January 16, 2024

Mr. Dan Tjoelker
Ohio Environmental Protection Agency
50 West Town St., Suite 700
P.O. Box 1049
Columbus, Ohio 43216-1049

VIA EMAIL: Daniel.Tjoelker@epa.ohio.gov

Re: Supplemental Phase II Environmental Site Assessment
Proposed Hillson Nut Company Expansion Property
3203 W. 71st Street
Cleveland, Ohio 44102

The Mannik & Smith Group, Inc. (MSG) was retained by the Ohio Environmental Protection Agency (EPA) to complete a Supplemental Phase II Environmental Site Assessment (ESA) for the proposed Hillson Nut Company Expansion Property located at 3203 W. 71st Street in Cleveland, Ohio (hereinafter referred to as the "Site"). MSG completed this Supplemental Phase II ESA to further assess and delineate subsurface impacts to soil and groundwater identified during MSG's July 2023 Focused Phase II ESA at the Site.

Results from this Supplemental Phase II ESA indicate that soils proximate to previously identified Recognized Environmental Condition/Identified Area-1 (REC/IA-1) are impacted with petroleum-related volatile organic compounds (VOCs) naphthalene and 1,2,4-trimethylbenzene (1,2,4-TMB) and total petroleum hydrocarbon (TPH) – gasoline range organics (GRO) and diesel range organics (DRO) above their respective Bureau of Underground Storage Tank Regulation (BUSTR) Closure Action Levels. Additionally, groundwater proximate to REC-1/IA-1 is impacted with naphthalene and 1,2,4-TMB above their respective BUSTR Groundwater Ingestion Action Levels.

Results further indicate that groundwater within previously identified REC/IA-2 is impacted with select Resource Conservation and Recovery Act (RCRA) Metals, VOCs, and polycyclic aromatic hydrocarbons (PAHs) above their respective Ohio EPA Voluntary Action Program (VAP) Unrestricted Potable Use Standards (UPUS).

A summary of our Supplemental Phase II ESA follows.

BACKGROUND

MSG completed a Phase I ESA of the Site in February 2023, which identified the following RECs/IAs:

REC/IA-1: Three gasoline underground storage tanks (USTs) of unknown size were reported located on the Site from at least 1950 through 1971; however, no records pertaining to the installation or closure of USTs at the Site were identified during the preparation of the Phase I ESA. Accordingly, the potential presence of orphan USTs at the Site and/or potential presence of former USTs with no closure documentation represented a REC/IA in connection with the Site.

REC-2/IA-2: A review of environmental database records identified one spill of an unknown size from an orphan drum of unknown contents on the Site in April 2016. Additionally, the Ohio EPA provided limited records related to the former storage and handling of hazardous materials. The lack of information to the type of spill and quantity of material spilled, affected environmental media, and subsequent cleanup activities, as well as the Ohio EPA records related to the former storage and handling of hazardous materials, represented a REC/IA in connection with the Site.

Based on the results of the February 2023 Phase I ESA, MSG completed a Focused Phase II ESA with a Geophysical Survey of the Site in July 2023 to evaluate the Site for the presence of chemicals of concern (COCs) and identify if a release of petroleum and/or hazardous substances had occurred at the Site. Results of the Focused Phase II ESA indicated the following:

- The geophysical survey identified three anomalies interpreted to represent potential orphan USTs in the southwest portion of the Site in the general location as the three gasoline USTs depicted on the 1950 to 1971 Sanborn Maps.
- The laboratory analytical data indicated that shallow subsurface soil in REC-1/IA-1 is impacted with lead at one location (SB-5 [0-2']) above the above the Ohio VAP Residential (unrestricted use), Construction / Excavation Worker, and Commercial / Industrial Generic Numeral Standards (GNS).
- Benzo(a)pyrene was detected in shallow subsurface soils in REC-1/IA-1 and REC-2/IA-2 from samples collected from SB-2 (0-2'), SB-10 (0-2'), SB-16 (0-2'), and SB-22 (0-2') above the BUSTR Closure Action Level and VAP Residential GNS.
- Arsenic was detected in 20 of the 22 soil samples submitted from REC-2/IA-2 for analyses at concentrations ranging from 6.0 to 27.0 mg/kg with 12 samples at or exceeding the Ohio VAP Residential GNS of 14.0 mg/kg, but below the VAP Commercial / Industrial GNS of 100 mg/kg and Construction / Excavation Worker GNS of 760 mg/kg. Further, all but two of the detected arsenic concentrations are below the Ohio EPA's calculated background arsenic concentration in Cuyahoga County of 24.0 mg/kg.
- Mercury was detected in 12 of the 22 soil samples submitted for analyses from REC-2/IA-2 at concentrations ranging from 0.48 to 26.0 mg/kg with eight samples exceeding the Ohio VAP Residential, Construction/Excavation, and Commercial / Industrial of 3.1 mg/kg.
- No other constituents were detected in the submitted soil samples above their respective BUSTR Action Levels and/or Ohio VAP Residential (unrestricted use) GNS.
- Lead was detected above VAP UPUS in temporary monitoring wells TW-2, TW-4 TW-6, TW-8, and TW-10; and,
- Chromium and arsenic were detected above VAP UPUS in temporary monitoring wells TW-6, TW-8, and TW-10.

While the historical Sanborn Maps identified three USTs in the southwest portion of the Site as "gasoline tanks," the soil laboratory analytical data from this area of the Site suggested that at least one of these tanks contained middle or heavy distillate fuel such as diesel, heating oil, or used oil. Further, the geophysical survey indicates that these three USTs may still be present at the Site, possibly located within two separate UST cavities.

Based on the results of the July 2023 Focused Phase II ESA, MSG completed the following Supplemental Phase II ESA Scope of Work to further assess and delineate subsurface impacts at the Site.

METHODOLOGY

Soil Borings and Soil Sampling

On September 27 and 28, 2023, MSG advanced nine soil borings (SB-23 through SB-31) with a track-mounted Geoprobe® 7822DT drilling rig using direct push sampling techniques to a maximum depth of 15 feet below surface grade (bsg). MSG advanced two soil borings (SB-23 and SB-24) within REC/IA-1 and seven soil borings (SB-25

through SB-31) within REC-2/IA-2. A Site Location Map is presented as Figure 1 and a Sample Location Map depicting the locations of the soil borings is presented as Figure 2, both of which are located in Attachment A. MSG collected soil samples continuously using a 3.25-inch diameter dual tube sampling system. The dual tube sampling system collects soil samples using a five-foot sample core barrel fitted with a polyvinyl chloride (PVC) liner.

MSG described each soil sample in the field by the Visual Manual Method consistent with the Unified Soil Classification System (USCS) with regard to texture and moisture content. Copies of boring logs are presented in Attachment B.

MSG collected soil samples on a continuous basis and screened each two-foot interval in the field for the presence of VOCs using a RAE Systems MiniRAE photoionization detector (PID). Field PID readings are presented on the boring logs (Attachment B). MSG submitted soil samples to the laboratory as follows:

- REC/IA-1:
  - Two soil samples from each of the deep borings (one from the interval above observed groundwater during drilling and one from the interval exhibiting the highest field screening reading).
- REC/IA-2:
  - Two soil samples from each of the deep borings (one from the zero to two foot interval and one from the interval exhibiting the highest field screening reading); and,
  - One soil sample from each shallow soil boring.

Monitoring Well Installation

MSG used direct push drilling techniques to install groundwater monitoring wells at soil boring locations SB-23 (MW-23), SB-24 (MW-24), SB-29 (MW-29), and SB-30 (MW-30).

MSG constructed the monitoring wells using two-inch diameter, ten-foot long, 0.10-slot PVC screens and sufficient lengths of two-inch diameter PVC risers to extend to within one foot of the ground surface. MSG placed sand pack material from the bottoms of the screens to at least two feet above the top of the screens and then placed Enviroplug® bentonite pellets to within two feet of the ground surface. MSG equipped each well with a locking expansion plug and completed the wells within flush-mount protective covers set into concrete.

Monitoring Well Development

MSG developed the newly installed monitoring wells at the Site on October 11, 2023. MSG used a surge block to surge each well, entraining sediment and then used a disposable bailer to purge the well until a minimum of five well volumes had been evacuated or the well went dry. Copies of the well development logs are provided in Attachment C.

Groundwater Sampling

MSG collected groundwater samples from newly installed monitoring wells on October 12, 2023. MSG completed the groundwater sampling in accordance with the guidelines in the Ohio EPA's *Technical Guidance Manual for Hydrogeologic Investigations and Groundwater Sampl*ing (TGM, 1995, revised October 2020). Prior to sampling, MSG opened the wells to the atmosphere to allow them to equilibrate to ambient conditions. MSG then measured the total well depth and depth to water from each well with an interface probe. MSG's groundwater measurements (Table 1 in Attachment D) did not detect separate phase liquids in any of the wells. Well sampling forms are presented in Attachment C.

MSG collected the groundwater samples with dedicated bailers and placed them into laboratory provided bottles prepared with the preservative appropriate to the analytical method. MSG then placed all samples on ice in a cooler pending delivery to the laboratory.

Laboratory Analysis
Upon collection, MSG placed the soil and groundwater samples in a cooler on ice. MSG delivered all samples under standard chain-of-custody procedures to VAP Certified Laboratory (CL) ALS Environmental (ALS) of Cincinnati, Ohio either by courier or by delivering the samples directly to ALS. Copies of the final analytical reports are provided in Attachment E.

Soil Samples
MSG submitted soil samples collected from borings SB-23 through SB-31 for laboratory analysis of the following based on COCs identified in the Focused Phase II ESA for the Subject Property:

- Soil samples from REC/IA-1 (SB-23 through SB-24) were submitted for the following analyses:
  - BUSTR VOCs by EPA Method SW8260B;
  - Total lead by EPA Method SW6010B;
  - Polycyclic aromatic hydrocarbons (PAHs) by EPA Method SW8270C; and,
  - TPH – GRO/DRO/ORO by EPA Method 8015A and 8015B.

- Soil samples from REC-2/IA-2 (SB-25 through SB-31) were submitted for the following analyses:
  - VOCs by EPA Method SW8260B;
  - PAHs by EPA Method SW8270C; and,
  - RCRA metals by EPA Methods SW6010B/SW7471A.

Groundwater Samples
MSG submitted groundwater samples collected from borings MW-23, MW-24, MW-29, and MW-30 1 for laboratory analysis of the following based on COCs identified in the Focused Phase II ESA for the Subject Property:

- The groundwater samples from REC/IA-1 (MW-23) was submitted for the following analyses:
  - BUSTR VOCs by EPA Method SW8260B;
  - 1,2-Dibromoethane (EDB) by EPA Method 8011;
  - Total lead by EPA Method SW6010B; and,
  - PAHs by EPA Method SW8270C.

- Groundwater samples from REC-2/IA-2 (MW-24, MW-29, and MW-30) were submitted for the following analyses:
  - VOCs by EPA Method SW8260B;
  - PAHs by EPA Method SW8270C; and,
  - RCRA metals by EPA Methods SW6010B/SW7471A.

Field Quality Assurance and Quality Control Procedures
MSG employed field quality assurance and quality control (QA/QC) processes in accordance with standard industry practices and ensured that adequate QA/QC protocols were administered by following standard operating procedures (SOPs). Prior to use for screening samples, the PID was "zeroed-out" in ambient air and then calibrated with a 100 parts per million (ppm) isobutylene in air standard. All samples were transported to the laboratory on ice under chain-of-custody procedures. (Attachment E).

DATA EVALUATION

Boring Log Descriptions and Local Hydrogeology

Boring logs for this supplemental Phase II ESA are presented in Attachment B. Borings advanced during this assessment indicate that topsoil is generally underlain by silty sand and silty clay to the termini of the soil borings. Groundwater elevation data from the monitoring wells installed during this Supplemental Phase II ESA are summarized in Table 1 (Attachment D) and a groundwater contour map showing groundwater elevations across the Site is presented as Figure 3 in Attachment A. Based on the groundwater elevations measured during our October 2023 sampling event, the direction of shallow groundwater movement at the Site is to the west-northwest.

Analytical Results

MSG completed this Supplemental Phase II ESA to further assess and delineate subsurface impacts (soil and groundwater) at the Site. MSG compared soil analytical results to BUSTR Soil Class I Closure Action Levels (REC/IA-1) and to the Ohio VAP Residential, Construction/Excavation, and Commercial/Industrial GNS (REC/IA-2).

MSG compared groundwater analytical results to the BUSTR Groundwater Ingestion Action Levels (REC/IA-1) and to Ohio VAP UPUS (REC/IA-2).

Tables 2, 3, and 4 (Attachment D) present the analytical results of identified constituents in the collected soil and groundwater samples, which are summarized as:

REC/IA-1 - Soil

- Naphthalene and 1,2,4-TMB were detected above their respective BUSTR Soil Class I Closure Action Levels in SB-24 (6'-8');
- Ethylbenzene and total xylenes were detected in SB-24 (6'-8') and naphthalene and 1,2,4-TMB were detected in SB-24 (10'-12') at concentrations below their respective BUSTR Soil Class I Closure Action Levels;
- TPH GRO and TPH DRO were detected above their respective BUSTR Soil Class I Closure Action Levels in SB-24 (6'-8');
- TPH ORO was also detected in SB-24 (6'-8') along with TPH GRO, DRO, and ORO in additional soil borings, but at concentrations below their respective Closure Action Levels; and,
- Total lead was detected in each soil boring, but at concentrations below the Ohio VAP Residential (unrestricted use) GNS. There is not a BUSTR Action Level for Total Lead.

REC-1/IA-1 - Groundwater

- 1,2,4-TMB and naphthalene were detected in MW-24 above their respective BUSTR groundwater ingestion Action Levels.

REC-2/IA-2 - Soil

- Arsenic, barium, cadmium, chromium, lead, mercury, and/or selenium were detected in soil borings SB-25 through SB-31, but at concentrations below their respective VAP Residential (unrestricted use) GNS;
- One or more PAHs were detected in soil borings SB-28 and SB-31, but at concentrations below their respective VAP Residential (unrestricted use) GNS; and,
- No VOCs were detected above laboratory detection limits within REC-2/IA-2.

REC-2/IA-2 - Groundwater

- Arsenic, chromium, lead, and/or mercury were detected in samples collected from MW-23, MW-24, and MW-30 at concentrations above their respective VAP UPUS;

- Barium and mercury were detected in MW-24 and MW-29, respectively, but at concentrations below their respective VAP UPUS;
- Naphthalene and 1,3,5-TMB, were detected in MW-24 at concentrations above their respective VAP UPUS. Additional VOCs were detected in samples collected from REC/IA-2, but at concentrations well below their respective VAP UPUS;
- Naphthalene was detected as a PAH in MW-24 above its VAP UPUS. Additional PAHs (1-methylnaphthalene, 2-methylnaphthalene, and phenanthrene) were detected in MW-24, but at concentrations below their respective VAP UPUS; and,
- No other PAHs were detected above their respective laboratory detection limits in REC-2/IA-2.

Copy of the full laboratory analytical reports are presented in Attachment E.

Laboratory QAQC Results

MSG evaluated laboratory QA/QC by analyzing surrogate recoveries, Laboratory Control Samples (LCS) and Matrix Spike/Matrix Spike Duplicate (MS/MSD) samples for each sample delivery group (SDG) to evaluate the quality of the data reported by the laboratory. Following is a summary of MSG's review of the laboratory QA/QC report for the laboratory data packages submitted as part of this project (See Table 5 in Attachment D). Copies of the laboratory reports are presented in Attachment E.

- The Chain-of-Custody forms were in good order;
- Samples arrived in good condition and within temperature limits;
- Samples were analyzed within hold times;
- LCS were in control; and,
- Method blanks were non-detect.

Based upon a review of the laboratory QA/QC documentation, MSG is of the opinion that the data generated as part of this Focused Supplemental Phase II ESA are valid and representative of Site conditions.

CONCLUSIONS

This Supplemental Phase II ESA indicates that soils proximate to REC/IA-1 are impacted with petroleum VOCs (naphthalene and 1,2,4-TMB) and TPH GRO and DRO above applicable BUSTR Action Levels. Additionally, groundwater proximate to REC/IA-1 is impacted with naphthalene and 1,2,4-TMB above their respective BUSTR Groundwater Ingestion Action Levels.

Additionally, groundwater within REC/IA-2 is impacted with several RCRA Metals, VOCs, and PAHs above their respective Ohio EPA VAP UPUSs.

Based on the results of the Supplemental Phase II ESA, petroleum impacts to soil within REC/IA-1 appear delineated to the area proximate to the suspect petroleum USTs located in the southwest portion of the Site. Additionally, hazardous substance impacts to soil within REC/IA-2 appear delineated to the areas previously identified during the July 2023 Phase II ESA.

Impacts to groundwater do not appear delineated to the Site, as impacts above VAP UPUS (total lead) are present in monitoring well MW-23 located along the west property boundary and in monitoring well MW-30 (chromium and mercury) located along the south property boundary. However, petroleum impacts appear delineated to the area surrounding MW-24. Additional investigations would be needed to adequately characterize and delineate hazardous substance impacts to groundwater proximate to MW-23 and MW-30.

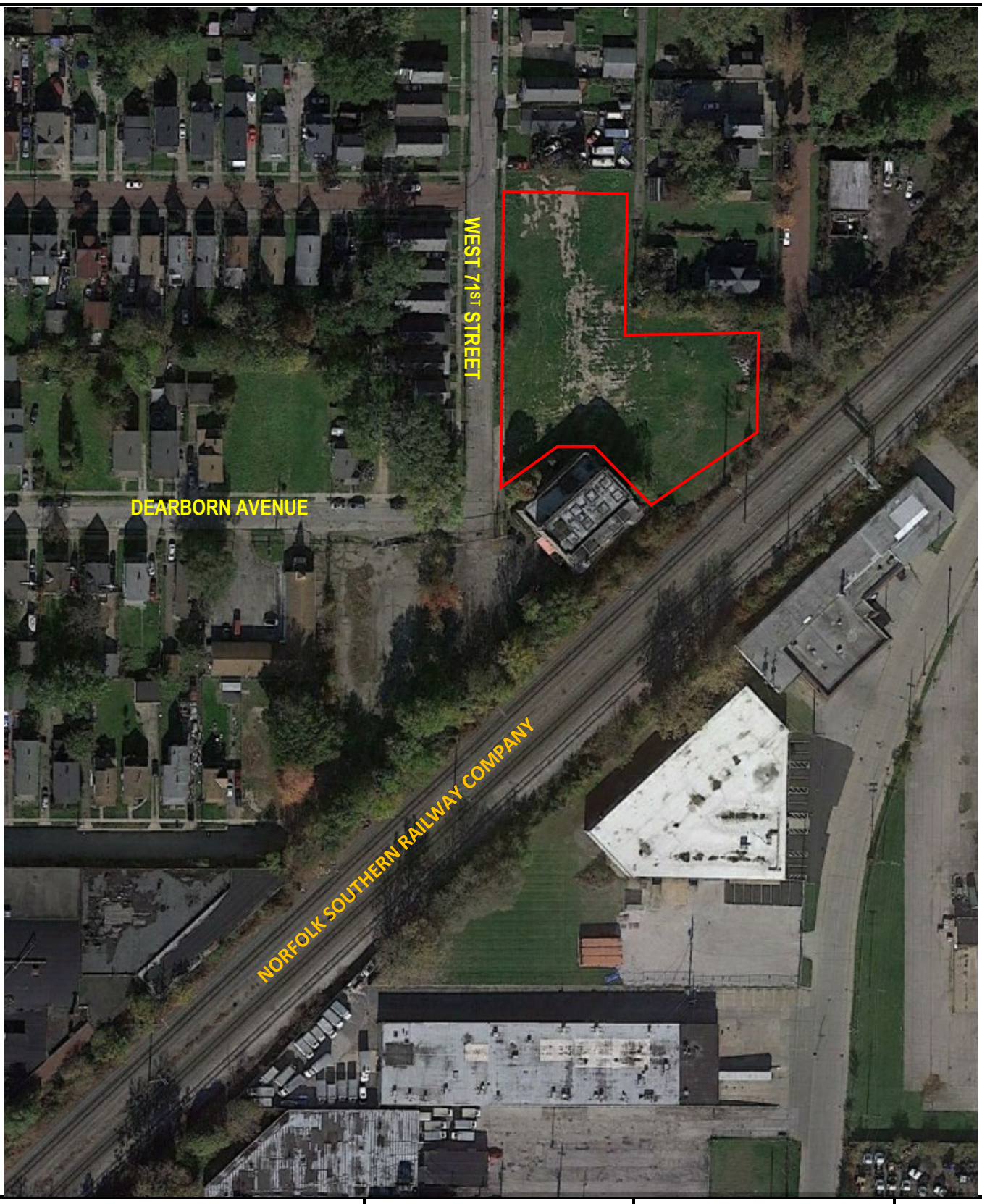
We appreciate the opportunity to assist the Ohio EPA. If you have any questions pertaining to this report, please feel free to contact the undersigned by telephone at 419.891.2222.

