SOIL/SOLID
QC Lot: 2153916

Work Order: HN2511191
Date Collected: NA
Date Received: NA
Run ID: 3402692

MB	CLIENT ID: Method Blank	Lab ID: QC-2153916-001
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Method: EPA 8260D

Dilution: 1

Analysis Date: 08/14/25 14:10

Prep Date: 08/11/25 16:59

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Ethylbenzene	ND	µg/kg	30.0							
Isopropylbenzene	ND	µg/kg	30.0							
m+p-Xylene	ND	µg/kg	60.0							
Methyl acetate	ND	µg/kg	250							
Methyl bromide (Bromomethane)	ND	µg/kg	100							
Methyl chloride (Chloromethane)	ND	µg/kg	100							
Methyl tert-butyl ether (MTBE)	ND	µg/kg	30.0							
Methylcyclohexane	ND	µg/kg	30.0							
Methylene chloride (Dichloromethane)	ND	µg/kg	250							
o-Xylene	ND	µg/kg	30.0							
Styrene	ND	µg/kg	30.0							
Tetrachloroethylene (Perchloroethylene)	ND	µg/kg	30.0							
Toluene	ND	µg/kg	30.0							
Total Xylene	ND	µg/kg	90.0							
trans-1,2-Dichloroethylene	ND	µg/kg	30.0							
trans-1,3-Dichloropropylene	ND	µg/kg	30.0							
Trichloroethene (Trichloroethylene)	ND	µg/kg	30.0							
Trichlorofluoromethane	ND	µg/kg	30.0							
(Fluorotrichloromethane, Freon 11)										
Vinyl chloride (Chloroethene)	ND	µg/kg	30.0							
Surr: 1,2-Dichloroethane-d4	1050	µg/kg		1000		105	80-120			
Surr: 4-Bromofluorobenzene	882	µg/kg		1000		88.2	80-120			
Surr: Dibromofluoromethane	926	µg/kg		1000		92.6	80-120			
Surr: Toluene-d8	1020	µg/kg		1000		102	80-120			

LCS	CLIENT ID: Laboratory Control Sample	Lab ID: QC-2153916-002
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Method: EPA 8260D

Dilution: 1

Analysis Date: 08/14/25 13:19

Prep Date: 08/11/25 16:59

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
1,1,1-Trichloroethane	919	µg/kg	30.0	1000		91.9	75-121			
1,1,2,2-Tetrachloroethane	970	µg/kg	30.0	1000		97.0	79-125			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	962	µg/kg	30.0	1000		96.2	62-129			
1,1,2-Trichloroethane	858	µg/kg	30.0	1000		85.8	80-123			
1,1-Dichloroethane	916	µg/kg	30.0	1000		91.6	74-124			
1,1-Dichloroethylene	864	µg/kg	30.0	1000		86.4	68-131			
1,2,3-Trichlorobenzene	864	µg/kg	100	1000		86.4	60-135			
1,2,3-Trichloropropane	932	µg/kg	30.0	1000		93.2	77-121			
1,2,4-Trichlorobenzene	958	µg/kg	100	1000		95.8	63-130			
1,2,4-Trimethylbenzene	943	µg/kg	30.0	1000		94.3	64-126			
1,2-Dibromo-3-chloropropane (DBCP)	855	µg/kg	100	1000		85.5	55-135			
1,2-Dibromoethane (EDB, Ethylene dibromide)	885	µg/kg	30.0	1000		88.5	63-155			

QA/QC Report



Client: The Mannik & Smith Group, Inc.
Project: 14433_Tacoma
Matrix: SOIL/SOLID
QC Lot: 2153916

Work Order: HN2511191
Date Collected: NA
Date Received: NA
Run ID: 3402692

LCS	CLIENT ID: Laboratory Control Sample	Lab ID: QC-2153916-002
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Method: EPA 8260D