Sincerely,

Clifton Wheeler
Senior Project Manager

Matthew S. Pesci, CP, CPG
Senior Associate / Senior Project Manager

ATTACHMENT A
FIGURES



Mannik Smith GROUP
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www.MannikSmithGroup.com

Figure 1: Site Location Map
3203 W. 71st Street and Dearborn Avenue, Cleveland, Ohio

Base Map adapted from Aerial Photograph from Google Earth.
Approx. Site Boundaries

Approx. Scale: 1 inch = 120 feet

N

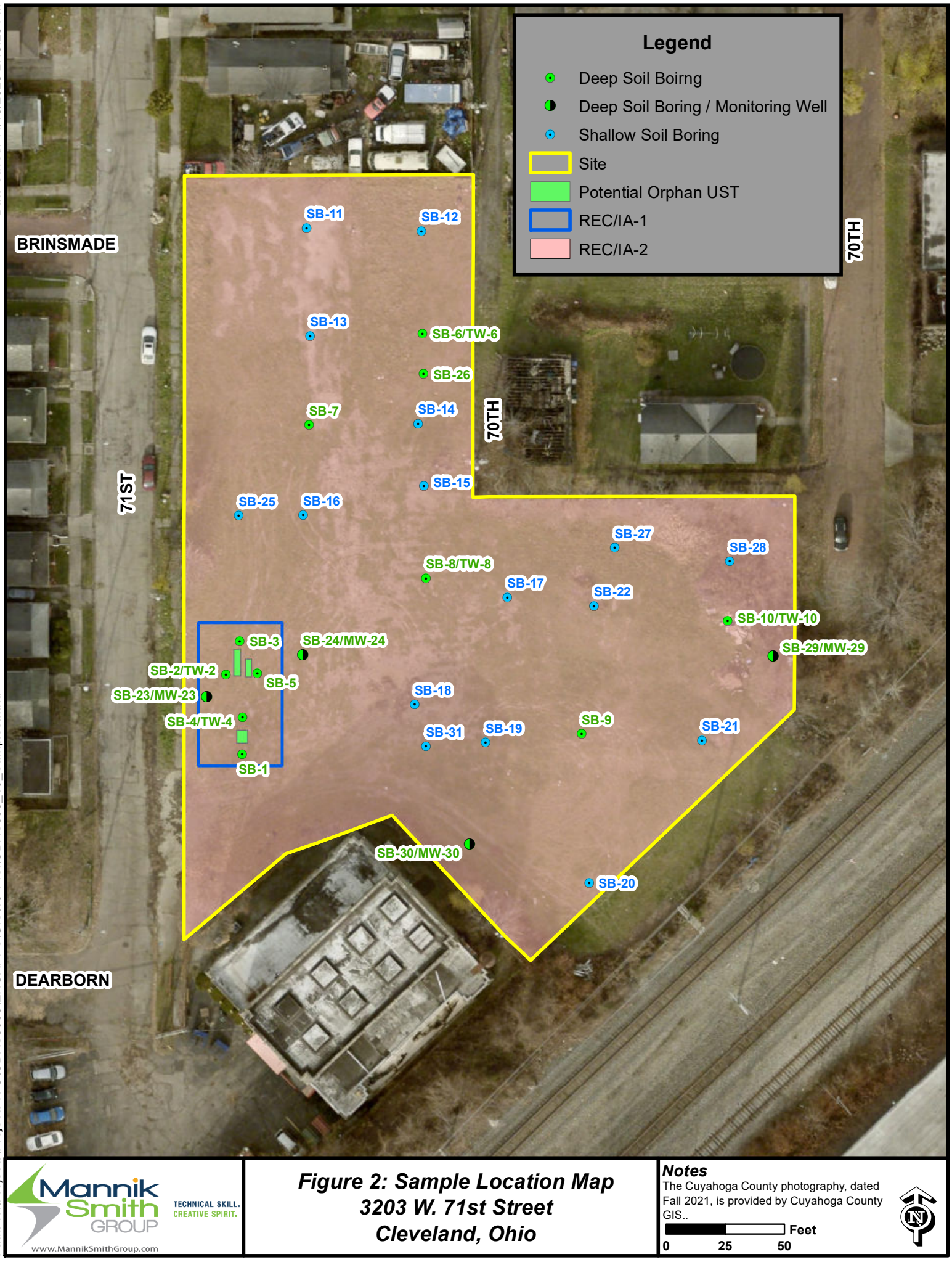

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Figure 2: Sample Location Map
3203 W. 71st Street
Cleveland, Ohio

Notes
The Cuyahoga County photography, dated Fall 2021, is provided by Cuyahoga County GIS..

Feet
0 25 50

N

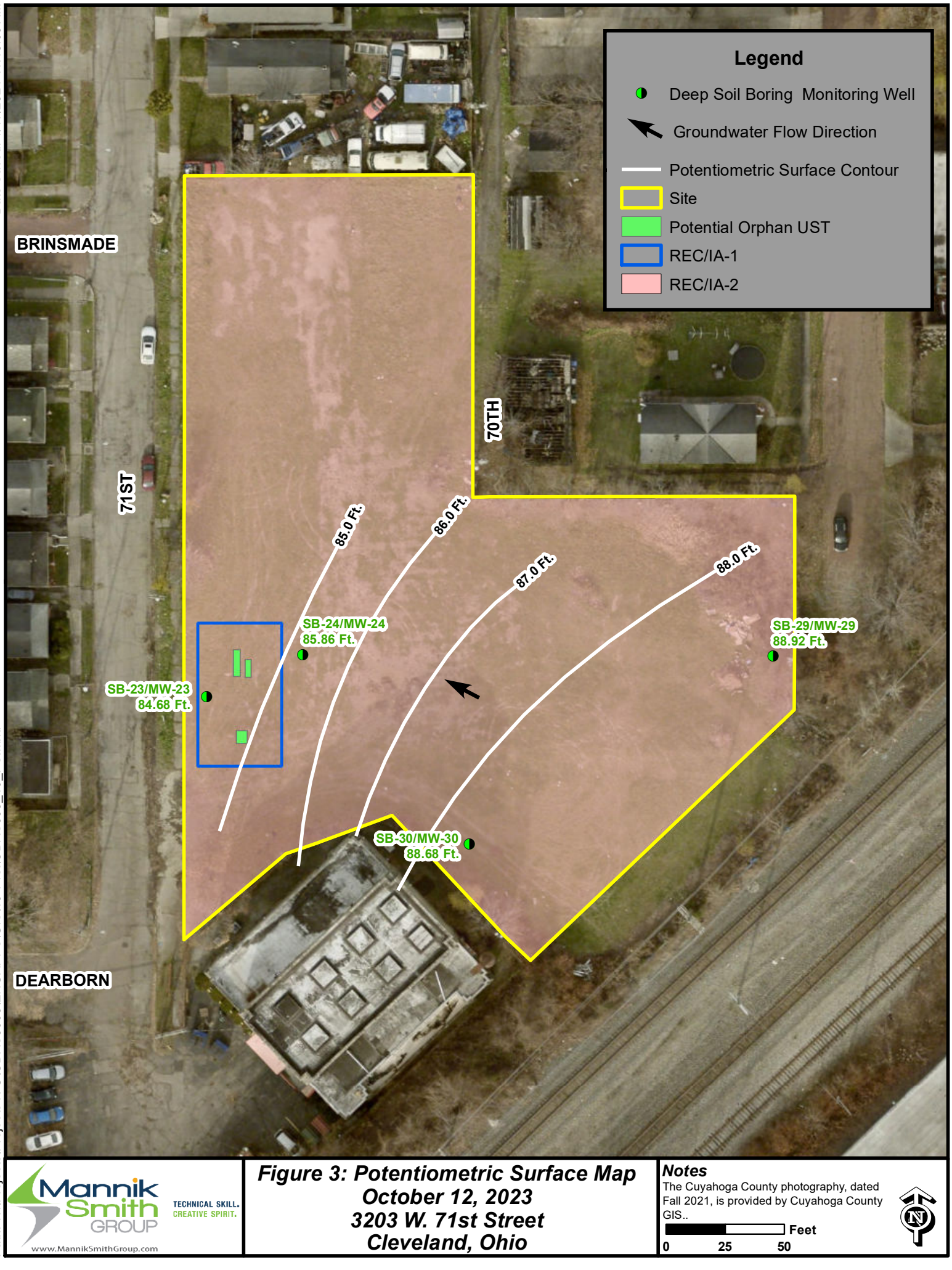

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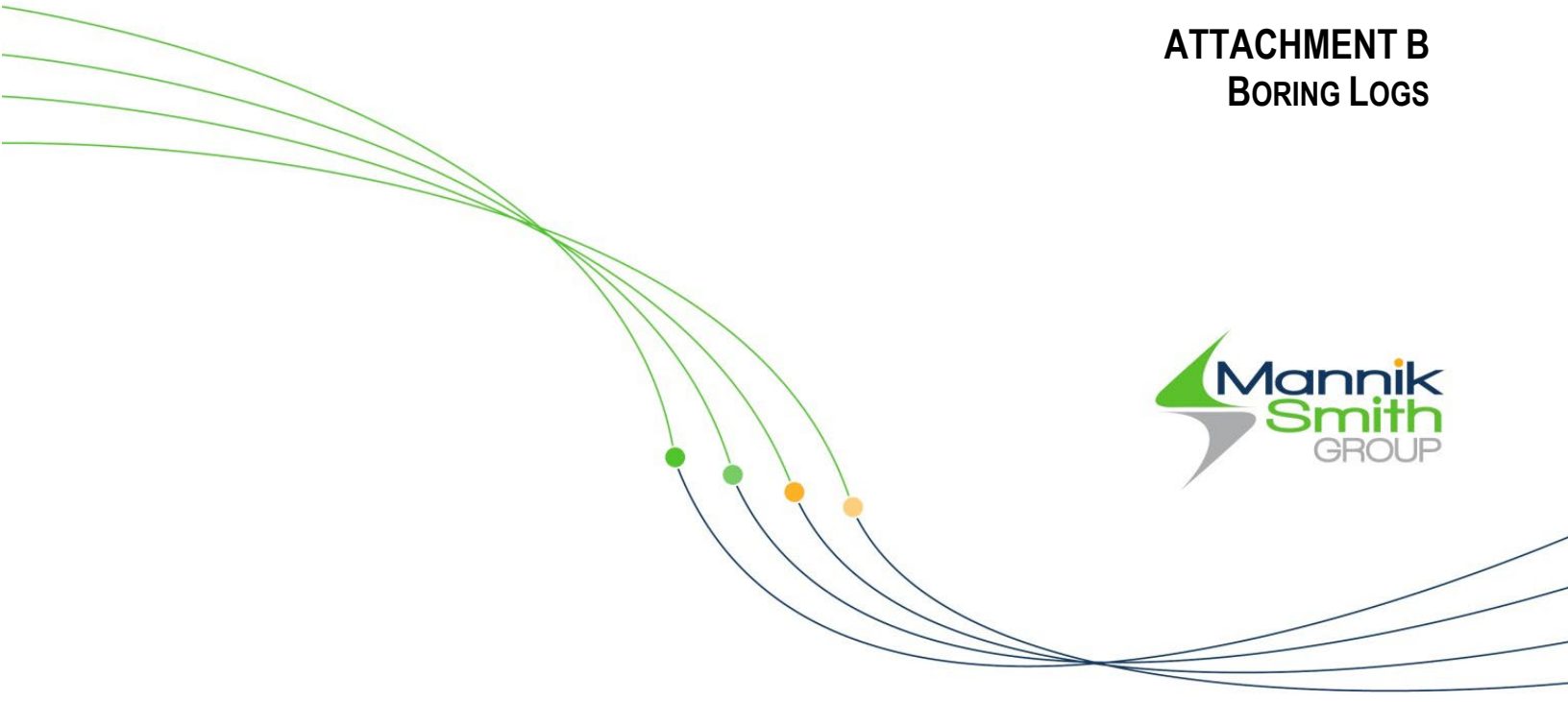
Figure 3: Potentiometric Surface Map
October 12, 2023
3203 W. 71st Street
Cleveland, Ohio

Notes
The Cuyahoga County photography, dated Fall 2021, is provided by Cuyahoga County GIS..

Feet
0 25 50

ATTACHMENT B
BORING LOGS



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Soil Boring / Monitoring Well Number: SB-23/MW-23

Project Number: ODAS003-19
Project Name: Hillson Nut Company
Site Location: 3203 W. 71st Street, Cleveland, OH
Client: Ohio EPA
MSG Personnel: Andre Langer

Contractor: The Mannik & Smith Group, Inc.
Driller: N. Thompson
Drilling Method: Direct Push
Drill Rig: Geoprobe 7822DT
Total Depth: 15 feet

MW Installation Date: 9/28/2023
Northing: NA
Easting: NA
Ground Surface Elev.: NA

Depth (ft)	Elev. (ft.)	Well Diagram	Elev. (ft.)	Graphic Log	Description of Cuttings	Number	Type	FID/PID (ppm)	Recovery (in.)	Remarks
		Flush Mount			**TOPSOIL**					
					Brown/orange, fine **SILTY SAND**, moist	1	DP	0.0	24	
		Bentonite Chips			Orange **SILTY CLAY**, moist, trace sand	2	DP	0.0	16	
		PVC Rise Pipe			**NO CORE**	3	DP		0	
5					Brown/orange, fine**SILTY SAND**, trace clay, moist	4	DP	0.0	24	
		#5 Silica Sand			Gray, **COARSE SAND**, moist	5	DP	0.0	24	
10		10-Slot Screen			Gray fine **SILTY CLAY**, moist	6	DP	0.0	24	Soil sample collected from 10-12' submitted for laboratory analysis.
					@14.0 feet; becomes wet	7	DP	0.0	36	Soil sample collected from 12-15' submitted for laboratory analysis.
15					End of Soil Boring = 15 feet					
20										

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Soil Boring / Monitoring Well Number: SB-24/MW-24

Project Number: ODAS003-19
Project Name: Hillson Nut Company
Site Location: 3203 W. 71st Street, Cleveland, OH
Client: Ohio EPA
MSG Personnel: Andre Langer

Contractor: The Mannik & Smith Group, Inc.
Driller: N. Thompson
Drilling Method: Direct Push
Drill Rig: Geoprobe 7822DT
Total Depth: 15 feet

MW Installation Date: 9/28/2023
Northing: NA
Easting: NA
Ground Surface Elev.: NA

Depth (ft)	Elev. (ft.)	Well Diagram	Elev. (ft.)	Graphic Log	Description of Cuttings	Number	Type	FID/PID (ppm)	Recovery (in.)	Remarks
		Flush Mount			**TOPSOIL**					
		Bentonite Chips			Brown **SILTY SAND**, trace of rocks and gravel	1	DP	1.9	24	
		PVC Rise Pipe			Brown/orange fine**SILTY CLAY**, moist	2	DP	4.0	24	
5						3	DP	8.9	22	
		#5 Silica Sand			Gray, fine **SILTY SAND**, moist, kerosene odor	4	DP	1,645	24	Soil sample collected from 6-8' submitted for laboratory analysis.
					@8.0 feet; becomes coarse sand	5	DP	94.4	24	
10		10-Slot Screen				6	DP	18.1	24	Soil sample collected from 10-12' submitted for laboratory analysis.
						7	DP	1.3	36	
					@14.0 feet; becomes wet					
15					End of Soil Boring = 15 feet					
20										

Soil Boring Number: SB-25

Project Number: ODAS003-19
Project Name: Hillson Nut Company
Site Location: 3203 W. 71st Street, Cleveland, OH
Client: Ohio EPA
MSG Personnel: Andre Langer

Approved By: Matt Pesci
Contractor: The Mannik & Smith Group, Inc.
Driller: N. Thompson
Drilling Method: Direct Push
Drill Rig: Geoprobe 7822DT

Start/End Date: 9/27/2023
Boring Depth: 2 feet
Northing: NA
Easting: NA
Ground Surface Elev.: NA

Depth (ft)	Elev. (ft.)	Graphic Log	Description	Number	Type	FID/PID (ppm)	Recovery (in.)	Remarks
			TOPSOIL					
			Brown/orange, fine **SILTY SAND**	1	DP	0.3	24	Soil sample collected from 0-2' submitted for laboratory analysis.
			End of Soil Boring = 2 feet					
5								

Soil Boring Number: SB-26

Project Number: ODAS003-19
Project Name: Hillson Nut Company
Site Location: 3203 W. 71st Street, Cleveland, OH
Client: Ohio EPA
MSG Personnel: Andre Langer

Approved By: Matt Pesci
Contractor: The Mannik & Smith Group, Inc.
Driller: N. Thompson
Drilling Method: Direct Push
Drill Rig: Geoprobe 7822DT

Start/End Date: 9/27/2023
Boring Depth: 15 feet
Northing: NA
Easting: NA
Ground Surface Elev.: NA

Depth (ft)	Elev. (ft.)	Graphic Log	Description	Number	Type	FID/PID (ppm)	Recovery (in.)	Remarks
			TOPSOIL					
			Brown/orange, loose **SAND**, trace rocks, moist	1	DP	0.0	24	
			Brown/orange, fine **SILTY SAND**, moist	2	DP	0.0	18	
5				3	DP	1.0	20	Soil sample collected from 4-6' submitted for laboratory analysis.
			Brown/orange **SILTY CLAY**, moist	4	DP	0.1	24	
			Brown/orange, **SILTY SAND**, moist	5	DP	0.0	24	
10			Brown/orange, **COARSE SAND**	6	DP	0.0	23	
				7	DP	1.6	31	Soil sample collected from 12-15' submitted for laboratory analysis.
15			Gray, fine **SILTY SAND**, moist					
			End of Soil Boring = 15 feet					
20								

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Soil Boring Number: SB-27

Project Number: ODAS003-19
Project Name: Hillson Nut Company
Site Location: 3203 W. 71st Street, Cleveland, OH
Client: Ohio EPA
MSG Personnel: Andre Langer

Approved By: Matt Pesci
Contractor: The Mannik & Smith Group, Inc.
Driller: N. Thompson
Drilling Method: Direct Push
Drill Rig: Geoprobe 7822DT

Start/End Date: 9/27/2023
Boring Depth: 2 feet
Northing: NA
Easting: NA
Ground Surface Elev.: NA

Depth (ft)	Elev. (ft.)	Graphic Log	Description	Number	Type	FID/PID (ppm)	Recovery (in.)	Remarks
			TOPSOIL					
			Brown/orange **SILTY SAND**, moist	1	DP	0.0	20	Soil sample collected from 0-2' submitted for laboratory analysis.
			End of Soil Boring = 2 feet					

Soil Boring Number: SB-28

Project Number: ODAS003-19
Project Name: Hillson Nut Company
Site Location: 3203 W. 71st Street, Cleveland, OH
Client: Ohio EPA
MSG Personnel: Andre Langer

Approved By: Matt Pesci
Contractor: The Mannik & Smith Group, Inc.
Driller: N. Thompson
Drilling Method: Direct Push
Drill Rig: Geoprobe 7822DT

Start/End Date: 9/27/2023
Boring Depth: 2 feet
Northing: NA
Easting: NA
Ground Surface Elev.: NA

Depth (ft)	Elev. (ft.)	Graphic Log	Description	Number	Type	FID/PID (ppm)	Recovery (in.)	Remarks
			TOPSOIL					
			Brown **SILTY CLAY**, moist	1	DP	0.0	24	Soil sample collected from 0-2' submitted for laboratory analysis.
			End of Soil Boring = 2 feet					

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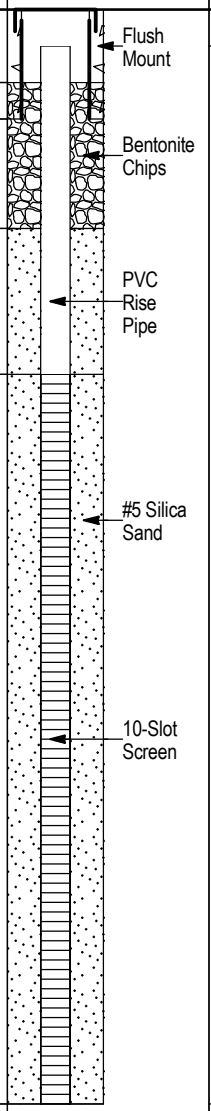
Soil Boring / Monitoring Well Number: SB-29/MW-29

Project Number: ODAS003-19
Project Name: Hillson Nut Company
Site Location: 3203 W. 71st Street, Cleveland, OH
Client: Ohio EPA
MSG Personnel: Andre Langer

Contractor: The Mannik & Smith Group, Inc.
Driller: N. Thompson
Drilling Method: Direct Push
Drill Rig: Geoprobe 7822DT
Total Depth: 15 feet

MW Installation Date: 9/28/2023
Northing: NA
Easting: NA
Ground Surface Elev.: NA



Depth (ft)	Elev. (ft.)	Graphic Log	Description of Cuttings	Number	Type	FID/PID (ppm)	Recovery (in.)	Remarks
			TOPSOIL					
			Brown **SILTY SAND**, moist, trace of coarse sand and rocks	1	DP	0.0	24	
				2	DP	0.0	18	
5				3	DP	0.0	24	
				4	DP	0.0	22	
				5	DP	0.0	23	Soil sample collected from 8-10' submitted for laboratory analysis.
10			@10.0 feet; becomes wet	6	DP	0.0	22	Soil sample collected from 10-12' submitted for laboratory analysis.
				7	DP	0.0	36	
15			@14.0 feet; becomes wet End of Soil Boring = 15 feet					
20								

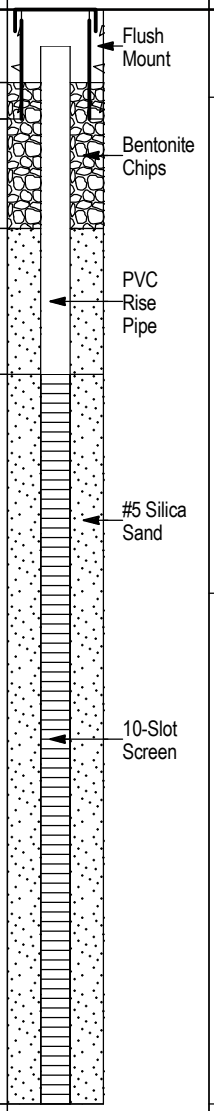
Page 1 of 1

Soil Boring / Monitoring Well Number: SB-30/MW-30

Project Number: ODAS003-19
Project Name: Hillson Nut Company
Site Location: 3203 W. 71st Street, Cleveland, OH
Client: Ohio EPA
MSG Personnel: Andre Langer

Contractor: The Mannik & Smith Group, Inc.
Driller: N. Thompson
Drilling Method: Direct Push
Drill Rig: Geoprobe 7822DT
Total Depth: 15 feet

MW Installation Date: 9/28/2023
Northing: NA
Easting: NA
Ground Surface Elev.: NA



Depth (ft)	Elev. (ft.)	Graphic Log	Description of Cuttings	Number	Type	FID/PID (ppm)	Recovery (in.)	Remarks
			GENERAL FILL	1	DP	0.0	18	
			Brown/orange, **SILTY CLAY**, moist	2	DP	0.0	17	
			@3.0 feet; becomes light brown	3	DP	0.0	20	
				4	DP	0.0	24	
			Brown/orange **SILTY SAND**, moist	5	DP	0.0	24	Soil sample collected from 8-10' submitted for laboratory analysis.
			@10.0 feet; becomes damp	6	DP	0.0	24	Soil sample collected from 10-12' submitted for laboratory analysis.
			@13.0 feet; becomes gray, fine, and wet	7	DP	0.0	33	
			End of Soil Boring = 15 feet					

Page 1 of 1

Soil Boring Number: SB-31

Project Number: ODAS003-19
Project Name: Hillson Nut Company
Site Location: 3203 W. 71st Street, Cleveland, OH
Client: Ohio EPA
MSG Personnel: Andre Langer

Approved By: Matt Pesci
Contractor: The Mannik & Smith Group, Inc.
Driller: N. Thompson
Drilling Method: Direct Push
Drill Rig: Geoprobe 7822DT

Start/End Date: 9/27/2023
Boring Depth: 2 feet
Northing: NA
Easting: NA
Ground Surface Elev.: NA

Depth (ft)	Elev. (ft.)	Graphic Log	Description	Number	Type	FID/PID (ppm)	Recovery (in.)	Remarks
			TOPSOIL					
			Brown, fine, **SAND**, trace of aggregate, and coarse sand	1	DP	0.1	24	Soil sample collected from 0-2' submitted for laboratory analysis.
			End of Soil Boring = 2 feet					

ATTACHMENT C
WELL DEVELOPMENT & SAMPLING LOGS

0.6 gal WELL VOL.