Dilution: 1

Analysis Date: 08/14/25 13:19

Prep Date: 08/11/25 16:59

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
1,2-Dichlorobenzene (o-Dichlorobenzene)	936	µg/kg	30.0	1000		93.6	77-122			
1,2-Dichloroethane (Ethylene dichloride)	894	µg/kg	100	1000		89.4	70-130			
1,2-Dichloropropane	978	µg/kg	30.0	1000		97.8	71-130			
1,3,5-Trimethylbenzene	933	µg/kg	100	1000		93.3	66-130			
1,3-Dichlorobenzene (m-Dichlorobenzene)	944	µg/kg	30.0	1000		94.4	78-121			
1,3-Dichloropropene	1760	µg/kg	60.0	2000		87.8	62-124			
1,4-Dichlorobenzene (p-Dichlorobenzene)	928	µg/kg	30.0	1000		92.8	78-122			
2-Butanone (Methyl ethyl ketone, MEK)	924	µg/kg	200	1000		92.4	47-164			
2-Hexanone	979	µg/kg	30.0	1000		97.9	70-137			
4-Methyl-2-pentanone (MIBK)	1550	µg/kg	30.0	1000		155	57-200			
Acetone	924	µg/kg	100	1000		92.4	52-190			
Benzene	968	µg/kg	30.0	1000		96.8	78-122			
Bromochloromethane	914	µg/kg	30.0	1000		91.4	68-130			
Bromodichloromethane	919	µg/kg	30.0	1000		91.9	75-125			
Bromoform	811	µg/kg	30.0	1000		81.1	59-120			
Carbon disulfide	1090	µg/kg	30.0	1000		109	60-163			
Carbon tetrachloride	932	µg/kg	30.0	1000		93.2	69-123			
Chlorobenzene	898	µg/kg	30.0	1000		89.8	79-120			
Chlorodibromomethane	830	µg/kg	30.0	1000		83.0	57-123			
Chloroethane (Ethyl chloride)	893	µg/kg	100	1000		89.3	38-132			
Chloroform	874	µg/kg	30.0	1000		87.4	72-122			
cis & trans-1,2-Dichloroethene	1850	µg/kg	60.0	2000		92.3	72-127			
cis-1,2-Dichloroethylene	887	µg/kg	30.0	1000		88.7	74-125			
cis-1,3-Dichloropropene	978	µg/kg	30.0	1000		97.8	62-124			
Dichlorodifluoromethane (Freon-12)	1190	µg/kg	100	1000		119	28-137			
Ethylbenzene	910	µg/kg	30.0	1000		91.0	75-121			
Isopropylbenzene	922	µg/kg	30.0	1000		92.2	74-121			
m+p-Xylene	1860	µg/kg	60.0	2000		93.1	67-129			
Methyl acetate	672	µg/kg	250	1000		67.2	61-125			
Methyl bromide (Bromomethane)	984	µg/kg	100	1000		98.4	31-169			
Methyl chloride (Chloromethane)	978	µg/kg	100	1000		97.8	24-119			
Methyl tert-butyl ether (MTBE)	962	µg/kg	30.0	1000		96.2	79-139			
Methylene chloride (Dichloromethane)	966	µg/kg	250	1000		96.6	62-135			
o-Xylene	900	µg/kg	30.0	1000		90.0	75-120			
Styrene	918	µg/kg	30.0	1000		91.8	74-126			
Tetrachloroethylene (Perchloroethylene)	926	µg/kg	30.0	1000		92.6	76-128			
Toluene	936	µg/kg	30.0	1000		93.6	76-120			
Total Xylene	2760	µg/kg	90.0	3000		92.1	67-129			
trans-1,2-Dichloroethylene	959	µg/kg	30.0	1000		95.9	72-127			
trans-1,3-Dichloropropylene	778	µg/kg	30.0	1000		77.8	66-120			
Trichloroethene (Trichloroethylene)	932	µg/kg	30.0	1000		93.2	75-122			

QA/QC Report



Client: The Mannik & Smith Group, Inc.
Project: 14433_Tacoma
Matrix: SOIL/SOLID
QC Lot: 2153916

Work Order: HN2511191
Date Collected: NA
Date Received: NA
Run ID: 3402692

LCS	CLIENT ID: Laboratory Control Sample	Lab ID: QC-2153916-002
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Method: EPA 8260D**Dilution:** 1**Analysis Date:** 08/14/25 13:19**Prep Date:** 08/11/25 16:59

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	799	µg/kg	30.0	1000		79.9	51-115			
Vinyl chloride (Chloroethene)	1000	µg/kg	30.0	1000		100	43-128			
Surr: 1,2-Dichloroethane-d4	1060	µg/kg		1000		106	80-120			
Surr: 4-Bromofluorobenzene	1050	µg/kg		1000		105	80-120			
Surr: Dibromofluoromethane	1090	µg/kg		1000		109	80-120			
Surr: Toluene-d8	1030	µg/kg		1000		103	80-120			

MS	CLIENT ID: 14433 SB02 (3-4)	Lab ID: QC-2153916-005
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Method: EPA 8260D**Dilution:** 1**Analysis Date:** 08/14/25 19:46**Prep Date:** 08/11/25 16:59

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
1,1,1-Trichloroethane	829	µg/kg	40.7	1014.2	ND	81.8	75-121			
1,1,2,2-Tetrachloroethane	461	µg/kg	40.7	1014.2	ND	45.5	79-125			S
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	836	µg/kg	40.7	1014.2	ND	82.4	62-129			
1,1,2-Trichloroethane	911	µg/kg	40.7	1014.2	ND	89.8	80-123			
1,1-Dichloroethane	881	µg/kg	40.7	1014.2	ND	86.8	74-124			
1,1-Dichloroethylene	870	µg/kg	40.7	1014.2	ND	85.8	68-131			
1,2,3-Trichlorobenzene	953	µg/kg	136	1014.2	ND	94.0	60-135			
1,2,3-Trichloropropane	943	µg/kg	40.7	1014.2	ND	93.0	77-121			
1,2,4-Trichlorobenzene	910	µg/kg	136	1014.2	ND	89.7	63-130			
1,2,4-Trimethylbenzene	941	µg/kg	40.7	1014.2	ND	92.8	64-126			
1,2-Dibromo-3-chloropropane (DBCP)	816	µg/kg	136	1014.2	ND	80.5	55-135			
1,2-Dibromoethane (EDB, Ethylene dibromide)	853	µg/kg	40.7	1014.2	ND	84.1	63-155			
1,2-Dichlorobenzene (o-Dichlorobenzene)	978	µg/kg	40.7	1014.2	ND	96.4	77-122			
1,2-Dichloroethane (Ethylene dichloride)	931	µg/kg	136	1014.2	ND	91.8	70-130			
1,2-Dichloropropane	889	µg/kg	40.7	1014.2	ND	87.7	71-130			
1,3,5-Trimethylbenzene	934	µg/kg	136	1014.2	ND	92.0	66-130			
1,3-Dichlorobenzene (m-Dichlorobenzene)	893	µg/kg	40.7	1014.2	ND	88.0	78-121			
1,3-Dichloropropene	1560	µg/kg	81.3	2028.4	ND	77.0	62-124			
1,4-Dichlorobenzene (p-Dichlorobenzene)	934	µg/kg	40.7	1014.2	ND	92.0	78-122			
2-Butanone (Methyl ethyl ketone, MEK)	1050	µg/kg	271	1014.2	ND	104	47-164			
2-Hexanone	1220	µg/kg	40.7	1014.2	ND	120	70-137			
4-Methyl-2-pentanone (MIBK)	1150	µg/kg	40.7	1014.2	ND	113	57-200			
Acetone	1670	µg/kg	136	1014.2	ND	165	52-190			
Benzene	1040	µg/kg	40.7	1014.2	ND	102	78-122			
Bromochloromethane	874	µg/kg	40.7	1014.2	ND	86.2	68-130			
Bromodichloromethane	813	µg/kg	40.7	1014.2	ND	80.2	75-125			
Bromoform	745	µg/kg	40.7	1014.2	ND	73.4	59-120			

QA/QC Report



Client: The Mannik & Smith Group, Inc.
Project: 14433_Tacoma
Matrix: SOIL/SOLID
QC Lot: 2153916