RECORD OF WELL DEVELOPMENT

Site Name: Hilson Nut	Initial Well Depth: 15.0	Final Well Depth:
Well ID: MW-30	Well Diameter: 2"	Screen Length:
Developers: A.L.	Static Water Level: 11.20	Total Purged Volume: 1.2
Start Date: 10/12/23 End Date: 10/12/23	Weather Conditions:	
General Comments (e.g., presence of NAPLS):	General Development Method(s):	

Date	Time	Method	Pumping Rate (gal/min)	Volume Purged (gal)	Temp. (°C)	Spec. Cond. (µS/cm)	pH	Turbidity (NTU)	Other	Comments
10/12	10:40	Bailer		—	14.0	390	7.4	CLEAR		
"	10:43	"		0.6	14.1	390	7.3	>1000		
"	10:45	"		1.2	14.2	400	7.2	>1000		DRY
							[redacted]			
10/12	11:15	Bailer		1.2	13.8	390	7.3	>1000		SAMPLE

Field Parameter and Stability Guidance: pH (□±0.2 standard units); Temperature (±0.5 °C); specific conductance (□±3%, µS/cm); turbidity (±10% when turbidity is greater than □10 NTU); dissolved oxygen (□ 10% or ±0.2 mg/L, whichever is greater); oxidation-reduction potential (□ ±20 ml/g)

NTU- nephelometric unit, µS/cm- microsiemens per centimeter

0.5 g WELL VOL

RECORD OF WELL DEVELOPMENT

Site Name: Alson NJT	Initial Well Depth: 14.8	Final Well Depth:
Well ID: MW-29	Well Diameter: 2"	Screen Length:
Developers: A.J.	Static Water Level: 11.6	Total Purged Volume: 0.5
Start Date: 10/12/23 End Date: 10/12/23	Weather Conditions:	
General Comments (e.g., presence of NAPLS):	General Development Method(s):	

Date	Time	Method	Pumping Rate (gal/min)	Volume Purged (gal)	Temp. (°C)	Spec. Cond. (µS/cm)	pH	Turbidity (NTU)	Other	Comments
10/12	10:30	BAILER		—	14.1	360	7.1	>1000		
1	10:33	1		0.5	14.4	370	7.1	>1000		DRY
10/12	11:00	BAILER		0.5	14.5	370	7.1	CLOUDY		SAMPLE

Field Parameter and Stability Guidance: pH (□±0.2 standard units); Temperature (±0.5 °C); specific conductance (□±3%, µS/cm); turbidity (±10% when turbidity is greater than □10 NTU); dissolved oxygen (□ 10% or ±0.2 mg/L, whichever is greater); oxidation-reduction potential (□ ±20 ml/g)

NTU- nephelometric unit, µS/cm- microsiemens per centimeter

14.8

0.2g WC22 J02.

RECORD OF WELL DEVELOPMENT

Site Name: HILSON NUT	Initial Well Depth: 13.85	Final Well Depth:
Well ID: MW-24	Well Diameter: 2"	Screen Length:
Developers: AJ	Static Water Level: 12.6	Total Purged Volume: 0.2
Start Date: 10/12/23 End Date: 10/12/23	Weather Conditions:	
General Comments (e.g., presence of NAPLS):	General Development Method(s):	

Date	Time	Method	Pumping Rate (gal/min)	Volume Purged (gal)	Temp. (°C)	Spec. Cond. (µS/cm)	pH	Turbidity (NTU)	Other	Comments
10/12	10:10	BAILER		—	14.5	530	7.4	>1000		
1	10:13	1		0.2	~~0~~	530	7.2	>1000		DRY
10:12	10:50	BAILER		0.2	14.5	530	7.0	>1000		SAMPLE

Field Parameter and Stability Guidance: pH (□±0.2 standard units); Temperature (±0.5 °C); specific conductance (□±3%, µS/cm); turbidity (±10% when turbidity is greater than □10 NTU); dissolved oxygen (□ 10% or ±0.2 mg/L, whichever is greater); oxidation-reduction potential (□ ±20 ml/g)

NTU- nephelometric unit, µS/cm- microsiemens per centimeter

040 g WELL VOL.

RECORD OF WELL DEVELOPMENT

Site Name: HILSON NUT	Initial Well Depth: 15.20	Final Well Depth:
Well ID: MW-23	Well Diameter: 2"	Screen Length:
Developers: A.Z	Static Water Level: 12.80	Total Purged Volume: 0.8
Start Date: 10/12/23 End Date: 10/12/23	Weather Conditions:	
General Comments (e.g., presence of NAPLS):	General Development Method(s):	

Date	Time	Method	Pumping Rate (gal/min)	Volume Purged (gal)	Temp. (°C)	Spec. Cond. (µS/cm)	pH	Turbidity (NTU)	Other	Comments
10/12	9:45	BAILER		—	15.7	620	8.0	CLEAR		
"	9:47	"		0.4	15.3	490	7.6	>1000		
"	9:50	"		0.8	15.2	470	7.4	>1000		DRY
10/12	10:00	BAILER		0.8	14.9	490	7.2	>1000		SAMPLE

Field Parameter and Stability Guidance: pH (□±0.2 standard units); Temperature (±0.5 °C); specific conductance (□±3%, µS/cm); turbidity (±10% when turbidity is greater than □10 NTU); dissolved oxygen (□ 10% or ±0.2 mg/L, whichever is greater); oxidation-reduction potential (□ ±20 ml/g)

NTU- nephelometric unit, µS/cm- microsiemens per centimeter

0.40 g

well vol.

RECORD OF WELL DEVELOPMENT

Site Name: Hilson NVT	Initial Well Depth: 15.30	Final Well Depth:
Well ID: MW-23	Well Diameter: 2"	Screen Length:
Developers: A.Z.	Static Water Level: 12.80	Total Purged Volume: 1.2
Start Date: 10/11/23 End Date: 10/11/23	Weather Conditions:	
General Comments (e.g., presence of NAPLS):	General Development Method(s):	

Date	Time	Method	Pumping Rate (gal/min)	Volume Purged (gal)	Temp. (°C)	Spec. Cond. (µS/cm)	pH	Turbidity (NTU)	Other	Comments
10/11	11:53	Bailer		—	17.4	480	7.1	>1000		
"	11:55	"		0.4	16.3	490	6.9	>1000		
"	11:57	"		0.8	16.1	460	6.7	>1000		
"	11:59	"		1.2	16.1	450	6.7	>1000		DRY

Field Parameter and Stability Guidance: pH (□±0.2 standard units); Temperature (±0.5 °C); specific conductance (□±3%, µS/cm); turbidity (±10% when turbidity is greater than □10 NTU); dissolved oxygen (□ 10% or ±0.2 mg/L, whichever is greater); oxidation-reduction potential (□ ±20 ml/g)

NTU- nephelometric unit, µS/cm- microsiemens per centimeter

0.6 g. well vol.

RECORD OF WELL DEVELOPMENT

Site Name: MILSON NUT	Initial Well Depth: 14.95	Final Well Depth:	
Well ID: MW-30	Well Diameter: 2"	Screen Length:	
Developers: A.L.	Static Water Level: 11.20	Total Purged Volume: 1.8	
Start Date: 10/11/23 End Date: 10/11/23	Weather Conditions:		
General Comments (e.g., presence of NAPLS):	General Development Method(s):		

Date	Time	Method	Pumping Rate (gal/min)	Volume Purged (gal)	Temp. (°C)	Spec. Cond. (µS/cm)	pH	Turbidity (NTU)	Other	Comments
10/11	12:50	BAILER		—	17.6	390	7.0	>1000		
"	12:53	"		0.6	15.7	380	7.0	>1000		
"	12:56	"		1.2	15.3	390	6.9	>1000		
"	12:58	"		1.8	14.9	390	6.9	>1000		DRY //

Field Parameter and Stability Guidance: pH (□±0.2 standard units); Temperature (±0.5 °C); specific conductance (□±3%, µS/cm); turbidity (±10% when turbidity is greater than □10 NTU); dissolved oxygen (□ 10% or ±0.2 mg/L, whichever is greater); oxidation-reduction potential (□ ±20 ml/g)

NTU- nephelometric unit, µS/cm- microsiemens per centimeter

0.5 gal

well vol.

RECORD OF WELL DEVELOPMENT

Site Name: Hilson Nut	Initial Well Depth: 14.80	Final Well Depth:
Well ID: MW-29	Well Diameter: 2"	Screen Length:
Developers: A.L.	Static Water Level: 11.60	Total Purged Volume: 0.5
Start Date: 10/11/23 End Date: 10/11/23	Weather Conditions:	
General Comments (e.g., presence of NAPLS):	General Development Method(s):	

Date	Time	Method	Pumping Rate (gal/min)	Volume Purged (gal)	Temp. (°C)	Spec. Cond. (µS/cm)	pH	Turbidity (NTU)	Other	Comments
10/11	12:40	Bailer		—	18.4	370	7.1	>1000		
5	12:42	1		0.5	16.7	380	7.0	>1000		DRY

Field Parameter and Stability Guidance: pH (□±0.2 standard units); Temperature (±0.5 °C); specific conductance (□±3%, µS/cm); turbidity (±10% when turbidity is greater than □10 NTU); dissolved oxygen (□ 10% or ±0.2 mg/L, whichever is greater); oxidation-reduction potential (□ ±20 ml/g)

NTU- nephelometric unit, µS/cm- microsiemens per centimeter

0.2 g

well
V02.

RECORD OF WELL DEVELOPMENT

Site Name: Hilson NUT	Initial Well Depth: 13.80	Final Well Depth:
Well ID: MW-24	Well Diameter: 2"	Screen Length:
Developers: A.2.	Static Water Level: 12.60	Total Purged Volume: 0.2
Start Date: 10/11/23 End Date: 10/11/23	Weather Conditions:	
General Comments (e.g., presence of NAPLS):	General Development Method(s):	

Date	Time	Method	Pumping Rate (gal/min)	Volume Purged (gal)	Temp. (°C)	Spec. Cond. (µS/cm)	pH	Turbidity (NTU)	Other	Comments
10/11	12:20	BAILER		[redacted]	18.2	520	7.0	>1000		DRY 0.2 gallons

Field Parameter and Stability Guidance: pH (□±0.2 standard units); Temperature (±0.5 °C); specific conductance (□±3%, µS/cm); turbidity (±10% when turbidity is greater than □10 NTU); dissolved oxygen (□ 10% or ±0.2 mg/L, whichever is greater); oxidation-reduction potential (□ ±20 ml/g)

NTU- nephelometric unit, µS/cm- microsiemens per centimeter

ATTACHMENT D
TABLES

Table 1
Groundwater Elevation Data
3203 W. 71st Street
Cleveland, Ohio

Well	Date	Elevation (feet above msl)	Height of Instrument (feet)	Relative Elevation (feet)	Depth to Water (feet)	Relative Groundwater Elevation (feet)	Comments
Bench Mark	10/11/2023	5.02	105.02	100.00	--	--	Blue Fire Hydrant
MW-23	10/11/2023	7.54	--	97.48	12.8	84.68	
MW-24	10/11/2023	6.56	--	98.46	12.6	85.86	
MW-29	10/11/2023	4.50	--	100.52	11.6	88.92	
MW-30	10/11/2023	5.14	--	99.88	11.2	88.68	

Table 2
Soil Sample Results - REC/IA-1
3203 W. 71st Street
Cleveland, Ohio

Soil Sample								SB-23 (10-12')	SB-23 (12-15')	SB-24 (6-8')	SB-24 (10-12')
Laboratory ID								23091124-01	23091124-02	23091124-03	23091124-04
Sample Date								09/27/23	09/27/23	09/27/23	09/27/23
REC/IA Location								REC-1/IA-1			
Constituent	**CAS #**	**Units**	**Ohio VAP Residential GNS**	**Ohio VAP Const/Exc GNS**	**Ohio VAP Comm/Ind GNS**	**BUSTR Class I Soil Action Levels**	**Analytical Method**	**Results**			
Inorganics											
Lead	7439-92-1	mg/kg	400	400	800	NA	EPA 6010B	**7.0**	**5.6**	**25**	**4.5**
Volatile Organic Compounds											
Ethylbenzene	100-41-4	mg/kg	140	480	480	84.5	EPA 8260	<0.0045	<0.0048	**4.9**	<0.0060
Naphthalene	91-20-3	mg/kg	96	560	420	0.511	EPA 8260	<0.0045	<0.0048	**36**	**0.021**
1,2,4-Trimethylbenzene	95-63-6	mg/kg	220	220	220	2.37	EPA 8260	<0.0045	<0.0048	**120**	**0.043**
Xylene (Total)	1330-20-7	mg/kg	260	260	260	42.7	EPA 8260	<0.0090	<0.0096	**31**	<0.012
Polycyclic Aromatic Hydrocarbons								*Analyzed, all non-detect*			
Total Petroleum Hydrocarbons											
TPH C6-C12		mg/kg	1,000			1,000	EPA 8015A	<2.4	<2.4	**4,100**	**3.8**
TPH C10-C20		mg/kg	2,000			2,000	EPA 8015B	**28**	**22**	**6,000**	**35**
TPH C20-C34		mg/kg	5,000			5,000	EPA 8015B	<16	<16	**1,600**	**32**

NA -- Not Applicable (No BUSTR Action Level for this constituent)
mg/Kg - milligram per kilogram (ppm)
Highlighted cell indicates constituent above BUSTR Action Level and/or one or more Ohio EPA VAP Generic Numeric Standard (GNS)

Table 3
Soil Sample Results - REC/IA-2
3203 W. 71st Street
Cleveland, Ohio

Soil Sample								SB-25 (0-2')	SB-26 (4-6')	SB-26 (12-15')	SB-27 (0-2')	SB-28 (0-2')	SB-29 (8-10')	SB-29 (10-12')	SB-30 (8-10')	SB-30 (10-12')	SB-31 (0-2')
Laboratory ID								23091123-01	23091123-02	23091123-03	23091123-04	23091123-05	23091123-06	23091123-07	23091123-08	23091123-09	23091123-10
Sample Date								09/27/23	09/27/23	09/27/23	09/27/23	09/27/23	09/27/23	09/27/23	09/27/23	09/27/23	09/27/23
REC/IA Location								**REC-2/IA-2**									
Constituent	**CAS #**	**Units**	**Ohio VAP Residential GNS**	**Ohio VAP Const/Exc GNS**	**Ohio VAP Comm/Ind GNS**	**Cuyahoga County Background Levels[1]**	**Analytical Method**	**Results**									
Inorganics																	
Arsenic	7440-38-2	mg/kg	14	760	100	24	EPA 6010B	**11.0**	**9.9**	**7.0**	**11**	**5.7**	**8.3**	**9.4**	**7.5**	**4.3**	**3.6**
Barium	7440-39-3	mg/kg	30,000	350,000	760,000	98.9	EPA 6010B	**27.0**	**45.0**	**6.8**	**31**	**66**	**9.9**	**32**	**8.5**	**9.4**	**26**
Cadmium	7440-43-9	mg/kg	140	710	3,300	0.834	EPA 6010B	<0.23	<0.24	<0.22	<0.23	<0.23	<0.23	<0.24	<0.23	<0.23	**12.0**
Chromium (III)	7440-47-3	mg/kg	230,000	920,000	1,000,000	21.1	EPA 6010B	**11.0**	**13.0**	**4.9**	**9.5**	**6.9**	**3.2**	**7.2**	**6.1**	**4.9**	**13**
Lead	7439-92-1	mg/kg	400	400	800	51.7	EPA 6010B	**8.50**	**7.1**	**6.0**	**15**	**44**	**9.0**	**8.3**	**5.7**	**5.7**	**12**
Mercury	7439-97-6	mg/kg	3.1	3.1	3.1	0.097	EPA 7471	<0.041	<0.042	<0.040	**1.9**	<0.041	<4.1	**0.12**	**2.3**	<0.042	**0.61**
Selenium	7782-49-2	mg/kg	780	12,000	23,000	0.943	EPA 6010B	<0.68	**0.93**	0.86	**0.81**	<0.69	**1.8**	<0.72	<0.70	<0.69	<0.62
Volatile Organic Compounds								*Analyzed, all non-detect*									
Polycyclic Aromatic Hydrocarbons																	
Benzo(a)anthracene	56-55-3	mg/kg	23	9,600	610	NA	EPA 8270	<0.12	<0.12	<0.11	<0.12	**0.21**	<0.12	<0.12	<0.12	<0.12	**0.45**
Benzo(a)pyrene	50-32-8	mg/kg	2.3	230	62	NA	EPA 8270	<0.12	<0.12	<0.11	<0.12	**0.22**	<0.12	<0.12	<0.12	<0.12	**0.59**
Benzo(b)fluoranthene	205-99-2	mg/kg	23	10,000	620	NA	EPA 8270	<0.23	<0.24	<0.23	<0.23	**0.27**	<0.23	<0.24	<0.24	<0.24	**0.57**
Benzo(g,h,i)perylene	191-24-2	mg/kg	3,600	430,000	67,000	NA	EPA 8270	<0.23	<0.24	<0.23	<0.23	<0.23	<0.23	<0.24	<0.24	<0.24	**0.48**
Benzo(k)fluoranthene	207-08-9	mg/kg	230	100,000	6,200	NA	EPA 8270	<0.23	<0.24	<0.23	<0.23	<0.23	<0.23	<0.24	<0.24	<0.24	**0.28**
Chrysene	218-01-9	mg/kg	2,300	1,000,000	62,000	NA	EPA 8270	<0.23	<0.24	<0.23	<0.23	<0.23	<0.23	<0.24	<0.24	<0.24	**0.48**
Fluoranthene	206-44-0	mg/kg	4,800	170,000	89,000	NA	EPA 8270	<0.23	<0.24	<0.23	<0.23	**0.43**	<0.23	<0.24	<0.24	<0.24	**1.1**
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	23	10,000	620	NA	EPA 8270	<0.12	<0.12	<0.11	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	**0.20**
Phenanthrene	85-01-8	mg/kg	36,000	1,000,000	670,000	NA	EPA 8270	<0.23	<0.24	<0.23	<0.23	<0.23	<0.23	<0.24	<0.24	<0.24	**0.64**
Pyrene	129-00-0	mg/kg	3,600	430,000	67,000	NA	EPA 8270	<0.23	<0.24	<0.23	<0.23	**0.37**	<0.23	<0.24	<0.24	<0.24	**0.98**

NA - Not Applicable
mg/Kg - milligram per kilogram (ppm)
Highlighted cell indicates constituent above one or more Ohio EPA VAP Standard
[1]Evaluation of Background Metal Soil Concentrations in Cuyahoga County - Cleveland Area Summary Report, Ohio EPA,
Division of Environmental Response and Revitalization, Voluntary Action Program, March 2013

Table 4
Groundwater Sample Results
3203 W. 71st Street
Cleveland, Ohio

Temporary Well						MW-23	MW-24	MW-29	MW-30
Laboratory ID						23100579-01	23100579-02	23100579-03	23100579-04
Sample Date						10/12/2023	10/12/2023	10/12/2023	10/12/2023
Constituent	**CAS #**	**Units**	**Ohio VAP UPUS**	**BUSTR GW Ingestion**	**Analytical Method**	**Results**			
Inorganics (Total Concentrations)									
Arsenic	7440-38-2	µg/L	10	N/A	EPA 6020B	---	**350**	<100	<100
Barium	7440-39-3	µg/L	2,000	N/A	EPA 6020B	---	**1,600**	<1,000	<1,000
Chromium, Total	7440-47-3	µg/L	100	N/A	EPA 6020B	---	**350**	<100	**910**
Lead	7439-92-1	µg/L	15	N/A	EPA 6020B	**220**	**810**	<150	<150
Mercury	7439-97-6	µg/L	2	N/A	EPA 7470A	---	**13**	**0.43**	**2.0**
Volatile Organic Compounds									
1,2,4-Trimethylbenzene	95-63-6	µg/L	56	15	EPA 8260	<5.0	**110**	<5.0	<5.0
1,3,5-Trimethylbenzene	108-67-8	µg/L	60	N/A	EPA 8260	---	**370**	<5.0	<5.0
Ethylbenzene	100-41-4	µg/L	700	700	EPA 8260	<5.0	**170**	<5.0	<5.0
Naphthalene	91-20-3	µg/L	1.7	1.4	EPA 8260	<1.4	**130**	<1.4	<1.4
n-Propylbenzene	103-65-1	µg/L	660	N/A	EPA 8260	---	**6.2**	<5.0	<5.0
Xylene (Total)	1330-20-7	µg/L	10,000	10,000	EPA 8260	<10.0	**120**	<15	<15
Polycyclic Aromatic Hydrocarbons									
1-Methylnaphthalene	90-12-0	µg/L	11	N/A	EPA 8270	---	**4.8**	<0.13	<0.11
2-Methylnaphthalene	91-57-6	µg/L	36	N/A	EPA 8270	---	**6.6**	<0.13	<0.11
Naphthalene	91-20-3	µg/L	1.7	1.4	EPA 8270C	---	**5.8**	<0.13	<0.11
Phenanthrene	85-01-8	µg/L	4,800	N/A	EPA 8270	---	**0.014**	<0.13	<0.11

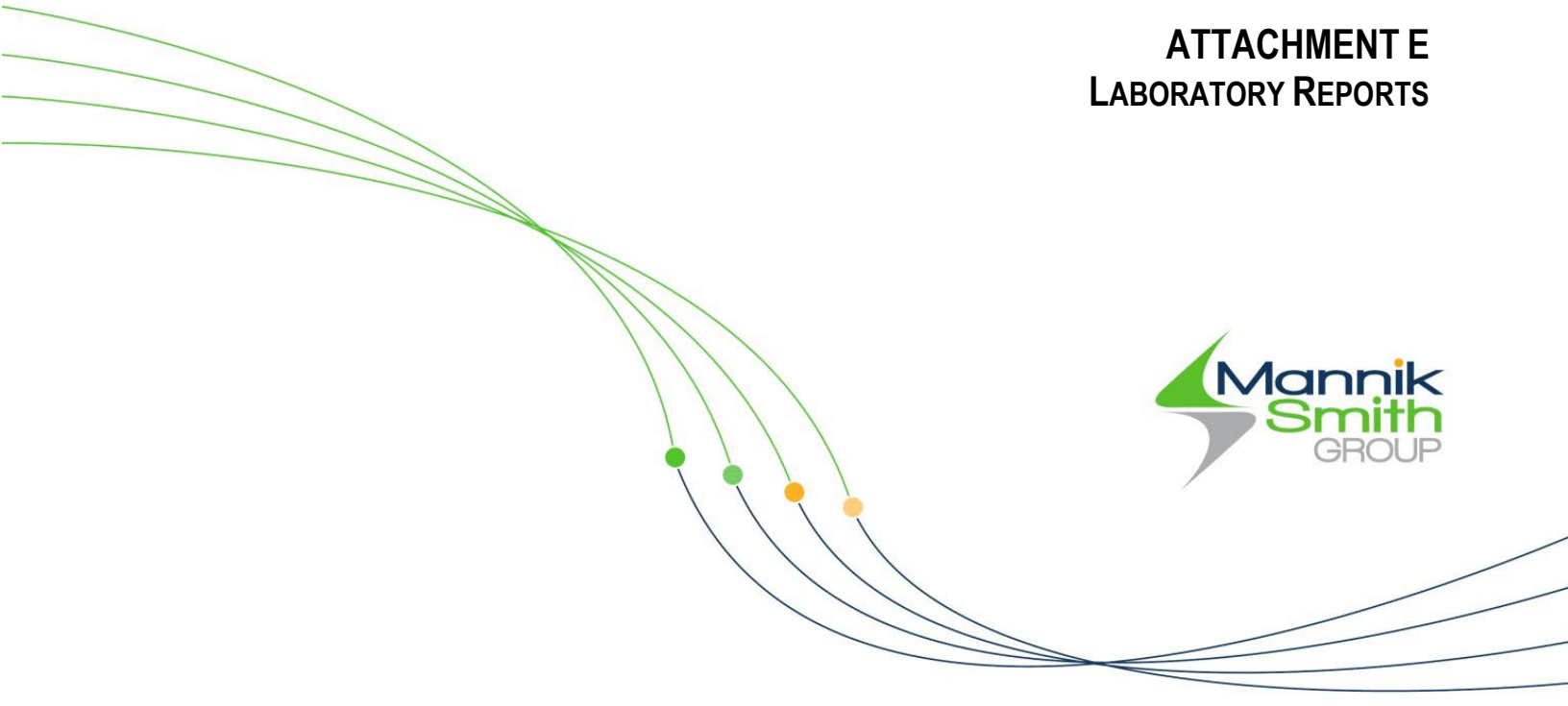
NA -- Not Applicable
µg/L - microgram per liter (ppb)
Highlighted cell indicates constituent above Ohio EPA VAP UPUS or BUSTR Groundwater Ingestion Action Levels