Work Order: HN2511191
Date Collected: NA
Date Received: NA
Run ID: 3402692

MS		CLIENT ID: 14433 SB02 (3-4)				Lab ID: QC-2153916-005				
Method: EPA 8260D		Dilution: 1				Analysis Date: 08/14/25 19:46				
						Prep Date: 08/11/25 16:59				
Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Carbon disulfide	797	µg/kg	40.7	1014.2	ND	78.6	60-163			
Carbon tetrachloride	1110	µg/kg	40.7	1014.2	ND	110	69-123			
Chlorobenzene	913	µg/kg	40.7	1014.2	ND	90.0	79-120			
Chlorodibromomethane	661	µg/kg	40.7	1014.2	ND	65.2	57-123			
Chloroethane (Ethyl chloride)	864	µg/kg	136	1014.2	ND	85.2	38-132			
Chloroform	853	µg/kg	40.7	1014.2	ND	84.1	72-122			
cis & trans-1,2-Dichloroethene	1620	µg/kg	81.3	2028.4	ND	80.1	72-127			
cis-1,2-Dichloroethylene	862	µg/kg	40.7	1014.2	ND	85.0	74-125			
cis-1,3-Dichloropropene	870	µg/kg	40.7	1014.2	ND	85.8	62-124			
Dichlorodifluoromethane (Freon-12)	668	µg/kg	136	1014.2	ND	65.9	28-137			
Ethylbenzene	972	µg/kg	40.7	1014.2	ND	95.8	75-121			
Isopropylbenzene	975	µg/kg	40.7	1014.2	ND	96.1	74-121			
m+p-Xylene	1980	µg/kg	81.3	2028.4	ND	97.0	67-129			
Methyl acetate	874	µg/kg	339	1014.2	ND	86.2	61-125			
Methyl bromide (Bromomethane)	827	µg/kg	136	1014.2	ND	81.6	31-169			
Methyl chloride (Chloromethane)	853	µg/kg	136	1014.2	ND	84.1	24-119			
Methyl tert-butyl ether (MTBE)	922	µg/kg	40.7	1014.2	ND	90.9	79-139			
Methylene chloride (Dichloromethane)	896	µg/kg	339	1014.2	ND	88.4	62-135			
o-Xylene	983	µg/kg	40.7	1014.2	ND	96.9	75-120			
Styrene	916	µg/kg	40.7	1014.2	ND	90.4	74-126			
Tetrachloroethylene (Perchloroethylene)	1730	µg/kg	40.7	1014.2	ND	171	76-128			S
Toluene	1040	µg/kg	40.7	1014.2	48.8	99.0	76-120			
Total Xylene	2970	µg/kg	122	3042.6	ND	97.5	67-129			
trans-1,2-Dichloroethylene	762	µg/kg	40.7	1014.2	ND	75.2	72-127			
trans-1,3-Dichloropropylene	692	µg/kg	40.7	1014.2	ND	68.2	66-120			
Trichloroethene (Trichloroethylene)	1400	µg/kg	40.7	1014.2	ND	138	75-122			S
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	756	µg/kg	40.7	1014.2	ND	74.5	51-115			
Vinyl chloride (Chloroethene)	893	µg/kg	40.7	1014.2	ND	88.0	43-128			
Surr: 1,2-Dichloroethane-d4	998	µg/kg		1014.2		98.4	80-120			
Surr: 4-Bromofluorobenzene	1010	µg/kg		1014.2		100.0	80-120			
Surr: Dibromofluoromethane	977	µg/kg		1014.2		96.3	80-120			
Surr: Toluene-d8	1020	µg/kg		1014.2		100	80-120			

MSD		CLIENT ID: 14433 SB02 (3-4)				Lab ID: QC-2153916-006				
Method: EPA 8260D		Dilution: 1				Analysis Date: 08/14/25 20:02				
						Prep Date: 08/11/25 16:59				
Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
1,1,1-Trichloroethane	916	µg/kg	40.7	1014.2	ND	90.3	75-121	9.94	30	
1,1,2,2-Tetrachloroethane	402	µg/kg	40.7	1014.2	ND	39.6	79-125	13.7	30	S
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	898	µg/kg	40.7	1014.2	ND	88.6	62-129	7.19	30	
1,1,2-Trichloroethane	962	µg/kg	40.7	1014.2	ND	94.9	80-123	5.52	30	
1,1-Dichloroethane	989	µg/kg	40.7	1014.2	ND	97.5	74-124	11.6	30	

QA/QC Report



Client: The Mannik & Smith Group, Inc.
Project: 14433_Tacoma
Matrix: SOIL/SOLID
QC Lot: 2153916

Work Order: HN2511191
Date Collected: NA
Date Received: NA
Run ID: 3402692

MSD	CLIENT ID: 14433 SB02 (3-4)	Lab ID: QC-2153916-006
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Method: EPA 8260D