Table 5
Quality Assurance / Quality Control
3203 W. 71st Street
Cleveland, Ohio

Lab	ALS	ALS	ALS
SDG	23091123	23091124	23100579
Collection Date(s)	09/27/23	09/27/23	10/12/23
Collected by	MSG	MSG	MSG
Matrix	Soil	Soil	Water
Chain of Custody	Ok	Ok	Ok
Cooler Temperature	4.1 °C	4.1 °C	5.2 °C
Sample Preservation	Ok	Ok	Ok
Custody Seals	Yes - on cooler	Yes - on cooler	No
Bottles	Lab Provided	Lab Provided	Lab Provided
Case Narrative	Batch R221826, Method 8260_VOC_5035, Samples 23091123-06A and 23091123-07A: Select internal standard spike recoveries fall outside of quality control limits due to sample matrix interference. Interference was confirmed by reanalysis	Batch 94168, Method 8015_DRO_S, Sample 23091124-01C, 23091124-02C, 23100002-03AMS, 23100002-03AMSD, LCS-94168, and MBLK-94168: Surrogate failure due to coeluting peak.	Batch 94516, Method 7470_HGPR_W, Sample 23100579-02C: Dirty sample, diluted x10 (0.8 sample, 7.2 DI) Batch 94588, Method 3010_METPR_W, Sample 23100579-01D, 23100579-02C, 23100579-03C, and 23100579-04C: Dirty sample, diluted x10 (1ml sample, 9 ml DI)
Lab Statement of Quality	VAP Certified	VAP Certified	VAP Certified
Holding Times met?	Yes	Yes	Yes
Proper Methods	Yes	Yes	Yes
Reporting Limits acceptable	Yes	Yes	Yes
Surrogate recoveries within limits	Yes	Yes - except as noted in Case Narrative	Yes
Blanks	Method Blanks Non-Detect	Method Blanks Non-Detect	Method Blanks Non-Detect
Duplicates	Yes	No	None
LCS within limits?	In Control	In Control	In Control
MS/MSD within limits?	Yes - except as noted in Case Narrative	Batch 94169, Method 8270_PAH_S, Sample 23090861-35AMS and 23090861-35AMSD: Select matrix spike recoveries fall outside of quality control limits due to sample matrix interference.	Yes
MS/MSD client generated?	Yes	No	No
Overall Quality	Acceptable	Acceptable	Acceptable

MB - Method Blank
ND - Non Detect
FB - Field Blank
PQL - Practical Quantification Limit
RPD - Relative Percent Difference
LCS - Laboratory Control Sample
MS/MSD - Matrix Spike / Matrix Spike Duplicate

ATTACHMENT E
LABORATORY REPORTS



09-Oct-2023

Matt Pesci
The Mannik & Smith Group
1800 Indian Wood Circle
Maumee, OH 43537

Re: **Hillison Nut; MS23-13; ODAS0003-19** Work Order: **23091123**

Dear Matt,

ALS Environmental received 11 samples on 29-Sep-2023 08:00 AM for the analyses presented in the following report.

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

QC sample results for this data met 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 Laboratory Group. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 57.

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

Sincerely,

Rob Nieman

Electronically approved by: Rob Nieman

Rob Nieman
Project Manager

Report of Laboratory Analysis

ALS Environmental

Date: 09-Oct-23

Client: The Mannik & Smith Group
Project: Hillison Nut; MS23-13; ODAS0003-19
Work Order: **23091123**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
23091123-01	SB-25 (0-2)	Soil		9/27/2023 10:50	9/29/2023 08:00	☐
23091123-02	SB-26 (4-6)	Soil		9/27/2023 11:10	9/29/2023 08:00	☐
23091123-03	SB-26 (12-15)	Soil		9/27/2023 11:15	9/29/2023 08:00	☐
23091123-04	SB-27 (0-2)	Soil		9/27/2023 11:30	9/29/2023 08:00	☐
23091123-05	SB-28 (0-2)	Soil		9/27/2023 11:40	9/29/2023 08:00	☐
23091123-06	SB-29 (8-10)	Soil		9/27/2023 12:30	9/29/2023 08:00	☐
23091123-07	SB-29 (10-12)	Soil		9/27/2023 12:40	9/29/2023 08:00	☐
23091123-08	SB-30 (8-10)	Soil		9/27/2023 13:00	9/29/2023 08:00	☐
23091123-09	SB-30 (10-12)	Soil		9/27/2023 13:05	9/29/2023 08:00	☐
23091123-10	SB-31 (0-2)	Soil		9/27/2023 13:30	9/29/2023 08:00	☐
23091123-11	DUP	Soil		9/27/2023	9/29/2023 08:00	☐

ALS Environmental

Date: 09-Oct-23

Client: The Mannik & Smith Group
Project: Hillison Nut; MS23-13; ODAS0003-19
Work Order: 23091123

Case Narrative

The analyses requested were analyzed according to Ohio Voluntary Action Program requirements. Affidavits are available upon request.

The analytical data provided relates directly to the samples received by ALS Laboratory Group and for only the analyses requested.

QC sample results for this data met 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 Laboratory Group. Samples will be disposed in 30 days unless storage arrangements are made.

Batch R221826, Method 8260_VOC_5035, Sample 23091123-06A: Select internal standard spike recoveries fall outside of quality control limits due to sample matrix interference. Interference was confirmed by reanalysis

Batch R221826, Method 8260_VOC_5035, Sample 23091123-07A: Select internal standard spike recoveries fall outside of quality control limits due to sample matrix interference. Interference was confirmed by reanalysis

ALS Environmental

Date: *09-Oct-23*

Client: The Mannik & Smith Group
Project: Hillison Nut; MS23-13; ODAS0003-19 **Work Order:** 23091123
Sample ID: SB-25 (0-2) **Lab ID:** 23091123-01
Collection Date: 9/27/2023 10:50 AM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MOISTURE			**SM2540B**			Analyst: **CS**
Moisture	**14**			**% of sample**	1	10/4/2023
MERCURY BY CVAA			**SW7471A**	Prep: EPA 7471 10/4/23 12:10		Analyst: **CW**
Mercury	ND		0.041	mg/Kg-dry	1	10/4/2023 02:55 PM
METALS BY ICP			**SW6010B**	Prep: SW3050B 10/4/23 12:10		Analyst: **SLT**
Arsenic	**11**		**1.1**	**mg/Kg-dry**	1	10/4/2023 05:29 PM
Barium	**27**		**4.5**	**mg/Kg-dry**	1	10/4/2023 05:29 PM
Cadmium	ND		0.23	mg/Kg-dry	1	10/4/2023 05:29 PM
Chromium	**11**		**2.3**	**mg/Kg-dry**	1	10/4/2023 05:29 PM
Lead	**8.5**		**4.5**	**mg/Kg-dry**	1	10/4/2023 05:29 PM
Selenium	ND		0.68	mg/Kg-dry	1	10/4/2023 05:29 PM
Silver	ND		1.1	mg/Kg-dry	1	10/4/2023 05:29 PM
PAH COMPOUNDS			**SW8270C**	Prep: SW3546 10/4/23 17:27		Analyst: **RA**
1-Methylnaphthalene	ND		0.23	mg/Kg-dry	1	10/5/2023 09:20 PM
2-Methylnaphthalene	ND		0.23	mg/Kg-dry	1	10/5/2023 09:20 PM
Acenaphthene	ND		0.23	mg/Kg-dry	1	10/5/2023 09:20 PM
Acenaphthylene	ND		0.23	mg/Kg-dry	1	10/5/2023 09:20 PM
Anthracene	ND		0.23	mg/Kg-dry	1	10/5/2023 09:20 PM
Benzo(a)anthracene	ND		0.12	mg/Kg-dry	1	10/5/2023 09:20 PM
Benzo(a)pyrene	ND		0.12	mg/Kg-dry	1	10/5/2023 09:20 PM
Benzo(b)fluoranthene	ND		0.23	mg/Kg-dry	1	10/5/2023 09:20 PM
Benzo(g,h,i)perylene	ND		0.23	mg/Kg-dry	1	10/5/2023 09:20 PM
Benzo(k)fluoranthene	ND		0.23	mg/Kg-dry	1	10/5/2023 09:20 PM
Carbazole	ND		0.23	mg/Kg-dry	1	10/5/2023 09:20 PM
Chrysene	ND		0.23	mg/Kg-dry	1	10/5/2023 09:20 PM
Dibenzo(a,h)anthracene	ND		0.12	mg/Kg-dry	1	10/5/2023 09:20 PM
Dibenzofuran	ND		0.23	mg/Kg-dry	1	10/5/2023 09:20 PM
Fluoranthene	ND		0.23	mg/Kg-dry	1	10/5/2023 09:20 PM
Fluorene	ND		0.23	mg/Kg-dry	1	10/5/2023 09:20 PM
Indeno(1,2,3-cd)pyrene	ND		0.12	mg/Kg-dry	1	10/5/2023 09:20 PM
Naphthalene	ND		0.23	mg/Kg-dry	1	10/5/2023 09:20 PM
Phenanthrene	ND		0.23	mg/Kg-dry	1	10/5/2023 09:20 PM
Pyrene	ND		0.23	mg/Kg-dry	1	10/5/2023 09:20 PM
Surr: 2-Fluorobiphenyl	*80.0*		*30-116*	*%REC*	1	10/5/2023 09:20 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**			Analyst: **SK**
1,1,1,2-Tetrachloroethane	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
1,1,1-Trichloroethane	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
1,1,2,2-Tetrachloroethane	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM

Note:

ALS Environmental

Date: *09-Oct-23*

Client: The Mannik & Smith Group
Project: Hillison Nut; MS23-13; ODAS0003-19
Work Order: 23091123
Sample ID: SB-25 (0-2)
Lab ID: 23091123-01
Collection Date: 9/27/2023 10:50 AM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
1,1,2-Trichloroethane	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
1,1-Dichloroethane	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
1,1-Dichloroethene	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
1,1-Dichloropropene	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
1,2,3-Trichlorobenzene	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
1,2,3-Trichloropropane	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
1,2,4-Trichlorobenzene	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
1,2,4-Trimethylbenzene	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
1,2-Dibromo-3-chloropropane	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
1,2-Dibromoethane	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
1,2-Dichlorobenzene	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
1,2-Dichloroethane	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
1,2-Dichloropropane	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
1,3,5-Trimethylbenzene	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
1,3-Dichlorobenzene	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
1,3-Dichloropropane	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
1,4-Dichlorobenzene	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
2,2-Dichloropropane	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
2-Butanone	ND		0.049	mg/Kg-dry	1	10/4/2023 09:56 AM
2-Chlorotoluene	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
2-Hexanone	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
4-Chlorotoluene	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
4-Methyl-2-pentanone	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
Acetone	ND		0.049	mg/Kg-dry	1	10/4/2023 09:56 AM
Benzene	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
Bromobenzene	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
Bromochloromethane	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
Bromodichloromethane	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
Bromoform	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
Bromomethane	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
Carbon disulfide	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
Carbon tetrachloride	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
Chlorobenzene	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
Chloroethane	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
Chloroform	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
Chloromethane	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
cis-1,2-Dichloroethene	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
cis-1,3-Dichloropropene	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
Dibromochloromethane	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
Dibromomethane	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM

Note:

Client: The Mannik & Smith Group
Project: Hillison Nut; MS23-13; ODAS0003-19 **Work Order:** 23091123
Sample ID: SB-25 (0-2) **Lab ID:** 23091123-01
Collection Date: 9/27/2023 10:50 AM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dichlorodifluoromethane	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
Ethylbenzene	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
Hexachlorobutadiene	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
Isopropylbenzene	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
m,p-Xylene	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
Methyl tert-butyl ether	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
Methylene chloride	ND		0.020	mg/Kg-dry	1	10/4/2023 09:56 AM
Naphthalene	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
n-Butylbenzene	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
n-Propylbenzene	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
o-Xylene	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
p-Isopropyltoluene	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
sec-Butylbenzene	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
Styrene	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
tert-Butylbenzene	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
Tetrachloroethene	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
Toluene	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
trans-1,2-Dichloroethene	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
trans-1,3-Dichloropropene	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
Trichloroethene	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
Trichlorofluoromethane	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
Vinyl chloride	ND		0.0049	mg/Kg-dry	1	10/4/2023 09:56 AM
Xylenes, Total	ND		0.0098	mg/Kg-dry	1	10/4/2023 09:56 AM
Surr: 4-Bromofluorobenzene	*102*		*60-140*	*%REC*	1	10/4/2023 09:56 AM
Surr: Dibromofluoromethane	*129*		*60-140*	*%REC*	1	10/4/2023 09:56 AM
Surr: Toluene-d8	*103*		*60-140*	*%REC*	1	10/4/2023 09:56 AM

Note:

ALS Environmental

Date: *09-Oct-23*

Client: The Mannik & Smith Group
Project: Hillison Nut; MS23-13; ODAS0003-19 **Work Order:** 23091123
Sample ID: SB-26 (4-6) **Lab ID:** 23091123-02
Collection Date: 9/27/2023 11:10 AM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MOISTURE			**SM2540B**			Analyst: **CS**
Moisture	**16**			**% of sample**	1	10/4/2023
MERCURY BY CVAA			**SW7471A**	Prep: EPA 7471 10/4/23 12:10		Analyst: **CW**
Mercury	ND		0.042	mg/Kg-dry	1	10/4/2023 02:57 PM
METALS BY ICP			**SW6010B**	Prep: SW3050B 10/4/23 12:10		Analyst: **SLT**
Arsenic	**9.9**		**1.2**	**mg/Kg-dry**	1	10/4/2023 05:33 PM
Barium	**45**		**4.7**	**mg/Kg-dry**	1	10/4/2023 05:33 PM
Cadmium	ND		0.24	mg/Kg-dry	1	10/4/2023 05:33 PM
Chromium	**13**		**2.4**	**mg/Kg-dry**	1	10/4/2023 05:33 PM
Lead	**7.1**		**4.7**	**mg/Kg-dry**	1	10/4/2023 05:33 PM
Selenium	**0.93**		**0.71**	**mg/Kg-dry**	1	10/4/2023 05:33 PM
Silver	ND		1.2	mg/Kg-dry	1	10/4/2023 05:33 PM
PAH COMPOUNDS			**SW8270C**	Prep: SW3546 10/4/23 17:27		Analyst: **RA**
1-Methylnaphthalene	ND		0.24	mg/Kg-dry	1	10/5/2023 09:35 PM
2-Methylnaphthalene	ND		0.24	mg/Kg-dry	1	10/5/2023 09:35 PM
Acenaphthene	ND		0.24	mg/Kg-dry	1	10/5/2023 09:35 PM
Acenaphthylene	ND		0.24	mg/Kg-dry	1	10/5/2023 09:35 PM
Anthracene	ND		0.24	mg/Kg-dry	1	10/5/2023 09:35 PM
Benzo(a)anthracene	ND		0.12	mg/Kg-dry	1	10/5/2023 09:35 PM
Benzo(a)pyrene	ND		0.12	mg/Kg-dry	1	10/5/2023 09:35 PM
Benzo(b)fluoranthene	ND		0.24	mg/Kg-dry	1	10/5/2023 09:35 PM
Benzo(g,h,i)perylene	ND		0.24	mg/Kg-dry	1	10/5/2023 09:35 PM
Benzo(k)fluoranthene	ND		0.24	mg/Kg-dry	1	10/5/2023 09:35 PM
Carbazole	ND		0.24	mg/Kg-dry	1	10/5/2023 09:35 PM
Chrysene	ND		0.24	mg/Kg-dry	1	10/5/2023 09:35 PM
Dibenzo(a,h)anthracene	ND		0.12	mg/Kg-dry	1	10/5/2023 09:35 PM
Dibenzofuran	ND		0.24	mg/Kg-dry	1	10/5/2023 09:35 PM
Fluoranthene	ND		0.24	mg/Kg-dry	1	10/5/2023 09:35 PM
Fluorene	ND		0.24	mg/Kg-dry	1	10/5/2023 09:35 PM
Indeno(1,2,3-cd)pyrene	ND		0.12	mg/Kg-dry	1	10/5/2023 09:35 PM
Naphthalene	ND		0.24	mg/Kg-dry	1	10/5/2023 09:35 PM
Phenanthrene	ND		0.24	mg/Kg-dry	1	10/5/2023 09:35 PM
Pyrene	ND		0.24	mg/Kg-dry	1	10/5/2023 09:35 PM
Surr: 2-Fluorobiphenyl	*78.8*		*30-116*	*%REC*	1	10/5/2023 09:35 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**			Analyst: **SK**
1,1,1,2-Tetrachloroethane	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
1,1,1-Trichloroethane	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
1,1,2,2-Tetrachloroethane	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM

Note:

ALS Environmental

Date: *09-Oct-23*

Client: The Mannik & Smith Group
Project: Hillison Nut; MS23-13; ODAS0003-19
Work Order: 23091123
Sample ID: SB-26 (4-6)
Lab ID: 23091123-02
Collection Date: 9/27/2023 11:10 AM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
1,1,2-Trichloroethane	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
1,1-Dichloroethane	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
1,1-Dichloroethene	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
1,1-Dichloropropene	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
1,2,3-Trichlorobenzene	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
1,2,3-Trichloropropane	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
1,2,4-Trichlorobenzene	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
1,2,4-Trimethylbenzene	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
1,2-Dibromo-3-chloropropane	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
1,2-Dibromoethane	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
1,2-Dichlorobenzene	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
1,2-Dichloroethane	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
1,2-Dichloropropane	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
1,3,5-Trimethylbenzene	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
1,3-Dichlorobenzene	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
1,3-Dichloropropane	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
1,4-Dichlorobenzene	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
2,2-Dichloropropane	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
2-Butanone	ND		0.047	mg/Kg-dry	1	10/4/2023 10:21 AM
2-Chlorotoluene	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
2-Hexanone	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
4-Chlorotoluene	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
4-Methyl-2-pentanone	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
Acetone	ND		0.047	mg/Kg-dry	1	10/4/2023 10:21 AM
Benzene	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
Bromobenzene	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
Bromochloromethane	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
Bromodichloromethane	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
Bromoform	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
Bromomethane	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
Carbon disulfide	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
Carbon tetrachloride	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
Chlorobenzene	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
Chloroethane	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
Chloroform	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
Chloromethane	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
cis-1,2-Dichloroethene	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
cis-1,3-Dichloropropene	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
Dibromochloromethane	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
Dibromomethane	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM

Note:

Client: The Mannik & Smith Group
Project: Hillison Nut; MS23-13; ODAS0003-19 **Work Order:** 23091123
Sample ID: SB-26 (4-6) **Lab ID:** 23091123-02
Collection Date: 9/27/2023 11:10 AM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dichlorodifluoromethane	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
Ethylbenzene	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
Hexachlorobutadiene	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
Isopropylbenzene	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
m,p-Xylene	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
Methyl tert-butyl ether	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
Methylene chloride	ND		0.019	mg/Kg-dry	1	10/4/2023 10:21 AM
Naphthalene	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
n-Butylbenzene	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
n-Propylbenzene	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
o-Xylene	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
p-Isopropyltoluene	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
sec-Butylbenzene	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
Styrene	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
tert-Butylbenzene	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
Tetrachloroethene	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
Toluene	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
trans-1,2-Dichloroethene	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
trans-1,3-Dichloropropene	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
Trichloroethene	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
Trichlorofluoromethane	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
Vinyl chloride	ND		0.0047	mg/Kg-dry	1	10/4/2023 10:21 AM
Xylenes, Total	ND		0.0094	mg/Kg-dry	1	10/4/2023 10:21 AM
Surr: 4-Bromofluorobenzene	*98.1*		*60-140*	*%REC*	1	10/4/2023 10:21 AM
Surr: Dibromofluoromethane	*128*		*60-140*	*%REC*	1	10/4/2023 10:21 AM
Surr: Toluene-d8	*108*		*60-140*	*%REC*	1	10/4/2023 10:21 AM

Note:

ALS Environmental

Date: *09-Oct-23*

Client: The Mannik & Smith Group
Project: Hillison Nut; MS23-13; ODAS0003-19 **Work Order:** 23091123
Sample ID: SB-26 (12-15) **Lab ID:** 23091123-03
Collection Date: 9/27/2023 11:15 AM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MOISTURE			**SM2540B**			Analyst: **CS**
Moisture	**12**			**% of sample**	1	10/4/2023
MERCURY BY CVAA			**SW7471A**	Prep: EPA 7471 10/4/23 12:10		Analyst: **CW**
Mercury	ND		0.040	mg/Kg-dry	1	10/4/2023 02:59 PM
METALS BY ICP			**SW6010B**	Prep: SW3050B 10/4/23 12:10		Analyst: **SLT**
Arsenic	**7.0**		**1.1**	**mg/Kg-dry**	1	10/4/2023 05:37 PM
Barium	**6.8**		**4.5**	**mg/Kg-dry**	1	10/4/2023 05:37 PM
Cadmium	ND		0.22	mg/Kg-dry	1	10/4/2023 05:37 PM
Chromium	**4.9**		**2.2**	**mg/Kg-dry**	1	10/4/2023 05:37 PM
Lead	**6.0**		**4.5**	**mg/Kg-dry**	1	10/4/2023 05:37 PM
Selenium	**0.86**		**0.67**	**mg/Kg-dry**	1	10/4/2023 05:37 PM
Silver	ND		1.1	mg/Kg-dry	1	10/4/2023 05:37 PM
PAH COMPOUNDS			**SW8270C**	Prep: SW3546 10/4/23 17:27		Analyst: **RA**
1-Methylnaphthalene	ND		0.23	mg/Kg-dry	1	10/5/2023 09:50 PM
2-Methylnaphthalene	ND		0.23	mg/Kg-dry	1	10/5/2023 09:50 PM
Acenaphthene	ND		0.23	mg/Kg-dry	1	10/5/2023 09:50 PM
Acenaphthylene	ND		0.23	mg/Kg-dry	1	10/5/2023 09:50 PM
Anthracene	ND		0.23	mg/Kg-dry	1	10/5/2023 09:50 PM
Benzo(a)anthracene	ND		0.11	mg/Kg-dry	1	10/5/2023 09:50 PM
Benzo(a)pyrene	ND		0.11	mg/Kg-dry	1	10/5/2023 09:50 PM
Benzo(b)fluoranthene	ND		0.23	mg/Kg-dry	1	10/5/2023 09:50 PM
Benzo(g,h,i)perylene	ND		0.23	mg/Kg-dry	1	10/5/2023 09:50 PM
Benzo(k)fluoranthene	ND		0.23	mg/Kg-dry	1	10/5/2023 09:50 PM
Carbazole	ND		0.23	mg/Kg-dry	1	10/5/2023 09:50 PM
Chrysene	ND		0.23	mg/Kg-dry	1	10/5/2023 09:50 PM
Dibenzo(a,h)anthracene	ND		0.11	mg/Kg-dry	1	10/5/2023 09:50 PM
Dibenzofuran	ND		0.23	mg/Kg-dry	1	10/5/2023 09:50 PM
Fluoranthene	ND		0.23	mg/Kg-dry	1	10/5/2023 09:50 PM
Fluorene	ND		0.23	mg/Kg-dry	1	10/5/2023 09:50 PM
Indeno(1,2,3-cd)pyrene	ND		0.11	mg/Kg-dry	1	10/5/2023 09:50 PM
Naphthalene	ND		0.23	mg/Kg-dry	1	10/5/2023 09:50 PM
Phenanthrene	ND		0.23	mg/Kg-dry	1	10/5/2023 09:50 PM
Pyrene	ND		0.23	mg/Kg-dry	1	10/5/2023 09:50 PM
Surr: 2-Fluorobiphenyl	*82.0*		*30-116*	*%REC*	1	10/5/2023 09:50 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**			Analyst: **SK**
1,1,1,2-Tetrachloroethane	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
1,1,1-Trichloroethane	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
1,1,2,2-Tetrachloroethane	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM

Note:

ALS Environmental

Date: *09-Oct-23*

Client: The Mannik & Smith Group
Project: Hillison Nut; MS23-13; ODAS0003-19
Work Order: 23091123
Sample ID: SB-26 (12-15)
Lab ID: 23091123-03
Collection Date: 9/27/2023 11:15 AM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
1,1,2-Trichloroethane	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
1,1-Dichloroethane	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
1,1-Dichloroethene	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
1,1-Dichloropropene	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
1,2,3-Trichlorobenzene	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
1,2,3-Trichloropropane	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
1,2,4-Trichlorobenzene	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
1,2,4-Trimethylbenzene	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
1,2-Dibromo-3-chloropropane	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
1,2-Dibromoethane	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
1,2-Dichlorobenzene	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
1,2-Dichloroethane	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
1,2-Dichloropropane	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
1,3,5-Trimethylbenzene	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
1,3-Dichlorobenzene	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
1,3-Dichloropropane	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
1,4-Dichlorobenzene	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
2,2-Dichloropropane	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
2-Butanone	ND		0.042	mg/Kg-dry	1	10/4/2023 10:47 AM
2-Chlorotoluene	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
2-Hexanone	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
4-Chlorotoluene	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
4-Methyl-2-pentanone	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
Acetone	ND		0.042	mg/Kg-dry	1	10/4/2023 10:47 AM
Benzene	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
Bromobenzene	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
Bromochloromethane	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
Bromodichloromethane	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
Bromoform	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
Bromomethane	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
Carbon disulfide	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
Carbon tetrachloride	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
Chlorobenzene	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
Chloroethane	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
Chloroform	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
Chloromethane	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
cis-1,2-Dichloroethene	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
cis-1,3-Dichloropropene	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
Dibromochloromethane	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
Dibromomethane	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM

Note:

Client: The Mannik & Smith Group
Project: Hillison Nut; MS23-13; ODAS0003-19 **Work Order:** 23091123
Sample ID: SB-26 (12-15) **Lab ID:** 23091123-03
Collection Date: 9/27/2023 11:15 AM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dichlorodifluoromethane	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
Ethylbenzene	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
Hexachlorobutadiene	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
Isopropylbenzene	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
m,p-Xylene	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
Methyl tert-butyl ether	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
Methylene chloride	ND		0.017	mg/Kg-dry	1	10/4/2023 10:47 AM
Naphthalene	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
n-Butylbenzene	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
n-Propylbenzene	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
o-Xylene	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
p-Isopropyltoluene	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
sec-Butylbenzene	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
Styrene	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
tert-Butylbenzene	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
Tetrachloroethene	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
Toluene	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
trans-1,2-Dichloroethene	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
trans-1,3-Dichloropropene	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
Trichloroethene	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
Trichlorofluoromethane	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
Vinyl chloride	ND		0.0042	mg/Kg-dry	1	10/4/2023 10:47 AM
Xylenes, Total	ND		0.0083	mg/Kg-dry	1	10/4/2023 10:47 AM
Surr: 4-Bromofluorobenzene	*125*		*60-140*	*%REC*	1	10/4/2023 10:47 AM
Surr: Dibromofluoromethane	*130*		*60-140*	*%REC*	1	10/4/2023 10:47 AM
Surr: Toluene-d8	*98.2*		*60-140*	*%REC*	1	10/4/2023 10:47 AM

Note:

ALS Environmental

Date: *09-Oct-23*

Client: The Mannik & Smith Group
Project: Hillison Nut; MS23-13; ODAS0003-19 **Work Order:** 23091123
Sample ID: SB-27 (0-2) **Lab ID:** 23091123-04
Collection Date: 9/27/2023 11:30 AM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MOISTURE			**SM2540B**			Analyst: **CS**
Moisture	**14**			**% of sample**	1	10/4/2023
MERCURY BY CVAA			**SW7471A**	Prep: EPA 7471 10/4/23 12:10		Analyst: **CW**
Mercury	**1.9**		**0.41**	**mg/Kg-dry**	10	10/4/2023 04:50 PM
METALS BY ICP			**SW6010B**	Prep: SW3050B 10/4/23 12:10		Analyst: **SLT**
Arsenic	**11**		**1.2**	**mg/Kg-dry**	1	10/4/2023 05:42 PM
Barium	**31**		**4.6**	**mg/Kg-dry**	1	10/4/2023 05:42 PM
Cadmium	ND		0.23	mg/Kg-dry	1	10/4/2023 05:42 PM
Chromium	**9.5**		**2.3**	**mg/Kg-dry**	1	10/4/2023 05:42 PM
Lead	**15**		**4.6**	**mg/Kg-dry**	1	10/4/2023 05:42 PM
Selenium	**0.81**		**0.70**	**mg/Kg-dry**	1	10/4/2023 05:42 PM
Silver	ND		1.2	mg/Kg-dry	1	10/4/2023 05:42 PM
PAH COMPOUNDS			**SW8270C**	Prep: SW3546 10/4/23 17:27		Analyst: **RA**
1-Methylnaphthalene	ND		0.23	mg/Kg-dry	1	10/5/2023 10:05 PM
2-Methylnaphthalene	ND		0.23	mg/Kg-dry	1	10/5/2023 10:05 PM
Acenaphthene	ND		0.23	mg/Kg-dry	1	10/5/2023 10:05 PM
Acenaphthylene	ND		0.23	mg/Kg-dry	1	10/5/2023 10:05 PM
Anthracene	ND		0.23	mg/Kg-dry	1	10/5/2023 10:05 PM
Benzo(a)anthracene	ND		0.12	mg/Kg-dry	1	10/5/2023 10:05 PM
Benzo(a)pyrene	ND		0.12	mg/Kg-dry	1	10/5/2023 10:05 PM
Benzo(b)fluoranthene	ND		0.23	mg/Kg-dry	1	10/5/2023 10:05 PM
Benzo(g,h,i)perylene	ND		0.23	mg/Kg-dry	1	10/5/2023 10:05 PM
Benzo(k)fluoranthene	ND		0.23	mg/Kg-dry	1	10/5/2023 10:05 PM
Carbazole	ND		0.23	mg/Kg-dry	1	10/5/2023 10:05 PM
Chrysene	ND		0.23	mg/Kg-dry	1	10/5/2023 10:05 PM
Dibenzo(a,h)anthracene	ND		0.12	mg/Kg-dry	1	10/5/2023 10:05 PM
Dibenzofuran	ND		0.23	mg/Kg-dry	1	10/5/2023 10:05 PM
Fluoranthene	ND		0.23	mg/Kg-dry	1	10/5/2023 10:05 PM
Fluorene	ND		0.23	mg/Kg-dry	1	10/5/2023 10:05 PM
Indeno(1,2,3-cd)pyrene	ND		0.12	mg/Kg-dry	1	10/5/2023 10:05 PM
Naphthalene	ND		0.23	mg/Kg-dry	1	10/5/2023 10:05 PM
Phenanthrene	ND		0.23	mg/Kg-dry	1	10/5/2023 10:05 PM
Pyrene	ND		0.23	mg/Kg-dry	1	10/5/2023 10:05 PM
Surr: 2-Fluorobiphenyl	*78.2*		*30-116*	*%REC*	1	10/5/2023 10:05 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**			Analyst: **SK**
1,1,1,2-Tetrachloroethane	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
1,1,1-Trichloroethane	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM

Note:

ALS Environmental

Date: *09-Oct-23*

Client: The Mannik & Smith Group
Project: Hillison Nut; MS23-13; ODAS0003-19
Work Order: 23091123
Sample ID: SB-27 (0-2)
Lab ID: 23091123-04
Collection Date: 9/27/2023 11:30 AM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
1,1,2-Trichloroethane	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
1,1-Dichloroethane	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
1,1-Dichloroethene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
1,1-Dichloropropene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
1,2,3-Trichlorobenzene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
1,2,3-Trichloropropane	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
1,2,4-Trichlorobenzene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
1,2,4-Trimethylbenzene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
1,2-Dibromo-3-chloropropane	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
1,2-Dibromoethane	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
1,2-Dichlorobenzene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
1,2-Dichloroethane	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
1,2-Dichloropropane	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
1,3,5-Trimethylbenzene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
1,3-Dichlorobenzene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
1,3-Dichloropropane	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
1,4-Dichlorobenzene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
2,2-Dichloropropane	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
2-Butanone	ND		0.050	mg/Kg-dry	1	10/4/2023 11:13 AM
2-Chlorotoluene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
2-Hexanone	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
4-Chlorotoluene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
4-Methyl-2-pentanone	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
Acetone	ND		0.050	mg/Kg-dry	1	10/4/2023 11:13 AM
Benzene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
Bromobenzene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
Bromochloromethane	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
Bromodichloromethane	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
Bromoform	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
Bromomethane	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
Carbon disulfide	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
Carbon tetrachloride	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
Chlorobenzene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
Chloroethane	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
Chloroform	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
Chloromethane	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
cis-1,2-Dichloroethene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
cis-1,3-Dichloropropene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
Dibromochloromethane	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
Dibromomethane	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM

Note:

ALS Environmental

Date: *09-Oct-23*

Client: The Mannik & Smith Group
Project: Hillison Nut; MS23-13; ODAS0003-19
Work Order: 23091123
Sample ID: SB-27 (0-2)
Lab ID: 23091123-04
Collection Date: 9/27/2023 11:30 AM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dichlorodifluoromethane	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
Ethylbenzene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
Hexachlorobutadiene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
Isopropylbenzene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
m,p-Xylene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
Methyl tert-butyl ether	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
Methylene chloride	ND		0.020	mg/Kg-dry	1	10/4/2023 11:13 AM
Naphthalene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
n-Butylbenzene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
n-Propylbenzene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
o-Xylene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
p-Isopropyltoluene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
sec-Butylbenzene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
Styrene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
tert-Butylbenzene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
Tetrachloroethene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
Toluene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
trans-1,2-Dichloroethene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
trans-1,3-Dichloropropene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
Trichloroethene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
Trichlorofluoromethane	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
Vinyl chloride	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:13 AM
Xylenes, Total	ND		0.0099	mg/Kg-dry	1	10/4/2023 11:13 AM
Surr: 4-Bromofluorobenzene	*96.9*		*60-140*	*%REC*	1	10/4/2023 11:13 AM
Surr: Dibromofluoromethane	*133*		*60-140*	*%REC*	1	10/4/2023 11:13 AM
Surr: Toluene-d8	*103*		*60-140*	*%REC*	1	10/4/2023 11:13 AM

Note:

ALS Environmental

Date: *09-Oct-23*

Client: The Mannik & Smith Group
Project: Hillison Nut; MS23-13; ODAS0003-19 **Work Order:** 23091123
Sample ID: SB-28 (0-2) **Lab ID:** 23091123-05
Collection Date: 9/27/2023 11:40 AM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MOISTURE			**SM2540B**			Analyst: **CS**
Moisture	**13**			**% of sample**	1	10/4/2023
MERCURY BY CVAA			**SW7471A**	Prep: EPA 7471 10/4/23 12:10		Analyst: **CW**
Mercury	ND		0.041	mg/Kg-dry	1	10/4/2023 03:08 PM
METALS BY ICP			**SW6010B**	Prep: SW3050B 10/4/23 12:10		Analyst: **SLT**
Arsenic	**5.7**		**1.1**	**mg/Kg-dry**	1	10/4/2023 05:46 PM
Barium	**66**		**4.6**	**mg/Kg-dry**	1	10/4/2023 05:46 PM
Cadmium	ND		0.23	mg/Kg-dry	1	10/4/2023 05:46 PM
Chromium	**6.9**		**2.3**	**mg/Kg-dry**	1	10/4/2023 05:46 PM
Lead	**44**		**4.6**	**mg/Kg-dry**	1	10/4/2023 05:46 PM
Selenium	ND		0.69	mg/Kg-dry	1	10/4/2023 05:46 PM
Silver	ND		1.1	mg/Kg-dry	1	10/4/2023 05:46 PM
PAH COMPOUNDS			**SW8270C**	Prep: SW3546 10/4/23 17:27		Analyst: **RA**
1-Methylnaphthalene	ND		0.23	mg/Kg-dry	1	10/5/2023 10:19 PM
2-Methylnaphthalene	ND		0.23	mg/Kg-dry	1	10/5/2023 10:19 PM
Acenaphthene	ND		0.23	mg/Kg-dry	1	10/5/2023 10:19 PM
Acenaphthylene	ND		0.23	mg/Kg-dry	1	10/5/2023 10:19 PM
Anthracene	ND		0.23	mg/Kg-dry	1	10/5/2023 10:19 PM
Benzo(a)anthracene	**0.21**		**0.12**	**mg/Kg-dry**	1	10/5/2023 10:19 PM
Benzo(a)pyrene	**0.22**		**0.12**	**mg/Kg-dry**	1	10/5/2023 10:19 PM
Benzo(b)fluoranthene	**0.27**		**0.23**	**mg/Kg-dry**	1	10/5/2023 10:19 PM
Benzo(g,h,i)perylene	ND		0.23	mg/Kg-dry	1	10/5/2023 10:19 PM
Benzo(k)fluoranthene	ND		0.23	mg/Kg-dry	1	10/5/2023 10:19 PM
Carbazole	ND		0.23	mg/Kg-dry	1	10/5/2023 10:19 PM
Chrysene	ND		0.23	mg/Kg-dry	1	10/5/2023 10:19 PM
Dibenzo(a,h)anthracene	ND		0.12	mg/Kg-dry	1	10/5/2023 10:19 PM
Dibenzofuran	ND		0.23	mg/Kg-dry	1	10/5/2023 10:19 PM
Fluoranthene	**0.43**		**0.23**	**mg/Kg-dry**	1	10/5/2023 10:19 PM
Fluorene	ND		0.23	mg/Kg-dry	1	10/5/2023 10:19 PM
Indeno(1,2,3-cd)pyrene	ND		0.12	mg/Kg-dry	1	10/5/2023 10:19 PM
Naphthalene	ND		0.23	mg/Kg-dry	1	10/5/2023 10:19 PM
Phenanthrene	ND		0.23	mg/Kg-dry	1	10/5/2023 10:19 PM
Pyrene	**0.37**		**0.23**	**mg/Kg-dry**	1	10/5/2023 10:19 PM
Surr: 2-Fluorobiphenyl	*76.8*		*30-116*	*%REC*	1	10/5/2023 10:19 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**			Analyst: **SK**
1,1,1,2-Tetrachloroethane	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
1,1,1-Trichloroethane	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM

Note:

ALS Environmental

Date: *09-Oct-23*

Client: The Mannik & Smith Group
Project: Hillison Nut; MS23-13; ODAS0003-19
Work Order: 23091123
Sample ID: SB-28 (0-2)
Lab ID: 23091123-05
Collection Date: 9/27/2023 11:40 AM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
1,1,2-Trichloroethane	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
1,1-Dichloroethane	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
1,1-Dichloroethene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
1,1-Dichloropropene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
1,2,3-Trichlorobenzene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
1,2,3-Trichloropropane	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
1,2,4-Trichlorobenzene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
1,2,4-Trimethylbenzene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
1,2-Dibromo-3-chloropropane	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
1,2-Dibromoethane	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
1,2-Dichlorobenzene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
1,2-Dichloroethane	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
1,2-Dichloropropane	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
1,3,5-Trimethylbenzene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
1,3-Dichlorobenzene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
1,3-Dichloropropane	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
1,4-Dichlorobenzene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
2,2-Dichloropropane	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
2-Butanone	ND		0.050	mg/Kg-dry	1	10/4/2023 11:39 AM
2-Chlorotoluene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
2-Hexanone	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
4-Chlorotoluene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
4-Methyl-2-pentanone	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
Acetone	ND		0.050	mg/Kg-dry	1	10/4/2023 11:39 AM
Benzene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
Bromobenzene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
Bromochloromethane	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
Bromodichloromethane	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
Bromoform	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
Bromomethane	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
Carbon disulfide	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
Carbon tetrachloride	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
Chlorobenzene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
Chloroethane	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
Chloroform	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
Chloromethane	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
cis-1,2-Dichloroethene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
cis-1,3-Dichloropropene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
Dibromochloromethane	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
Dibromomethane	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM

Note:

ALS Environmental

Date: *09-Oct-23*

Client: The Mannik & Smith Group
Project: Hillison Nut; MS23-13; ODAS0003-19
Work Order: 23091123
Sample ID: SB-28 (0-2)
Lab ID: 23091123-05
Collection Date: 9/27/2023 11:40 AM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dichlorodifluoromethane	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
Ethylbenzene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
Hexachlorobutadiene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
Isopropylbenzene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
m,p-Xylene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
Methyl tert-butyl ether	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
Methylene chloride	ND		0.020	mg/Kg-dry	1	10/4/2023 11:39 AM
Naphthalene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
n-Butylbenzene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
n-Propylbenzene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
o-Xylene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
p-Isopropyltoluene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
sec-Butylbenzene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
Styrene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
tert-Butylbenzene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
Tetrachloroethene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
Toluene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
trans-1,2-Dichloroethene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
trans-1,3-Dichloropropene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
Trichloroethene	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
Trichlorofluoromethane	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
Vinyl chloride	ND		0.0050	mg/Kg-dry	1	10/4/2023 11:39 AM
Xylenes, Total	ND		0.010	mg/Kg-dry	1	10/4/2023 11:39 AM
Surr: 4-Bromofluorobenzene	*99.8*		*60-140*	*%REC*	1	10/4/2023 11:39 AM
Surr: Dibromofluoromethane	*124*		*60-140*	*%REC*	1	10/4/2023 11:39 AM
Surr: Toluene-d8	*104*		*60-140*	*%REC*	1	10/4/2023 11:39 AM

Note:

ALS Environmental

Date: *09-Oct-23*

Client: The Mannik & Smith Group
Project: Hillison Nut; MS23-13; ODAS0003-19 **Work Order:** 23091123
Sample ID: SB-29 (8-10) **Lab ID:** 23091123-06
Collection Date: 9/27/2023 12:30 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MOISTURE			**SM2540B**			Analyst: **CS**
Moisture	**14**			**% of sample**	1	10/4/2023
MERCURY BY CVAA			**SW7471A**	Prep: EPA 7471 10/4/23 12:10		Analyst: **CW**
Mercury	ND		4.1	mg/Kg-dry	100	10/4/2023 05:06 PM
METALS BY ICP			**SW6010B**	Prep: SW3050B 10/4/23 12:10		Analyst: **SLT**
Arsenic	**8.3**		**1.2**	**mg/Kg-dry**	1	10/4/2023 05:50 PM
Barium	**9.9**		**4.7**	**mg/Kg-dry**	1	10/4/2023 05:50 PM
Cadmium	ND		0.23	mg/Kg-dry	1	10/4/2023 05:50 PM
Chromium	**3.2**		**2.3**	**mg/Kg-dry**	1	10/4/2023 05:50 PM
Lead	**9.0**		**4.7**	**mg/Kg-dry**	1	10/4/2023 05:50 PM
Selenium	**1.8**		**0.70**	**mg/Kg-dry**	1	10/4/2023 05:50 PM
Silver	ND		1.2	mg/Kg-dry	1	10/4/2023 05:50 PM
PAH COMPOUNDS			**SW8270C**	Prep: SW3546 10/4/23 17:27		Analyst: **RA**
1-Methylnaphthalene	ND		0.23	mg/Kg-dry	1	10/5/2023 10:34 PM
2-Methylnaphthalene	ND		0.23	mg/Kg-dry	1	10/5/2023 10:34 PM
Acenaphthene	ND		0.23	mg/Kg-dry	1	10/5/2023 10:34 PM
Acenaphthylene	ND		0.23	mg/Kg-dry	1	10/5/2023 10:34 PM
Anthracene	ND		0.23	mg/Kg-dry	1	10/5/2023 10:34 PM
Benzo(a)anthracene	ND		0.12	mg/Kg-dry	1	10/5/2023 10:34 PM
Benzo(a)pyrene	ND		0.12	mg/Kg-dry	1	10/5/2023 10:34 PM
Benzo(b)fluoranthene	ND		0.23	mg/Kg-dry	1	10/5/2023 10:34 PM
Benzo(g,h,i)perylene	ND		0.23	mg/Kg-dry	1	10/5/2023 10:34 PM
Benzo(k)fluoranthene	ND		0.23	mg/Kg-dry	1	10/5/2023 10:34 PM
Carbazole	ND		0.23	mg/Kg-dry	1	10/5/2023 10:34 PM
Chrysene	ND		0.23	mg/Kg-dry	1	10/5/2023 10:34 PM
Dibenzo(a,h)anthracene	ND		0.12	mg/Kg-dry	1	10/5/2023 10:34 PM
Dibenzofuran	ND		0.23	mg/Kg-dry	1	10/5/2023 10:34 PM
Fluoranthene	ND		0.23	mg/Kg-dry	1	10/5/2023 10:34 PM
Fluorene	ND		0.23	mg/Kg-dry	1	10/5/2023 10:34 PM
Indeno(1,2,3-cd)pyrene	ND		0.12	mg/Kg-dry	1	10/5/2023 10:34 PM
Naphthalene	ND		0.23	mg/Kg-dry	1	10/5/2023 10:34 PM
Phenanthrene	ND		0.23	mg/Kg-dry	1	10/5/2023 10:34 PM
Pyrene	ND		0.23	mg/Kg-dry	1	10/5/2023 10:34 PM
Surr: 2-Fluorobiphenyl	*77.5*		*30-116*	*%REC*	1	10/5/2023 10:34 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**			Analyst: **SK**
1,1,1,2-Tetrachloroethane	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
1,1,1-Trichloroethane	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
1,1,2,2-Tetrachloroethane	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM

Note:

ALS Environmental

Date: *09-Oct-23*

Client: The Mannik & Smith Group
Project: Hillison Nut; MS23-13; ODAS0003-19
Work Order: 23091123
Sample ID: SB-29 (8-10)
Lab ID: 23091123-06
Collection Date: 9/27/2023 12:30 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
1,1,2-Trichloroethane	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
1,1-Dichloroethane	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
1,1-Dichloroethene	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
1,1-Dichloropropene	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
1,2,3-Trichlorobenzene	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
1,2,3-Trichloropropane	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
1,2,4-Trichlorobenzene	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
1,2,4-Trimethylbenzene	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
1,2-Dibromo-3-chloropropane	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
1,2-Dibromoethane	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
1,2-Dichlorobenzene	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
1,2-Dichloroethane	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
1,2-Dichloropropane	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
1,3,5-Trimethylbenzene	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
1,3-Dichlorobenzene	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
1,3-Dichloropropane	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
1,4-Dichlorobenzene	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
2,2-Dichloropropane	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
2-Butanone	ND		0.053	mg/Kg-dry	1	10/5/2023 02:27 PM
2-Chlorotoluene	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
2-Hexanone	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
4-Chlorotoluene	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
4-Methyl-2-pentanone	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
Acetone	ND		0.053	mg/Kg-dry	1	10/5/2023 02:27 PM
Benzene	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
Bromobenzene	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
Bromochloromethane	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
Bromodichloromethane	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
Bromoform	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
Bromomethane	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
Carbon disulfide	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
Carbon tetrachloride	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
Chlorobenzene	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
Chloroethane	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
Chloroform	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
Chloromethane	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
cis-1,2-Dichloroethene	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
cis-1,3-Dichloropropene	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
Dibromochloromethane	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
Dibromomethane	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM

Note:

ALS Environmental

Date: *09-Oct-23*

Client: The Mannik & Smith Group
Project: Hillison Nut; MS23-13; ODAS0003-19
Work Order: 23091123
Sample ID: SB-29 (8-10)
Lab ID: 23091123-06
Collection Date: 9/27/2023 12:30 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dichlorodifluoromethane	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
Ethylbenzene	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
Hexachlorobutadiene	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
Isopropylbenzene	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
m,p-Xylene	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
Methyl tert-butyl ether	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
Methylene chloride	ND		0.021	mg/Kg-dry	1	10/5/2023 02:27 PM
Naphthalene	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
n-Butylbenzene	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
n-Propylbenzene	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
o-Xylene	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
p-Isopropyltoluene	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
sec-Butylbenzene	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
Styrene	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
tert-Butylbenzene	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
Tetrachloroethene	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
Toluene	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
trans-1,2-Dichloroethene	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
trans-1,3-Dichloropropene	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
Trichloroethene	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
Trichlorofluoromethane	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
Vinyl chloride	ND		0.0053	mg/Kg-dry	1	10/5/2023 02:27 PM
Xylenes, Total	ND		0.011	mg/Kg-dry	1	10/5/2023 02:27 PM
Surr: 4-Bromofluorobenzene	*97.4*		*60-140*	*%REC*	1	10/5/2023 02:27 PM
Surr: Dibromofluoromethane	*134*		*60-140*	*%REC*	1	10/5/2023 02:27 PM
Surr: Toluene-d8	*106*		*60-140*	*%REC*	1	10/5/2023 02:27 PM

Note:

ALS Environmental

Date: *09-Oct-23*

Client: The Mannik & Smith Group
Project: Hillison Nut; MS23-13; ODAS0003-19 **Work Order:** 23091123
Sample ID: SB-29 (10-12) **Lab ID:** 23091123-07
Collection Date: 9/27/2023 12:40 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MOISTURE			**SM2540B**			Analyst: **CS**
Moisture	**17**			**% of sample**	1	10/4/2023
MERCURY BY CVAA			**SW7471A**	Prep: EPA 7471 10/4/23 12:10		Analyst: **CW**
Mercury	**0.12**		**0.043**	**mg/Kg-dry**	1	10/4/2023 03:45 PM
METALS BY ICP			**SW6010B**	Prep: SW3050B 10/4/23 12:10		Analyst: **SLT**
Arsenic	**9.4**		**1.2**	**mg/Kg-dry**	1	10/4/2023 05:54 PM
Barium	**32**		**4.8**	**mg/Kg-dry**	1	10/4/2023 05:54 PM
Cadmium	ND		0.24	mg/Kg-dry	1	10/4/2023 05:54 PM
Chromium	**7.2**		**2.4**	**mg/Kg-dry**	1	10/4/2023 05:54 PM
Lead	**8.3**		**4.8**	**mg/Kg-dry**	1	10/4/2023 05:54 PM
Selenium	ND		0.72	mg/Kg-dry	1	10/4/2023 05:54 PM
Silver	ND		1.2	mg/Kg-dry	1	10/4/2023 05:54 PM
PAH COMPOUNDS			**SW8270C**	Prep: SW3546 10/4/23 17:27		Analyst: **RA**
1-Methylnaphthalene	ND		0.24	mg/Kg-dry	1	10/5/2023 10:49 PM
2-Methylnaphthalene	ND		0.24	mg/Kg-dry	1	10/5/2023 10:49 PM
Acenaphthene	ND		0.24	mg/Kg-dry	1	10/5/2023 10:49 PM
Acenaphthylene	ND		0.24	mg/Kg-dry	1	10/5/2023 10:49 PM
Anthracene	ND		0.24	mg/Kg-dry	1	10/5/2023 10:49 PM
Benzo(a)anthracene	ND		0.12	mg/Kg-dry	1	10/5/2023 10:49 PM
Benzo(a)pyrene	ND		0.12	mg/Kg-dry	1	10/5/2023 10:49 PM
Benzo(b)fluoranthene	ND		0.24	mg/Kg-dry	1	10/5/2023 10:49 PM
Benzo(g,h,i)perylene	ND		0.24	mg/Kg-dry	1	10/5/2023 10:49 PM
Benzo(k)fluoranthene	ND		0.24	mg/Kg-dry	1	10/5/2023 10:49 PM
Carbazole	ND		0.24	mg/Kg-dry	1	10/5/2023 10:49 PM
Chrysene	ND		0.24	mg/Kg-dry	1	10/5/2023 10:49 PM
Dibenzo(a,h)anthracene	ND		0.12	mg/Kg-dry	1	10/5/2023 10:49 PM
Dibenzofuran	ND		0.24	mg/Kg-dry	1	10/5/2023 10:49 PM
Fluoranthene	ND		0.24	mg/Kg-dry	1	10/5/2023 10:49 PM
Fluorene	ND		0.24	mg/Kg-dry	1	10/5/2023 10:49 PM
Indeno(1,2,3-cd)pyrene	ND		0.12	mg/Kg-dry	1	10/5/2023 10:49 PM
Naphthalene	ND		0.24	mg/Kg-dry	1	10/5/2023 10:49 PM
Phenanthrene	ND		0.24	mg/Kg-dry	1	10/5/2023 10:49 PM
Pyrene	ND		0.24	mg/Kg-dry	1	10/5/2023 10:49 PM
Surr: 2-Fluorobiphenyl	*69.5*		*30-116*	*%REC*	1	10/5/2023 10:49 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**			Analyst: **SK**
1,1,1,2-Tetrachloroethane	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
1,1,1-Trichloroethane	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
1,1,2,2-Tetrachloroethane	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM

Note:

ALS Environmental

Date: *09-Oct-23*

Client: The Mannik & Smith Group
Project: Hillison Nut; MS23-13; ODAS0003-19
Work Order: 23091123
Sample ID: SB-29 (10-12)
Lab ID: 23091123-07
Collection Date: 9/27/2023 12:40 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
1,1,2-Trichloroethane	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
1,1-Dichloroethane	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
1,1-Dichloroethene	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
1,1-Dichloropropene	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
1,2,3-Trichlorobenzene	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
1,2,3-Trichloropropane	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
1,2,4-Trichlorobenzene	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
1,2,4-Trimethylbenzene	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
1,2-Dibromo-3-chloropropane	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
1,2-Dibromoethane	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
1,2-Dichlorobenzene	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
1,2-Dichloroethane	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
1,2-Dichloropropane	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
1,3,5-Trimethylbenzene	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
1,3-Dichlorobenzene	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
1,3-Dichloropropane	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
1,4-Dichlorobenzene	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
2,2-Dichloropropane	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
2-Butanone	ND		0.046	mg/Kg-dry	1	10/5/2023 02:52 PM
2-Chlorotoluene	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
2-Hexanone	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
4-Chlorotoluene	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
4-Methyl-2-pentanone	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
Acetone	ND		0.046	mg/Kg-dry	1	10/5/2023 02:52 PM
Benzene	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
Bromobenzene	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
Bromochloromethane	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
Bromodichloromethane	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
Bromoform	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
Bromomethane	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
Carbon disulfide	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
Carbon tetrachloride	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
Chlorobenzene	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
Chloroethane	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
Chloroform	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
Chloromethane	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
cis-1,2-Dichloroethene	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
cis-1,3-Dichloropropene	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
Dibromochloromethane	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
Dibromomethane	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM

Note:

ALS Environmental

Date: *09-Oct-23*

Client: The Mannik & Smith Group
Project: Hillison Nut; MS23-13; ODAS0003-19
Work Order: 23091123
Sample ID: SB-29 (10-12)
Lab ID: 23091123-07
Collection Date: 9/27/2023 12:40 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dichlorodifluoromethane	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
Ethylbenzene	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
Hexachlorobutadiene	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
Isopropylbenzene	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
m,p-Xylene	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
Methyl tert-butyl ether	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
Methylene chloride	ND		0.018	mg/Kg-dry	1	10/5/2023 02:52 PM
Naphthalene	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
n-Butylbenzene	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
n-Propylbenzene	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
o-Xylene	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
p-Isopropyltoluene	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
sec-Butylbenzene	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
Styrene	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
tert-Butylbenzene	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
Tetrachloroethene	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
Toluene	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
trans-1,2-Dichloroethene	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
trans-1,3-Dichloropropene	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
Trichloroethene	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
Trichlorofluoromethane	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
Vinyl chloride	ND		0.0046	mg/Kg-dry	1	10/5/2023 02:52 PM
Xylenes, Total	ND		0.0092	mg/Kg-dry	1	10/5/2023 02:52 PM
Surr: 4-Bromofluorobenzene	*103*		*60-140*	*%REC*	1	10/5/2023 02:52 PM
Surr: Dibromofluoromethane	*124*		*60-140*	*%REC*	1	10/5/2023 02:52 PM
Surr: Toluene-d8	*103*		*60-140*	*%REC*	1	10/5/2023 02:52 PM

Note:

ALS Environmental

Date: *09-Oct-23*

Client: The Mannik & Smith Group
Project: Hillison Nut; MS23-13; ODAS0003-19 **Work Order:** 23091123
Sample ID: SB-30 (8-10) **Lab ID:** 23091123-08
Collection Date: 9/27/2023 01:00 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MOISTURE			**SM2540B**			Analyst: **CS**
Moisture	**15**			**% of sample**	1	10/4/2023
MERCURY BY CVAA			**SW7471A**	Prep: EPA 7471 10/4/23 12:10		Analyst: **CW**
Mercury	**2.3**		**0.41**	**mg/Kg-dry**	10	10/4/2023 04:55 PM
METALS BY ICP			**SW6010B**	Prep: SW3050B 10/4/23 12:10		Analyst: **SLT**
Arsenic	**7.5**		**1.2**	**mg/Kg-dry**	1	10/4/2023 05:59 PM
Barium	**8.5**		**4.7**	**mg/Kg-dry**	1	10/4/2023 05:59 PM
Cadmium	ND		0.23	mg/Kg-dry	1	10/4/2023 05:59 PM
Chromium	**6.1**		**2.3**	**mg/Kg-dry**	1	10/4/2023 05:59 PM
Lead	**5.7**		**4.7**	**mg/Kg-dry**	1	10/4/2023 05:59 PM
Selenium	ND		0.70	mg/Kg-dry	1	10/4/2023 05:59 PM
Silver	ND		1.2	mg/Kg-dry	1	10/4/2023 05:59 PM
PAH COMPOUNDS			**SW8270C**	Prep: SW3546 10/4/23 17:27		Analyst: **RA**
1-Methylnaphthalene	ND		0.24	mg/Kg-dry	1	10/5/2023 11:03 PM
2-Methylnaphthalene	ND		0.24	mg/Kg-dry	1	10/5/2023 11:03 PM
Acenaphthene	ND		0.24	mg/Kg-dry	1	10/5/2023 11:03 PM
Acenaphthylene	ND		0.24	mg/Kg-dry	1	10/5/2023 11:03 PM
Anthracene	ND		0.24	mg/Kg-dry	1	10/5/2023 11:03 PM
Benzo(a)anthracene	ND		0.12	mg/Kg-dry	1	10/5/2023 11:03 PM
Benzo(a)pyrene	ND		0.12	mg/Kg-dry	1	10/5/2023 11:03 PM
Benzo(b)fluoranthene	ND		0.24	mg/Kg-dry	1	10/5/2023 11:03 PM
Benzo(g,h,i)perylene	ND		0.24	mg/Kg-dry	1	10/5/2023 11:03 PM
Benzo(k)fluoranthene	ND		0.24	mg/Kg-dry	1	10/5/2023 11:03 PM
Carbazole	ND		0.24	mg/Kg-dry	1	10/5/2023 11:03 PM
Chrysene	ND		0.24	mg/Kg-dry	1	10/5/2023 11:03 PM
Dibenzo(a,h)anthracene	ND		0.12	mg/Kg-dry	1	10/5/2023 11:03 PM
Dibenzofuran	ND		0.24	mg/Kg-dry	1	10/5/2023 11:03 PM
Fluoranthene	ND		0.24	mg/Kg-dry	1	10/5/2023 11:03 PM
Fluorene	ND		0.24	mg/Kg-dry	1	10/5/2023 11:03 PM
Indeno(1,2,3-cd)pyrene	ND		0.12	mg/Kg-dry	1	10/5/2023 11:03 PM
Naphthalene	ND		0.24	mg/Kg-dry	1	10/5/2023 11:03 PM
Phenanthrene	ND		0.24	mg/Kg-dry	1	10/5/2023 11:03 PM
Pyrene	ND		0.24	mg/Kg-dry	1	10/5/2023 11:03 PM
Surr: 2-Fluorobiphenyl	*84.6*		*30-116*	*%REC*	1	10/5/2023 11:03 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**			Analyst: **SK**
1,1,1,2-Tetrachloroethane	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
1,1,1-Trichloroethane	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
1,1,2,2-Tetrachloroethane	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM

Note:

ALS Environmental

Date: *09-Oct-23*

Client: The Mannik & Smith Group
Project: Hillison Nut; MS23-13; ODAS0003-19
Work Order: 23091123
Sample ID: SB-30 (8-10)
Lab ID: 23091123-08
Collection Date: 9/27/2023 01:00 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
1,1,2-Trichloroethane	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
1,1-Dichloroethane	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
1,1-Dichloroethene	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
1,1-Dichloropropene	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
1,2,3-Trichlorobenzene	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
1,2,3-Trichloropropane	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
1,2,4-Trichlorobenzene	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
1,2,4-Trimethylbenzene	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
1,2-Dibromo-3-chloropropane	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
1,2-Dibromoethane	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
1,2-Dichlorobenzene	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
1,2-Dichloroethane	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
1,2-Dichloropropane	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
1,3,5-Trimethylbenzene	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
1,3-Dichlorobenzene	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
1,3-Dichloropropane	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
1,4-Dichlorobenzene	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
2,2-Dichloropropane	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
2-Butanone	ND		0.049	mg/Kg-dry	1	10/4/2023 12:57 PM
2-Chlorotoluene	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
2-Hexanone	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
4-Chlorotoluene	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
4-Methyl-2-pentanone	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
Acetone	ND		0.049	mg/Kg-dry	1	10/4/2023 12:57 PM
Benzene	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
Bromobenzene	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
Bromochloromethane	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
Bromodichloromethane	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
Bromoform	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
Bromomethane	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
Carbon disulfide	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
Carbon tetrachloride	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
Chlorobenzene	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
Chloroethane	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
Chloroform	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
Chloromethane	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
cis-1,2-Dichloroethene	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
cis-1,3-Dichloropropene	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
Dibromochloromethane	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
Dibromomethane	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM

Note:

ALS Environmental

Date: *09-Oct-23*

Client: The Mannik & Smith Group
Project: Hillison Nut; MS23-13; ODAS0003-19 **Work Order:** 23091123
Sample ID: SB-30 (8-10) **Lab ID:** 23091123-08
Collection Date: 9/27/2023 01:00 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dichlorodifluoromethane	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
Ethylbenzene	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
Hexachlorobutadiene	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
Isopropylbenzene	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
m,p-Xylene	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
Methyl tert-butyl ether	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
Methylene chloride	ND		0.020	mg/Kg-dry	1	10/4/2023 12:57 PM
Naphthalene	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
n-Butylbenzene	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
n-Propylbenzene	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
o-Xylene	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
p-Isopropyltoluene	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
sec-Butylbenzene	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
Styrene	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
tert-Butylbenzene	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
Tetrachloroethene	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
Toluene	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
trans-1,2-Dichloroethene	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
trans-1,3-Dichloropropene	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
Trichloroethene	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
Trichlorofluoromethane	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
Vinyl chloride	ND		0.0049	mg/Kg-dry	1	10/4/2023 12:57 PM
Xylenes, Total	ND		0.0099	mg/Kg-dry	1	10/4/2023 12:57 PM
Surr: 4-Bromofluorobenzene	*95.4*		*60-140*	*%REC*	1	10/4/2023 12:57 PM
Surr: Dibromofluoromethane	*131*		*60-140*	*%REC*	1	10/4/2023 12:57 PM
Surr: Toluene-d8	*104*		*60-140*	*%REC*	1	10/4/2023 12:57 PM

Note:

ALS Environmental

Date: *09-Oct-23*

Client: The Mannik & Smith Group
Project: Hillison Nut; MS23-13; ODAS0003-19 **Work Order:** 23091123
Sample ID: SB-30 (10-12) **Lab ID:** 23091123-09
Collection Date: 9/27/2023 01:05 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MOISTURE			**SM2540B**			Analyst: **CS**
Moisture	**15**			**% of sample**	1	10/4/2023
MERCURY BY CVAA			**SW7471A**	Prep: EPA 7471 10/4/23 12:10		Analyst: **CW**
Mercury	ND		0.042	mg/Kg-dry	1	10/4/2023 05:01 PM
METALS BY ICP			**SW6010B**	Prep: SW3050B 10/4/23 12:10		Analyst: **SLT**
Arsenic	**4.3**		**1.2**	**mg/Kg-dry**	1	10/4/2023 06:03 PM
Barium	**9.4**		**4.6**	**mg/Kg-dry**	1	10/4/2023 06:03 PM
Cadmium	ND		0.23	mg/Kg-dry	1	10/4/2023 06:03 PM
Chromium	**4.9**		**2.3**	**mg/Kg-dry**	1	10/4/2023 06:03 PM
Lead	**5.7**		**4.6**	**mg/Kg-dry**	1	10/4/2023 06:03 PM
Selenium	ND		0.69	mg/Kg-dry	1	10/4/2023 06:03 PM
Silver	ND		1.2	mg/Kg-dry	1	10/4/2023 06:03 PM
PAH COMPOUNDS			**SW8270C**	Prep: SW3546 10/4/23 17:27		Analyst: **RA**
1-Methylnaphthalene	ND		0.24	mg/Kg-dry	1	10/5/2023 11:18 PM
2-Methylnaphthalene	ND		0.24	mg/Kg-dry	1	10/5/2023 11:18 PM
Acenaphthene	ND		0.24	mg/Kg-dry	1	10/5/2023 11:18 PM
Acenaphthylene	ND		0.24	mg/Kg-dry	1	10/5/2023 11:18 PM
Anthracene	ND		0.24	mg/Kg-dry	1	10/5/2023 11:18 PM
Benzo(a)anthracene	ND		0.12	mg/Kg-dry	1	10/5/2023 11:18 PM
Benzo(a)pyrene	ND		0.12	mg/Kg-dry	1	10/5/2023 11:18 PM
Benzo(b)fluoranthene	ND		0.24	mg/Kg-dry	1	10/5/2023 11:18 PM
Benzo(g,h,i)perylene	ND		0.24	mg/Kg-dry	1	10/5/2023 11:18 PM
Benzo(k)fluoranthene	ND		0.24	mg/Kg-dry	1	10/5/2023 11:18 PM
Carbazole	ND		0.24	mg/Kg-dry	1	10/5/2023 11:18 PM
Chrysene	ND		0.24	mg/Kg-dry	1	10/5/2023 11:18 PM
Dibenzo(a,h)anthracene	ND		0.12	mg/Kg-dry	1	10/5/2023 11:18 PM
Dibenzofuran	ND		0.24	mg/Kg-dry	1	10/5/2023 11:18 PM
Fluoranthene	ND		0.24	mg/Kg-dry	1	10/5/2023 11:18 PM
Fluorene	ND		0.24	mg/Kg-dry	1	10/5/2023 11:18 PM
Indeno(1,2,3-cd)pyrene	ND		0.12	mg/Kg-dry	1	10/5/2023 11:18 PM
Naphthalene	ND		0.24	mg/Kg-dry	1	10/5/2023 11:18 PM
Phenanthrene	ND		0.24	mg/Kg-dry	1	10/5/2023 11:18 PM
Pyrene	ND		0.24	mg/Kg-dry	1	10/5/2023 11:18 PM
Surr: 2-Fluorobiphenyl	*78.7*		*30-116*	*%REC*	1	10/5/2023 11:18 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**			Analyst: **SK**
1,1,1,2-Tetrachloroethane	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
1,1,1-Trichloroethane	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
1,1,2,2-Tetrachloroethane	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM

Note:

ALS Environmental

Date: *09-Oct-23*

Client: The Mannik & Smith Group
Project: Hillison Nut; MS23-13; ODAS0003-19
Work Order: 23091123
Sample ID: SB-30 (10-12)
Lab ID: 23091123-09
Collection Date: 9/27/2023 01:05 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
1,1,2-Trichloroethane	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
1,1-Dichloroethane	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
1,1-Dichloroethene	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
1,1-Dichloropropene	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
1,2,3-Trichlorobenzene	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
1,2,3-Trichloropropane	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
1,2,4-Trichlorobenzene	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
1,2,4-Trimethylbenzene	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
1,2-Dibromo-3-chloropropane	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
1,2-Dibromoethane	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
1,2-Dichlorobenzene	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
1,2-Dichloroethane	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
1,2-Dichloropropane	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
1,3,5-Trimethylbenzene	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
1,3-Dichlorobenzene	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
1,3-Dichloropropane	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
1,4-Dichlorobenzene	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
2,2-Dichloropropane	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
2-Butanone	ND		0.059	mg/Kg-dry	1	10/4/2023 01:24 PM
2-Chlorotoluene	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
2-Hexanone	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
4-Chlorotoluene	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
4-Methyl-2-pentanone	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
Acetone	ND		0.059	mg/Kg-dry	1	10/4/2023 01:24 PM
Benzene	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
Bromobenzene	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
Bromochloromethane	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
Bromodichloromethane	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
Bromoform	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
Bromomethane	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
Carbon disulfide	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
Carbon tetrachloride	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
Chlorobenzene	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
Chloroethane	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
Chloroform	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
Chloromethane	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
cis-1,2-Dichloroethene	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
cis-1,3-Dichloropropene	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
Dibromochloromethane	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
Dibromomethane	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM

Note:

ALS Environmental

Date: *09-Oct-23*

Client: The Mannik & Smith Group
Project: Hillison Nut; MS23-13; ODAS0003-19
Work Order: 23091123
Sample ID: SB-30 (10-12)
Lab ID: 23091123-09
Collection Date: 9/27/2023 01:05 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dichlorodifluoromethane	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
Ethylbenzene	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
Hexachlorobutadiene	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
Isopropylbenzene	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
m,p-Xylene	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
Methyl tert-butyl ether	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
Methylene chloride	ND		0.023	mg/Kg-dry	1	10/4/2023 01:24 PM
Naphthalene	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
n-Butylbenzene	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
n-Propylbenzene	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
o-Xylene	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
p-Isopropyltoluene	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
sec-Butylbenzene	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
Styrene	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
tert-Butylbenzene	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
Tetrachloroethene	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
Toluene	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
trans-1,2-Dichloroethene	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
trans-1,3-Dichloropropene	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
Trichloroethene	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
Trichlorofluoromethane	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
Vinyl chloride	ND		0.0059	mg/Kg-dry	1	10/4/2023 01:24 PM
Xylenes, Total	ND		0.012	mg/Kg-dry	1	10/4/2023 01:24 PM
Surr: 4-Bromofluorobenzene	*98.1*		*60-140*	*%REC*	1	10/4/2023 01:24 PM
Surr: Dibromofluoromethane	*126*		*60-140*	*%REC*	1	10/4/2023 01:24 PM
Surr: Toluene-d8	*103*		*60-140*	*%REC*	1	10/4/2023 01:24 PM

Note:

ALS Environmental

Date: *09-Oct-23*

Client: The Mannik & Smith Group
Project: Hillison Nut; MS23-13; ODAS0003-19 **Work Order:** 23091123
Sample ID: SB-31 (0-2) **Lab ID:** 23091123-10
Collection Date: 9/27/2023 01:30 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MOISTURE			**SM2540B**			Analyst: **CS**
Moisture	**5.6**			**% of sample**	1	10/4/2023
MERCURY BY CVAA			**SW7471A**	Prep: EPA 7471 10/4/23 12:10		Analyst: **CW**
Mercury	**0.61**		**0.37**	**mg/Kg-dry**	10	10/4/2023 04:57 PM
METALS BY ICP			**SW6010B**	Prep: SW3050B 10/4/23 12:10		Analyst: **SLT**
Arsenic	**3.6**		**1.0**	**mg/Kg-dry**	1	10/4/2023 06:15 PM
Barium	**26**		**4.1**	**mg/Kg-dry**	1	10/4/2023 06:15 PM
Cadmium	**12**		**0.21**	**mg/Kg-dry**	1	10/4/2023 06:15 PM
Chromium	**13**		**2.1**	**mg/Kg-dry**	1	10/4/2023 06:15 PM
Lead	**12**		**4.1**	**mg/Kg-dry**	1	10/4/2023 06:15 PM
Selenium	ND		0.62	mg/Kg-dry	1	10/4/2023 06:15 PM
Silver	ND		1.0	mg/Kg-dry	1	10/4/2023 06:15 PM
PAH COMPOUNDS			**SW8270C**	Prep: SW3546 10/4/23 17:27		Analyst: **RA**
1-Methylnaphthalene	ND		0.21	mg/Kg-dry	1	10/5/2023 11:33 PM
2-Methylnaphthalene	ND		0.21	mg/Kg-dry	1	10/5/2023 11:33 PM
Acenaphthene	ND		0.21	mg/Kg-dry	1	10/5/2023 11:33 PM
Acenaphthylene	ND		0.21	mg/Kg-dry	1	10/5/2023 11:33 PM
Anthracene	ND		0.21	mg/Kg-dry	1	10/5/2023 11:33 PM
Benzo(a)anthracene	**0.45**		**0.11**	**mg/Kg-dry**	1	10/5/2023 11:33 PM
Benzo(a)pyrene	**0.59**		**0.11**	**mg/Kg-dry**	1	10/5/2023 11:33 PM
Benzo(b)fluoranthene	**0.57**		**0.21**	**mg/Kg-dry**	1	10/5/2023 11:33 PM
Benzo(g,h,i)perylene	**0.48**		**0.21**	**mg/Kg-dry**	1	10/5/2023 11:33 PM
Benzo(k)fluoranthene	**0.28**		**0.21**	**mg/Kg-dry**	1	10/5/2023 11:33 PM
Carbazole	ND		0.21	mg/Kg-dry	1	10/5/2023 11:33 PM
Chrysene	**0.48**		**0.21**	**mg/Kg-dry**	1	10/5/2023 11:33 PM
Dibenzo(a,h)anthracene	ND		0.11	mg/Kg-dry	1	10/5/2023 11:33 PM
Dibenzofuran	ND		0.21	mg/Kg-dry	1	10/5/2023 11:33 PM
Fluoranthene	**1.1**		**0.21**	**mg/Kg-dry**	1	10/5/2023 11:33 PM
Fluorene	ND		0.21	mg/Kg-dry	1	10/5/2023 11:33 PM
Indeno(1,2,3-cd)pyrene	**0.20**		**0.11**	**mg/Kg-dry**	1	10/5/2023 11:33 PM
Naphthalene	ND		0.21	mg/Kg-dry	1	10/5/2023 11:33 PM
Phenanthrene	**0.64**		**0.21**	**mg/Kg-dry**	1	10/5/2023 11:33 PM
Pyrene	**0.98**		**0.21**	**mg/Kg-dry**	1	10/5/2023 11:33 PM
Surr: 2-Fluorobiphenyl	*74.2*		*30-116*	*%REC*	1	10/5/2023 11:33 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**			Analyst: **SK**
1,1,1,2-Tetrachloroethane	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
1,1,1-Trichloroethane	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM

Note:

ALS Environmental

Date: *09-Oct-23*

Client: The Mannik & Smith Group
Project: Hillison Nut; MS23-13; ODAS0003-19
Work Order: 23091123
Sample ID: SB-31 (0-2)
Lab ID: 23091123-10
Collection Date: 9/27/2023 01:30 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
1,1,2-Trichloroethane	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
1,1-Dichloroethane	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
1,1-Dichloroethene	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
1,1-Dichloropropene	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
1,2,3-Trichlorobenzene	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
1,2,3-Trichloropropane	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
1,2,4-Trichlorobenzene	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
1,2-Dibromo-3-chloropropane	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
1,2-Dibromoethane	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
1,2-Dichlorobenzene	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
1,2-Dichloroethane	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
1,2-Dichloropropane	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
1,3-Dichlorobenzene	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
1,3-Dichloropropane	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
1,4-Dichlorobenzene	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
2,2-Dichloropropane	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
2-Butanone	ND		0.050	mg/Kg-dry	1	10/4/2023 01:50 PM
2-Chlorotoluene	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
2-Hexanone	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
4-Chlorotoluene	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
4-Methyl-2-pentanone	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
Acetone	ND		0.050	mg/Kg-dry	1	10/4/2023 01:50 PM
Benzene	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
Bromobenzene	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
Bromochloromethane	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
Bromodichloromethane	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
Bromoform	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
Bromomethane	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
Carbon disulfide	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
Carbon tetrachloride	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
Chlorobenzene	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
Chloroethane	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
Chloroform	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
Chloromethane	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
Dibromochloromethane	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
Dibromomethane	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM

Note:

ALS Environmental

Date: *09-Oct-23*

Client: The Mannik & Smith Group
Project: Hillison Nut; MS23-13; ODAS0003-19
Work Order: 23091123
Sample ID: SB-31 (0-2)
Lab ID: 23091123-10
Collection Date: 9/27/2023 01:30 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dichlorodifluoromethane	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
Ethylbenzene	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
Hexachlorobutadiene	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
Isopropylbenzene	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
m,p-Xylene	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
Methyl tert-butyl ether	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
Methylene chloride	ND		0.020	mg/Kg-dry	1	10/4/2023 01:50 PM
Naphthalene	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
n-Butylbenzene	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
n-Propylbenzene	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
o-Xylene	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
p-Isopropyltoluene	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
sec-Butylbenzene	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
Styrene	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
tert-Butylbenzene	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
Tetrachloroethene	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
Toluene	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
Trichloroethene	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
Trichlorofluoromethane	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
Vinyl chloride	ND		0.0050	mg/Kg-dry	1	10/4/2023 01:50 PM
Xylenes, Total	ND		0.010	mg/Kg-dry	1	10/4/2023 01:50 PM
Surr: 4-Bromofluorobenzene	*104*		*60-140*	*%REC*	1	10/4/2023 01:50 PM
Surr: Dibromofluoromethane	*119*		*60-140*	*%REC*	1	10/4/2023 01:50 PM
Surr: Toluene-d8	*99.7*		*60-140*	*%REC*	1	10/4/2023 01:50 PM

Note:

ALS Environmental

Date: *09-Oct-23*

Client: The Mannik & Smith Group
Project: Hillison Nut; MS23-13; ODAS0003-19 **Work Order:** 23091123
Sample ID: DUP **Lab ID:** 23091123-11
Collection Date: 9/27/2023 **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MOISTURE			**SM2540B**			Analyst: **CS**
Moisture	**15**			**% of sample**	1	10/4/2023
MERCURY BY CVAA			**SW7471A**	Prep: EPA 7471 10/4/23 12:10		Analyst: **CW**
Mercury	ND		0.041	mg/Kg-dry	1	10/4/2023 05:03 PM
METALS BY ICP			**SW6010B**	Prep: SW3050B 10/4/23 12:10		Analyst: **SLT**
Arsenic	**5.6**		**1.1**	**mg/Kg-dry**	1	10/4/2023 06:20 PM
Barium	**9.3**		**4.6**	**mg/Kg-dry**	1	10/4/2023 06:20 PM
Cadmium	ND		0.23	mg/Kg-dry	1	10/4/2023 06:20 PM
Chromium	**5.1**		**2.3**	**mg/Kg-dry**	1	10/4/2023 06:20 PM
Lead	**5.3**		**4.6**	**mg/Kg-dry**	1	10/4/2023 06:20 PM
Selenium	ND		0.69	mg/Kg-dry	1	10/4/2023 06:20 PM
Silver	ND		1.1	mg/Kg-dry	1	10/4/2023 06:20 PM
PAH COMPOUNDS			**SW8270C**	Prep: SW3546 10/4/23 17:27		Analyst: **RA**
1-Methylnaphthalene	ND		0.23	mg/Kg-dry	1	10/5/2023 11:48 PM
2-Methylnaphthalene	ND		0.23	mg/Kg-dry	1	10/5/2023 11:48 PM
Acenaphthene	ND		0.23	mg/Kg-dry	1	10/5/2023 11:48 PM
Acenaphthylene	ND		0.23	mg/Kg-dry	1	10/5/2023 11:48 PM
Anthracene	ND		0.23	mg/Kg-dry	1	10/5/2023 11:48 PM
Benzo(a)anthracene	ND		0.12	mg/Kg-dry	1	10/5/2023 11:48 PM
Benzo(a)pyrene	ND		0.12	mg/Kg-dry	1	10/5/2023 11:48 PM
Benzo(b)fluoranthene	ND		0.23	mg/Kg-dry	1	10/5/2023 11:48 PM
Benzo(g,h,i)perylene	ND		0.23	mg/Kg-dry	1	10/5/2023 11:48 PM
Benzo(k)fluoranthene	ND		0.23	mg/Kg-dry	1	10/5/2023 11:48 PM
Carbazole	ND		0.23	mg/Kg-dry	1	10/5/2023 11:48 PM
Chrysene	ND		0.23	mg/Kg-dry	1	10/5/2023 11:48 PM
Dibenzo(a,h)anthracene	ND		0.12	mg/Kg-dry	1	10/5/2023 11:48 PM
Dibenzofuran	ND		0.23	mg/Kg-dry	1	10/5/2023 11:48 PM
Fluoranthene	ND		0.23	mg/Kg-dry	1	10/5/2023 11:48 PM
Fluorene	ND		0.23	mg/Kg-dry	1	10/5/2023 11:48 PM
Indeno(1,2,3-cd)pyrene	ND		0.12	mg/Kg-dry	1	10/5/2023 11:48 PM
Naphthalene	ND		0.23	mg/Kg-dry	1	10/5/2023 11:48 PM
Phenanthrene	ND		0.23	mg/Kg-dry	1	10/5/2023 11:48 PM
Pyrene	ND		0.23	mg/Kg-dry	1	10/5/2023 11:48 PM
Surr: 2-Fluorobiphenyl	*74.3*		*30-116*	*%REC*	1	10/5/2023 11:48 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**			Analyst: **SK**
1,1,1,2-Tetrachloroethane	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
1,1,1-Trichloroethane	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
1,1,2,2-Tetrachloroethane	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM

Note:

ALS Environmental

Date: *09-Oct-23*

Client: The Mannik & Smith Group
Project: Hillison Nut; MS23-13; ODAS0003-19
Work Order: 23091123
Sample ID: DUP
Lab ID: 23091123-11
Collection Date: 9/27/2023
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
1,1,2-Trichloroethane	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
1,1-Dichloroethane	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
1,1-Dichloroethene	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
1,1-Dichloropropene	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
1,2,3-Trichlorobenzene	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
1,2,3-Trichloropropane	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
1,2,4-Trichlorobenzene	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
1,2,4-Trimethylbenzene	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
1,2-Dibromo-3-chloropropane	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
1,2-Dibromoethane	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
1,2-Dichlorobenzene	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
1,2-Dichloroethane	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
1,2-Dichloropropane	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
1,3,5-Trimethylbenzene	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
1,3-Dichlorobenzene	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
1,3-Dichloropropane	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
1,4-Dichlorobenzene	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
2,2-Dichloropropane	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
2-Butanone	ND		0.046	mg/Kg-dry	1	10/4/2023 02:42 PM
2-Chlorotoluene	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
2-Hexanone	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
4-Chlorotoluene	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
4-Methyl-2-pentanone	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
Acetone	ND		0.046	mg/Kg-dry	1	10/4/2023 02:42 PM
Benzene	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
Bromobenzene	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
Bromochloromethane	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
Bromodichloromethane	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
Bromoform	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
Bromomethane	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
Carbon disulfide	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
Carbon tetrachloride	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
Chlorobenzene	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
Chloroethane	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
Chloroform	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
Chloromethane	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
cis-1,2-Dichloroethene	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
cis-1,3-Dichloropropene	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
Dibromochloromethane	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
Dibromomethane	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM

Note:

ALS Environmental

Date: *09-Oct-23*

Client: The Mannik & Smith Group
Project: Hillison Nut; MS23-13; ODAS0003-19
Work Order: 23091123
Sample ID: DUP
Lab ID: 23091123-11
Collection Date: 9/27/2023
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dichlorodifluoromethane	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
Ethylbenzene	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
Hexachlorobutadiene	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
Isopropylbenzene	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
m,p-Xylene	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
Methyl tert-butyl ether	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
Methylene chloride	ND		0.018	mg/Kg-dry	1	10/4/2023 02:42 PM
Naphthalene	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
n-Butylbenzene	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
n-Propylbenzene	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
o-Xylene	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
p-Isopropyltoluene	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
sec-Butylbenzene	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
Styrene	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
tert-Butylbenzene	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
Tetrachloroethene	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
Toluene	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
trans-1,2-Dichloroethene	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
trans-1,3-Dichloropropene	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
Trichloroethene	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
Trichlorofluoromethane	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
Vinyl chloride	ND		0.0046	mg/Kg-dry	1	10/4/2023 02:42 PM
Xylenes, Total	ND		0.0092	mg/Kg-dry	1	10/4/2023 02:42 PM
Surr: 4-Bromofluorobenzene	*108*		*60-140*	*%REC*	1	10/4/2023 02:42 PM
Surr: Dibromofluoromethane	*126*		*60-140*	*%REC*	1	10/4/2023 02:42 PM
Surr: Toluene-d8	*101*		*60-140*	*%REC*	1	10/4/2023 02:42 PM

Note:

Batch ID: **94200** Instrument ID **HG2** Method: **SW7471A**

MBLK Sample ID: **MBLK-94200-94200** Units: **mg/Kg** Analysis Date: **10/4/2023 02:04 PM**

Client ID: Run ID: **HG2_231004C** SeqNo: **3188967** Prep Date: **10/4/2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.30								

LCS Sample ID: **LCS-94200-94200** Units: **mg/Kg** Analysis Date: **10/4/2023 02:06 PM**

Client ID: Run ID: **HG2_231004C** SeqNo: **3188968** Prep Date: **10/4/2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.7367	0.30	0.833	0	88.4	66.5-169	0			

LCS Sample ID: **LCS-94200-94200** Units: **mg/Kg** Analysis Date: **10/4/2023 04:38 PM**

Client ID: Run ID: **HG2_231004C** SeqNo: **3188998** Prep Date: **10/4/2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.75	0.30	0.833	0	90	66.5-169	0			

LCSD Sample ID: **LCSD-94200-94200** Units: **mg/Kg** Analysis Date: **10/4/2023 02:08 PM**

Client ID: Run ID: **HG2_231004C** SeqNo: **3188969** Prep Date: **10/4/2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.8267	0.30	0.833	0	99.2	66.5-169	0.75	9.73	20	

LCSD Sample ID: **LCSD-94200-94200** Units: **mg/Kg** Analysis Date: **10/4/2023 04:40 PM**

Client ID: Run ID: **HG2_231004C** SeqNo: **3188999** Prep Date: **10/4/2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.8317	0.30	0.833	0	99.8	66.5-169	0.75	10.3	20	

MS Sample ID: **23090996-01B MS** Units: **mg/Kg** Analysis Date: **10/4/2023 02:32 PM**

Client ID: Run ID: **HG2_231004C** SeqNo: **3188972** Prep Date: **10/4/2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.06959	0.036	0.09994	0	69.6	69-147	0			

MSD Sample ID: **23090996-01B MSD** Units: **mg/Kg** Analysis Date: **10/4/2023 02:34 PM**

Client ID: Run ID: **HG2_231004C** SeqNo: **3188973** Prep Date: **10/4/2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.06571	0.036	0.09923	0	66.2	62.6-127	0.06959	5.72	20	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group
Work Order: 23091123
Project: Hillison Nut; MS23-13; ODAS0003-19

QC BATCH REPORT

Batch ID: **94200** Instrument ID **HG2** Method: **SW7471A**

The following samples were analyzed in this batch:

23091123-01B	23091123-02B	23091123-03B
23091123-04B	23091123-05B	23091123-06B
23091123-07B	23091123-08B	23091123-09B
23091123-10B	23091123-11B	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **94199** Instrument ID **ICP3** Method: **SW6010B**

MBLK Sample ID: **MBLK-94199-94199** Units: **mg/Kg** Analysis Date: **10/4/2023 02:01 PM**
Client ID: Run ID: **ICP3_231004A** SeqNo: **3188522** Prep Date: **10/4/2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	5.0								
Barium	ND	20								
Cadmium	ND	1.0								
Chromium	ND	10								
Lead	ND	20								
Selenium	ND	3.0								
Silver	ND	5.0								

LCS Sample ID: **LCS-94199-94199** Units: **mg/Kg** Analysis Date: **10/4/2023 02:06 PM**
Client ID: Run ID: **ICP3_231004A** SeqNo: **3188523** Prep Date: **10/4/2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	103.1	5.0	100	0	103	80-120	0			
Barium	108.2	20	100	0	108	81.6-112	0			
Cadmium	109.7	1.0	100	0	110	87.2-119	0			
Lead	105.1	20	100	0	105	82.9-117	0			
Selenium	112.9	3.0	100	0	113	80-120	0			

LCS Sample ID: **LCS-94199-94199** Units: **mg/Kg** Analysis Date: **10/4/2023 04:38 PM**
Client ID: Run ID: **ICP3_231004A** SeqNo: **3189062** Prep Date: **10/4/2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium	99.17	10	100	0	99.2	81.7-123	0			
Silver	96.69	5.0	100	0	96.7	77.1-118	0			

LCSD Sample ID: **LCSD-94199-94199** Units: **mg/Kg** Analysis Date: **10/4/2023 02:10 PM**
Client ID: Run ID: **ICP3_231004A** SeqNo: **3188524** Prep Date: **10/4/2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	98.24	5.0	100	0	98.2	79.7-118	103.1	4.83	20	
Barium	102.4	20	100	0	102	81.6-112	108.2	5.51	20	
Cadmium	104.3	1.0	100	0	104	87.2-119	109.7	5.05	20	
Lead	99.62	20	100	0	99.6	82.9-117	105.1	5.35	20	
Selenium	104.9	3.0	100	0	105	86.2-110	112.9	7.35	20	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group
Work Order: 23091123
Project: Hillison Nut; MS23-13; ODAS0003-19

QC BATCH REPORT

Batch ID: **94199** Instrument ID **ICP3** Method: **SW6010B**

LCSD Sample ID: **LCSD-94199-94199** Units: **mg/Kg** Analysis Date: **10/4/2023 04:42 PM**
Client ID: Run ID: **ICP3_231004A** SeqNo: **3189063** Prep Date: **10/4/2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium	102.6	10	100	0	103	81.7-123	99.17	3.4	20	
Silver	99	5.0	100	0	99	77.1-118	96.69	2.37	20	

MS Sample ID: **23091123-11B MS** Units: **mg/Kg** Analysis Date: **10/4/2023 06:24 PM**
Client ID: **DUP** Run ID: **ICP3_231004A** SeqNo: **3189161** Prep Date: **10/4/2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	19.2	0.98	19.68	4.774	73.3	75-125	0			S
Barium	21.94	3.9	19.68	7.961	71	75-125	0			S
Cadmium	14.98	0.20	19.68	0	76.2	75-125	0			
Chromium	18.09	2.0	19.68	4.386	69.7	69.3-116	0			
Lead	16.14	3.9	19.68	4.489	59.2	69.3-107	0			S
Selenium	13.59	0.59	19.68	0.4265	66.9	75-125	0			S
Silver	15.07	0.98	19.68	0	76.6	75-125	0			