Dilution: 1

Analysis Date: 08/14/25 20:02

Prep Date: 08/11/25 16:59

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
1,1-Dichloroethylene	1020	µg/kg	40.7	1014.2	ND	100	68-131	15.8	30	
1,2,3-Trichlorobenzene	1060	µg/kg	136	1014.2	ND	104	60-135	10.3	30	
1,2,3-Trichloropropane	990	µg/kg	40.7	1014.2	ND	97.6	77-121	4.93	30	
1,2,4-Trichlorobenzene	966	µg/kg	136	1014.2	ND	95.3	63-130	6.05	30	
1,2,4-Trimethylbenzene	995	µg/kg	40.7	1014.2	ND	98.1	64-126	5.61	30	
1,2-Dibromo-3-chloropropane (DBCP)	847	µg/kg	136	1014.2	ND	83.5	55-135	3.66	30	
1,2-Dibromoethane (EDB, Ethylene dibromide)	964	µg/kg	40.7	1014.2	ND	95.1	63-155	12.3	30	
1,2-Dichlorobenzene (o-Dichlorobenzene)	992	µg/kg	40.7	1014.2	ND	97.8	77-122	1.39	30	
1,2-Dichloroethane (Ethylene dichloride)	955	µg/kg	136	1014.2	ND	94.2	70-130	2.58	30	
1,2-Dichloropropane	997	µg/kg	40.7	1014.2	ND	98.4	71-130	11.4	30	
1,3,5-Trimethylbenzene	1020	µg/kg	136	1014.2	ND	101	66-130	9.12	30	
1,3-Dichlorobenzene (m-Dichlorobenzene)	983	µg/kg	40.7	1014.2	ND	96.9	78-121	9.57	30	
1,3-Dichloropropene	1720	µg/kg	81.3	2028.4	ND	84.6	62-124	9.37	30	
1,4-Dichlorobenzene (p-Dichlorobenzene)	971	µg/kg	40.7	1014.2	ND	95.8	78-122	3.94	30	
2-Butanone (Methyl ethyl ketone, MEK)	1280	µg/kg	271	1014.2	ND	126	47-164	19.4	30	
2-Hexanone	1320	µg/kg	40.7	1014.2	ND	130	70-137	8.06	30	
4-Methyl-2-pentanone (MIBK)	1190	µg/kg	40.7	1014.2	ND	117	57-200	3.52	30	
Acetone	1760	µg/kg	136	1014.2	ND	174	52-190	5.28	30	
Benzene	1060	µg/kg	40.7	1014.2	ND	105	78-122	2.51	30	
Bromochloromethane	995	µg/kg	40.7	1014.2	ND	98.2	68-130	13.0	30	
Bromodichloromethane	915	µg/kg	40.7	1014.2	ND	90.2	75-125	11.8	30	
Bromoform	828	µg/kg	40.7	1014.2	ND	81.6	59-120	10.5	30	
Carbon disulfide	945	µg/kg	40.7	1014.2	ND	93.2	60-163	17.0	30	
Carbon tetrachloride	1160	µg/kg	40.7	1014.2	ND	114	69-123	4.15	30	
Chlorobenzene	968	µg/kg	40.7	1014.2	ND	95.5	79-120	5.93	30	
Chlorodibromomethane	756	µg/kg	40.7	1014.2	ND	74.6	57-123	13.4	30	
Chloroethane (Ethyl chloride)	881	µg/kg	136	1014.2	ND	86.8	38-132	1.98	30	
Chloroform	916	µg/kg	40.7	1014.2	ND	90.4	72-122	7.16	30	
cis & trans-1,2-Dichloroethene	1960	µg/kg	81.3	2028.4	ND	96.4	72-127	18.5	30	
cis-1,2-Dichloroethylene	1030	µg/kg	40.7	1014.2	ND	102	74-125	18.2	30	
cis-1,3-Dichloropropene	930	µg/kg	40.7	1014.2	ND	91.7	62-124	6.65	30	
Dichlorodifluoromethane (Freon-12)	693	µg/kg	136	1014.2	ND	68.4	28-137	3.65	30	
Ethylbenzene	1030	µg/kg	40.7	1014.2	ND	102	75-121	6.12	30	
Isopropylbenzene	1050	µg/kg	40.7	1014.2	ND	104	74-121	7.66	30	
m+p-Xylene	2090	µg/kg	81.3	2028.4	ND	102	67-129	5.01	30	
Methyl acetate	911	µg/kg	339	1014.2	ND	89.8	61-125	4.15	30	
Methyl bromide (Bromomethane)	985	µg/kg	136	1014.2	ND	97.1	31-169	17.4	30	
Methyl chloride (Chloromethane)	864	µg/kg	136	1014.2	ND	85.2	24-119	1.30	30	
Methyl tert-butyl ether (MTBE)	1130	µg/kg	40.7	1014.2	ND	111	79-139	20.3	30	
Methylene chloride (Dichloromethane)	960	µg/kg	339	1014.2	ND	94.7	62-135	6.88	30	
o-Xylene	1050	µg/kg	40.7	1014.2	ND	104	75-120	6.68	30	

QA/QC Report



Client: The Mannik & Smith Group, Inc.
Project: 14433_Tacoma
Matrix: SOIL/SOLID
QC Lot: 2153916

Work Order: HN2511191
Date Collected: NA
Date Received: NA
Run ID: 3402692

MSD	CLIENT ID: 14433 SB02 (3-4)	Lab ID: QC-2153916-006
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Method: EPA 8260D

Dilution: 1

Analysis Date: 08/14/25 20:02

Prep Date: 08/11/25 16:59

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	% Rec Limits	RPD	RPD Limit	Qual
Styrene	960	µg/kg	40.7	1014.2	ND	94.6	74-126	4.65	30	
Tetrachloroethylene (Perchloroethylene)	1940	µg/kg	40.7	1014.2	ND	191	76-128	11.4	30	S
Toluene	1100	µg/kg	40.7	1014.2	48.8	105	76-120	5.54	30	
Total Xylene	3140	µg/kg	122	3042.6	ND	103	67-129	5.56	30	
trans-1,2-Dichloroethylene	921	µg/kg	40.7	1014.2	ND	90.8	72-127	18.9	30	
trans-1,3-Dichloropropylene	786	µg/kg	40.7	1014.2	ND	77.5	66-120	12.7	30	
Trichloroethene (Trichloroethylene)	1510	µg/kg	40.7	1014.2	ND	149	75-122	7.73	30	S
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	870	µg/kg	40.7	1014.2	ND	85.8	51-115	14.1	30	
Vinyl chloride (Chloroethene)	936	µg/kg	40.7	1014.2	ND	92.2	43-128	4.66	30	
Surr: 1,2-Dichloroethane-d4	990	µg/kg		1014.2		97.6	80-120	0.816	30	
Surr: 4-Bromofluorobenzene	966	µg/kg		1014.2		95.2	80-120	4.87	30	
Surr: Dibromofluoromethane	981	µg/kg		1014.2		96.7	80-120	0.414	30	
Surr: Toluene-d8	1030	µg/kg		1014.2		102	80-120	1.04	30	

The following samples were analyzed in this batch: HN2511191-002, HN2511191-003



right solutions.
right partner.

October 20, 2025

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

Re: **DETR0060**

Date Received: **10/11/2025**

Work Order: **HN2515103**

Dear Ryan,

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

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

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

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

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

Dale Schipper

/S/ DALE SCHIPPER

Project Manager



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

Work Order: HN2515103
Date Received: 11-Oct-2025

CASE NARRATIVE

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

Sample Receipt

1 soil/solid sample was received for analysis at ALS Environmental on 11-Oct-2025. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

SAMPLE SUMMARY



Client: The Mannik & Smith Group, Inc.
Project: DETR0060
Workorder: HN2515103

Laboratory Sample ID	Client Sample ID	Sample Matrix	Collection Date	Date Received
HN2515103-001	14433 Tacoma SB01 TCLP	SOIL/SOLID	10/10/25 10:20	10/11/25 07:00

REPORT QUALIFIERS AND DEFINITIONS

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

Holland Laboratory Certifications¹

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

¹ - Scope available upon request

Analytical Report



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

Work Order: HN2515103
Date Collected: 10/10/25 10:20
Date Received: 10/11/25 07:00

CLIENT ID: 14433 Tacoma SB01 TCLP

Lab ID: HN2515103-001

Analyte	Method	Results	Qual	Units	MRL	Dilution Factor	Date Analyzed	Date Extracted
TCLP Metals								
Arsenic	EPA 6020B	<0.00190	U	mg/L	0.0499	1	10/17/25 01:14	10/16/25 11:50
Chromium	EPA 6020B	<0.00610	U	mg/L	0.0499	1	10/17/25 01:14	10/16/25 11:50