MSD Sample ID: **23091123-11B MSD** Units: **mg/Kg** Analysis Date: **10/4/2023 06:28 PM**
Client ID: **DUP** Run ID: **ICP3_231004A** SeqNo: **3189162** Prep Date: **10/4/2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	19.56	0.98	19.5	4.774	75.8	69.6-115	19.2	1.84	20	
Barium	22.37	3.9	19.5	7.961	73.9	60.1-114	21.94	1.93	20	
Cadmium	14.78	0.20	19.5	0	75.8	69.1-120	14.98	1.35	20	
Chromium	18.16	2.0	19.5	4.386	70.6	69.3-116	18.09	0.364	20	
Lead	16.06	3.9	19.5	4.489	59.3	69.3-107	16.14	0.499	20	S
Selenium	13.05	0.59	19.5	0.4265	64.7	66.5-109	13.59	4.03	20	S
Silver	15.1	0.98	19.5	0	77.4	70.3-116	15.07	0.215	20	

The following samples were analyzed in this batch:

23091123-01B	23091123-02B	23091123-03B
23091123-04B	23091123-05B	23091123-06B
23091123-07B	23091123-08B	23091123-09B
23091123-10B	23091123-11B	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **94194** Instrument ID **SVMS1** Method: **SW8270C**

MBLK Sample ID: **MBLK-94194-94194** Units: **µg/Kg** Analysis Date: **10/5/2023 01:55 PM**
Client ID: Run ID: **SVMS1_231005A** SeqNo: **3190814** Prep Date: **10/4/2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1-Methylnaphthalene	ND	200								
2-Methylnaphthalene	ND	200								
Acenaphthene	ND	200								
Acenaphthylene	ND	200								
Anthracene	ND	200								
Benzo(a)anthracene	ND	100								
Benzo(a)pyrene	10.07	100								J
Benzo(b)fluoranthene	ND	200								
Benzo(g,h,i)perylene	ND	200								
Benzo(k)fluoranthene	ND	200								
Carbazole	ND	200								
Chrysene	ND	200								
Dibenzo(a,h)anthracene	ND	100								
Dibenzofuran	ND	200								
Fluoranthene	ND	200								
Fluorene	ND	200								
Indeno(1,2,3-cd)pyrene	ND	100								
Naphthalene	ND	200								
Phenanthrene	ND	200								
Pyrene	ND	200								
Surr: 2-Fluorobiphenyl	*2653*	0	*3330*	0	*79.7*	*30-116*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group
Work Order: 23091123
Project: Hillison Nut; MS23-13; ODAS0003-19

QC BATCH REPORT

Batch ID: **94194** Instrument ID **SVMS1** Method: **SW8270C**

LCS	Sample ID: **LCS-94194-94194**				Units: **µg/Kg**			Analysis Date: **10/5/2023 02:10 PM**			
Client ID:		Run ID: **SVMS1_231005A**			SeqNo: **3190815**		Prep Date: **10/4/2023**		DF: **1**		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1-Methylnaphthalene	2684	200	3330	0	80.6	41-97.5	0			
2-Methylnaphthalene	2740	200	3330	0	82.3	50.1-100	0			
Acenaphthene	2868	200	3330	0	86.1	52-119	0			
Acenaphthylene	2897	200	3330	0	87	46-118	0			
Anthracene	2717	200	3330	0	81.6	53.8-114	0			
Benzo(a)anthracene	2389	100	3330	0	71.8	48-121	0			
Benzo(a)pyrene	2985	100	3330	0	89.7	40.1-114	0			
Benzo(b)fluoranthene	2684	200	3330	0	80.6	44-115	0			
Benzo(g,h,i)perylene	3063	200	3330	0	92	41.8-122	0			
Benzo(k)fluoranthene	2837	200	3330	0	85.2	39.5-116	0			
Carbazole	2763	200	3330	0	83	52.3-94.8	0			
Chrysene	2482	200	3330	0	74.5	49.2-115	0			
Dibenzo(a,h)anthracene	3162	100	3330	0	94.9	41.7-123	0			
Dibenzofuran	2828	200	3330	0	84.9	53.2-100	0			
Fluoranthene	2840	200	3330	0	85.3	52.7-118	0			
Fluorene	2971	200	3330	0	89.2	51.6-109	0			
Indeno(1,2,3-cd)pyrene	3133	100	3330	0	94.1	41.1-124	0			
Naphthalene	2644	200	3330	0	79.4	42.5-103	0			
Phenanthrene	2763	200	3330	0	83	49.7-100	0			
Pyrene	2804	200	3330	0	84.2	50.7-109	0			
Surr: 2-Fluorobiphenyl	*2843*	0	*3330*	0	*85.4*	*30-116*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group
Work Order: 23091123
Project: Hillison Nut; MS23-13; ODAS0003-19

QC BATCH REPORT

Batch ID: **94194** Instrument ID **SVMS1** Method: **SW8270C**

MS Sample ID: **23091123-08BMS** Units: **µg/Kg** Analysis Date: **10/5/2023 02:25 PM**
Client ID: **SB-30 (8-10)** Run ID: **SVMS1_231005A** SeqNo: **3190816** Prep Date: **10/4/2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1-Methylnaphthalene	2644	200	3341	0	79.1	34.7-108	0			
2-Methylnaphthalene	2719	200	3341	0	81.4	38.6-102	0			
Acenaphthene	2836	200	3341	0	84.9	44-108	0			
Acenaphthylene	2888	200	3341	0	86.4	43.6-110	0			
Anthracene	2705	200	3341	0	81	39.5-104	0			
Benzo(a)anthracene	2419	100	3341	0	72.4	47-114	0			
Benzo(a)pyrene	2957	100	3341	0	88.5	43.8-115	0			
Benzo(b)fluoranthene	2634	200	3341	0	78.8	40-106	0			
Benzo(g,h,i)perylene	2995	200	3341	0	89.7	38.2-110	0			
Benzo(k)fluoranthene	2804	200	3341	0	83.9	48.6-107	0			
Carbazole	2727	200	3341	0	81.6	41.9-101	0			
Chrysene	2474	200	3341	0	74.1	18.8-140	0			
Dibenzo(a,h)anthracene	3098	100	3341	0	92.7	46-116	0			
Dibenzofuran	2814	200	3341	0	84.2	42.7-98.2	0			
Fluoranthene	2885	200	3341	0	86.4	35.1-111	0			
Fluorene	3008	200	3341	0	90	42.8-106	0			
Indeno(1,2,3-cd)pyrene	3014	100	3341	0	90.2	33-115	0			
Naphthalene	2597	200	3341	0	77.7	18.2-126	0			
Phenanthrene	2676	200	3341	0	80.1	31.2-127	0			
Pyrene	2841	200	3341	0	85	33.7-129	0			
Surr: 2-Fluorobiphenyl	*2642*	0	*3341*	0	*79.1*	*30-116*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group
Work Order: 23091123
Project: Hillison Nut; MS23-13; ODAS0003-19

QC BATCH REPORT

Batch ID: **94194** Instrument ID **SVMS1** Method: **SW8270C**

MSD Sample ID: **23091123-08BMSD** Units: **µg/Kg** Analysis Date: **10/5/2023 02:40 PM**

Client ID: **SB-30 (8-10)** Run ID: **SVMS1_231005A** SeqNo: **3190817** Prep Date: **10/4/2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1-Methylnaphthalene	2618	200	3323	0	78.8	34.7-108	2644	1.01	20	
2-Methylnaphthalene	2647	200	3323	0	79.6	38.6-102	2719	2.67	20	
Acenaphthene	2829	200	3323	0	85.1	40-108	2836	0.256	20	
Acenaphthylene	2870	200	3323	0	86.4	43.6-110	2888	0.619	20	
Anthracene	2684	200	3323	0	80.8	39.5-104	2705	0.771	20	
Benzo(a)anthracene	2397	100	3323	0	72.1	47-114	2419	0.894	21	
Benzo(a)pyrene	2997	100	3323	0	90.2	43.8-115	2957	1.36	20	
Benzo(b)fluoranthene	2642	200	3323	0	79.5	40-106	2634	0.319	20	
Benzo(g,h,i)perylene	2954	200	3323	0	88.9	38.2-110	2995	1.39	20	
Benzo(k)fluoranthene	2773	200	3323	0	83.4	48.6-107	2804	1.12	20	
Carbazole	2649	200	3323	0	79.7	41.9-101	2727	2.91	20	
Chrysene	2457	200	3323	0	73.9	18.8-140	2474	0.691	19	
Dibenzo(a,h)anthracene	3050	100	3323	0	91.8	46-116	3098	1.56	20	
Dibenzofuran	2795	200	3323	0	84.1	42.7-98.2	2814	0.66	20	
Fluoranthene	2840	200	3323	0	85.4	35.1-111	2885	1.6	20	
Fluorene	2942	200	3323	0	88.5	42.8-106	3008	2.24	20	
Indeno(1,2,3-cd)pyrene	3045	100	3323	0	91.6	33-115	3014	1.03	20	
Naphthalene	2539	200	3323	0	76.4	18.2-126	2597	2.26	20	
Phenanthrene	2702	200	3323	0	81.3	31.2-127	2676	0.977	20	
Pyrene	2797	200	3323	0	84.2	33.7-129	2841	1.57	20	
Surr: 2-Fluorobiphenyl	*2711*	0	*3323*	0	*81.6*	*30-116*	2642	*2.55*		

The following samples were analyzed in this batch:

23091123-01B	23091123-02B	23091123-03B
23091123-04B	23091123-05B	23091123-06B
23091123-07B	23091123-08B	23091123-09B
23091123-10B	23091123-11B	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **R221728** Instrument ID **VMS2** Method: **SW8260B**

MBLK	Sample ID: **MBLK-R221728**				Units: **µg/Kg**			Analysis Date: **10/4/2023 09:05 AM**		
Client ID:		Run ID: **VMS2_231004B**			SeqNo: **3189367**		Prep Date:		DF: **1**	

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	ND	5.0								
1,1,1-Trichloroethane	ND	5.0								
1,1,2,2-Tetrachloroethane	ND	5.0								
1,1,2-Trichloroethane	ND	5.0								
1,1-Dichloroethane	ND	5.0								
1,1-Dichloroethene	ND	5.0								
1,1-Dichloropropene	ND	5.0								
1,2,3-Trichlorobenzene	ND	5.0								
1,2,3-Trichloropropane	ND	5.0								
1,2,4-Trichlorobenzene	ND	5.0								
1,2,4-Trimethylbenzene	ND	5.0								
1,2-Dibromo-3-chloropropane	ND	5.0								
1,2-Dibromoethane	ND	5.0								
1,2-Dichlorobenzene	ND	5.0								
1,2-Dichloroethane	ND	5.0								
1,2-Dichloropropane	ND	5.0								
1,3,5-Trimethylbenzene	ND	5.0								
1,3-Dichlorobenzene	ND	5.0								
1,3-Dichloropropane	ND	5.0								
1,4-Dichlorobenzene	ND	5.0								
2,2-Dichloropropane	ND	5.0								
2-Butanone	ND	50								
2-Chlorotoluene	ND	5.0								
2-Hexanone	ND	5.0								
4-Chlorotoluene	ND	5.0								
4-Methyl-2-pentanone	ND	5.0								
Acetone	ND	50								
Benzene	ND	5.0								
Bromobenzene	ND	5.0								
Bromochloromethane	ND	5.0								
Bromodichloromethane	ND	5.0								
Bromoform	ND	5.0								
Bromomethane	ND	5.0								
Carbon disulfide	ND	5.0								
Carbon tetrachloride	ND	5.0								
Chlorobenzene	ND	5.0								
Chloroethane	ND	5.0								
Chloroform	ND	5.0								
Chloromethane	ND	5.0								
cis-1,2-Dichloroethene	ND	5.0								
cis-1,3-Dichloropropene	ND	5.0								
Dibromochloromethane	ND	5.0								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **R221728** Instrument ID **VMS2** Method: **SW8260B**

Dibromomethane	ND	5.0					
Dichlorodifluoromethane	ND	5.0					
Ethylbenzene	ND	5.0					
Hexachlorobutadiene	ND	5.0					
Isopropylbenzene	ND	5.0					
m,p-Xylene	ND	5.0					
Methyl tert-butyl ether	ND	5.0					
Methylene chloride	ND	20					
Naphthalene	ND	5.0					
n-Butylbenzene	ND	5.0					
n-Propylbenzene	ND	5.0					
o-Xylene	ND	5.0					
p-Isopropyltoluene	ND	5.0					
sec-Butylbenzene	ND	5.0					
Styrene	ND	5.0					
tert-Butylbenzene	ND	5.0					
Tetrachloroethene	ND	5.0					
Toluene	ND	5.0					
trans-1,2-Dichloroethene	ND	5.0					
trans-1,3-Dichloropropene	ND	5.0					
Trichloroethene	ND	5.0					
Trichlorofluoromethane	ND	5.0					
Vinyl chloride	ND	5.0					
Xylenes, Total	ND	10					
Surr: 4-Bromofluorobenzene	*48.73*	0	*50*	0	*97.5*	*60-140*	0
Surr: Dibromofluoromethane	*58.68*	0	*50*	0	*117*	*60-140*	0
Surr: Toluene-d8	*52.07*	0	*50*	0	*104*	*60-140*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group
Work Order: 23091123
Project: Hillison Nut; MS23-13; ODAS0003-19

QC BATCH REPORT

Batch ID: **R221728** Instrument ID **VMS2** Method: **SW8260B**

LCS	Sample ID: **LCS-R221728**				Units: **µg/Kg**			Analysis Date: **10/4/2023 07:44 AM**		
Client ID:		Run ID: **VMS2_231004B**			SeqNo: **3189361**	Prep Date:		DF: **1**		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	39.68	5.0	50	0	79.4	53.6-149	0			
1,1-Dichloroethene	37.81	5.0	50	0	75.6	38.8-176	0			
1,2-Dichloroethane	37.55	5.0	50	0	75.1	54.4-145	0			
1,3-Dichlorobenzene	36.59	5.0	50	0	73.2	54.2-137	0			
1,4-Dichlorobenzene	38.08	5.0	50	0	76.2	52.8-135	0			
Benzene	37.18	5.0	50	0	74.4	56-148	0			
Carbon tetrachloride	41.17	5.0	50	0	82.3	51.9-151	0			
Chlorobenzene	34.76	5.0	50	0	69.5	55.4-137	0			
Chloroform	38.56	5.0	50	0	77.1	51.1-147	0			
cis-1,2-Dichloroethene	36.26	5.0	50	0	72.5	47.6-149	0			
Ethylbenzene	36.31	5.0	50	0	72.6	55.8-142	0			
m,p-Xylene	74.64	5.0	100	0	74.6	57.6-141	0			
Styrene	36.45	5.0	50	0	72.9	59.6-143	0			
Tetrachloroethene	29.42	5.0	50	0	58.8	56.2-160	0			
Toluene	37.63	5.0	50	0	75.3	56-143	0			
Trichloroethene	37.23	5.0	50	0	74.5	56.5-143	0			
Surr: 4-Bromofluorobenzene	*47.66*	0	*50*	0	*95.3*	*60-140*	0			
Surr: Dibromofluoromethane	*51.78*	0	*50*	0	*104*	*60-140*	0			
Surr: Toluene-d8	*50.74*	0	*50*	0	*101*	*60-140*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **R221728** Instrument ID **VMS2** Method: **SW8260B**

MS Sample ID: **23091122-11 MS** Units: **µg/Kg** Analysis Date: **10/4/2023 08:14 AM**

Client ID: Run ID: **VMS2_231004B** SeqNo: **3189363** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	42.19	5.0	50	0	84.4	66.9-140	0			
1,1-Dichloroethene	40.57	5.0	50	0	81.1	41.4-161	0			
1,2-Dichloroethane	41.05	5.0	50	0	82.1	58.9-137	0			
1,3-Dichlorobenzene	39	5.0	50	0	78	42.5-150	0			
1,4-Dichlorobenzene	40.64	5.0	50	0	81.3	52.1-137	0			
Benzene	39.75	5.0	50	0	79.5	35.8-162	0			
Carbon tetrachloride	43.86	5.0	50	0	87.7	53.2-137	0			
Chlorobenzene	37.69	5.0	50	0	75.4	65.6-137	0			
Chloroform	41.14	5.0	50	0	82.3	58-130	0			
cis-1,2-Dichloroethene	38.73	5.0	50	0	77.5	52.9-138	0			
Ethylbenzene	38.57	5.0	50	0	77.1	57.5-134	0			
m,p-Xylene	79.05	5.0	100	0	79	56.4-135	0			
Styrene	39.14	5.0	50	0	78.3	60.9-135	0			
Tetrachloroethene	31.58	5.0	50	0	63.2	28.3-109	0			
Toluene	40.35	5.0	50	0	80.7	67.7-135	0			
Trichloroethene	40.31	5.0	50	0	80.6	56.5-136	0			
Surr: 4-Bromofluorobenzene	*48.89*	0	*50*	0	*97.8*	*60-140*	0			
Surr: Dibromofluoromethane	*51.71*	0	*50*	0	*103*	*60-140*	0			
Surr: Toluene-d8	*50.75*	0	*50*	0	*102*	*60-140*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group
Work Order: 23091123
Project: Hillison Nut; MS23-13; ODAS0003-19

QC BATCH REPORT

Batch ID: **R221728** Instrument ID **VMS2** Method: **SW8260B**

MSD	Sample ID: **23091122-11A MSD**				Units: **µg/Kg**			Analysis Date: **10/4/2023 08:39 AM**		
Client ID:		Run ID: **VMS2_231004B**			SeqNo: **3189365**	Prep Date:		DF: **1**		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	48.14	5.0	50	0	96.3	66.9-140	0			
1,1-Dichloroethene	45.83	5.0	50	0	91.7	41.4-161	0			
1,2-Dichloroethane	46.48	5.0	50	0	93	58.9-137	0			
1,3-Dichlorobenzene	45.11	5.0	50	0	90.2	42.5-150	0			
1,4-Dichlorobenzene	47.02	5.0	50	0	94	52.1-137	0			
Benzene	46.36	5.0	50	0	92.7	35.8-162	0			
Carbon tetrachloride	50.24	5.0	50	0	100	53.2-137	0			
Chlorobenzene	44.44	5.0	50	0	88.9	65.6-137	0			
Chloroform	46.5	5.0	50	0	93	58-130	0			
cis-1,2-Dichloroethene	45.15	5.0	50	0	90.3	52.9-138	0			
Ethylbenzene	46.12	5.0	50	0	92.2	57.5-134	0			
m,p-Xylene	94.97	5.0	100	0	95	56.4-135	0			
Styrene	46.2	5.0	50	0	92.4	60.9-135	0			
Tetrachloroethene	37.37	5.0	50	0	74.7	28.3-109	0			
Toluene	46.88	5.0	50	0	93.8	67.7-135	0			
Trichloroethene	46.57	5.0	50	0	93.1	56.5-136	0			
Surr: 4-Bromofluorobenzene	*47.65*	0	*50*	0	*95.3*	*60-140*	0			
Surr: Dibromofluoromethane	*49.56*	0	*50*	0	*99.1*	*60-140*	0			
Surr: Toluene-d8	*50.26*	0	*50*	0	*101*	*60-140*	0			

The following samples were analyzed in this batch:

23091123-01A	23091123-02A	23091123-03A
23091123-04A	23091123-05A	23091123-06A
23091123-07A	23091123-08A	23091123-09A
23091123-10A	23091123-11A	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group
Work Order: 23091123
Project: Hillison Nut; MS23-13; ODAS0003-19

QC BATCH REPORT

Batch ID: **R221826** Instrument ID **VMS2** Method: **SW8260B**

MBLK	Sample ID: **MBLK-R221826**				Units: **µg/Kg**		Analysis Date: **10/5/2023 11:54 AM**			
Client ID:		Run ID: **VMS2_231005A**			SeqNo: **3191346**		Prep Date:		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	ND	5.0								
1,1,1-Trichloroethane	ND	5.0								
1,1,2,2-Tetrachloroethane	ND	5.0								
1,1,2-Trichloroethane	ND	5.0								
1,1-Dichloroethane	ND	5.0								
1,1-Dichloroethene	ND	5.0								
1,1-Dichloropropene	ND	5.0								
1,2,3-Trichlorobenzene	ND	5.0								
1,2,3-Trichloropropane	ND	5.0								
1,2,4-Trichlorobenzene	ND	5.0								
1,2,4-Trimethylbenzene	ND	5.0								
1,2-Dibromo-3-chloropropane	ND	5.0								
1,2-Dibromoethane	ND	5.0								
1,2-Dichlorobenzene	ND	5.0								
1,2-Dichloroethane	ND	5.0								
1,2-Dichloropropane	ND	5.0								
1,3,5-Trimethylbenzene	ND	5.0								
1,3-Dichlorobenzene	ND	5.0								
1,3-Dichloropropane	ND	5.0								
1,4-Dichlorobenzene	ND	5.0								
2,2-Dichloropropane	ND	5.0								
2-Butanone	ND	50								
2-Chlorotoluene	ND	5.0								
2-Hexanone	ND	5.0								
4-Chlorotoluene	ND	5.0								
4-Methyl-2-pentanone	ND	5.0								
Acetone	ND	50								
Benzene	ND	5.0								
Bromobenzene	ND	5.0								
Bromochloromethane	ND	5.0								
Bromodichloromethane	ND	5.0								
Bromoform	ND	5.0								
Bromomethane	ND	5.0								
Carbon disulfide	ND	5.0								
Carbon tetrachloride	ND	5.0								
Chlorobenzene	ND	5.0								
Chloroethane	ND	5.0								
Chloroform	ND	5.0								
Chloromethane	ND	5.0								
cis-1,2-Dichloroethene	ND	5.0								
cis-1,3-Dichloropropene	ND	5.0								
Dibromochloromethane	ND	5.0								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **R221826** Instrument ID **VMS2** Method: **SW8260B**

Dibromomethane	ND	5.0					
Dichlorodifluoromethane	ND	5.0					
Ethylbenzene	ND	5.0					
Hexachlorobutadiene	ND	5.0					
Isopropylbenzene	ND	5.0					
m,p-Xylene	ND	5.0					
Methyl tert-butyl ether	ND	5.0					
Methylene chloride	ND	20					
Naphthalene	ND	5.0					
n-Butylbenzene	ND	5.0					
n-Propylbenzene	ND	5.0					
o-Xylene	ND	5.0					
p-Isopropyltoluene	ND	5.0					
sec-Butylbenzene	ND	5.0					
Styrene	ND	5.0					
tert-Butylbenzene	ND	5.0					
Tetrachloroethene	ND	5.0					
Toluene	ND	5.0					
trans