Client: The Mannik & Smith Group, Inc.
Project: DETR0060
Matrix: SOIL/SOLID
QC Lot: 2278707

Work Order: HN2515103
Date Collected: NA
Date Received: NA
Run ID: 3595179

TCLP Metals

MB	CLIENT ID: Method Blank	Lab ID: QC-2278707-001
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Method: EPA 6020B **Dilution:** 1 **Analysis Date:** 10/17/25 00:46
Prep Date: 10/16/25 11:51

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	Rec Limits	RPD	RPD Limit	Qual
Arsenic	<0.00190	mg/L	0.0499							U
Chromium	<0.00610	mg/L	0.0499							U

LCS	CLIENT ID: Laboratory Control Sample	Lab ID: QC-2278707-002
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Method: EPA 6020B **Dilution:** 1 **Analysis Date:** 10/17/25 00:48
Prep Date: 10/16/25 11:51

Analyte	Result	Units	MRL	Spike Amount	Spike Ref. Amount	% Rec	Rec Limits	RPD	RPD Limit	Qual
Arsenic	1.00	mg/L	0.0499	1		100	80-120			
Chromium	0.959	mg/L	0.0499	1		95.9	80-120			

The following samples were analyzed in this batch: HN2515103-001

ANALYST SUMMARY



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

Work Order: HN2515103

Sample Name: 14433 Tacoma SB01 TCLP
Laboratory Code: HN2515103-001
Sample Matrix: SOIL/SOLID

Date Collected: 10/10/25
Date Received: 10/11/25

Analysis Method	Preparation Method	Container ID	Preparation Lot	Prepared By	Analysis Lot	Analyzed By
EPA 6020B	EPA 3015A	001-AD	2278707	Chloe Patrick	3595179	Hunter Johnson



ALS Environmental

Laboratory location:

Chain of Custody Form

Page 1 of 1

Customer Information		Project Information						Parameter/Method Request for Analysis		
Purchase Order		Project Name	14433 Tacoma				A	TCLP Arsenic		
Work Order	Quote ID - 11631	Project Number	DETR0060				B			
Company Name	Mannik Smith Group	Bill To Company	Mannik Smith Group				C			
Send Report To	Ryan Montri	Invoice Attn.					D			
Address	2365 South Haggerty Road	Address	2365 South Haggerty Road				E			
							F			
City/State/Zip	Canton, Mi 48188	City/State/Zip	Canton, Mi 48188				G			
Phone	734-397-3100	Phone	734-397-3100				H			
Fax		Fax					I			
e-Mail Address	rmontri@manniksmithgroup.com	e-Mail Address					J			

Environmental Division
Holland
Work Order Reference
HN2515103



Telephone : +1 616 399 6070

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	J	Hold
1	14433 Tacoma SBO1 TCLP	10/10/25	10:20	Soil		2	X				
2											
3											
4											
5											
6											
7											
8											
9											
10											

Sampler(s): Please Print & Sign <i>Shannon Kacemane</i>		Shipment Method:		Required Turnaround Time: ☐ STD 10 Wk Days ☒ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour		Results Due Date:	
Relinquished by: <i>[Signature]</i>	Date: 10/10/25	Time: 1430	Received by: <i>[Signature]</i>	10/10 1430		Notes:	
Relinquished by: <i>[Signature]</i>	Date: 10/10/25	Time: 1700	Received by (Laboratory): <i>[Signature]</i>	10/10 1700		Cooler Temp.	QC Package: (Check Box Below)
Logged by (Laboratory): <i>[Signature]</i>	Date: 10/11/25	Time: 0700	Checked by (Laboratory): <i>[Signature]</i>	10/11/25 0930		2.1/21.1 °C 127	☐ Level II: Standard QC ☐ Level III: Std QC + Raw Data ☐ Level IV: SW846 CLP-Like ☐ Other: _____
Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035						TRRP-Checklist TRRP Level IV	

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

Received by: NS

Date/Time: 10/11/25 0700

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): 2.1/2.1 °C

Thermometer(s): 1 R7

Sample(s) received on ice? Yes / No

Matrix/Matrices: S

Cooler(s)/Kit(s): 1

Date/Time sample(s) sent to storage: 10/11/25 0945

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

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

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

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

pH adjusted by: _____

Login Notes: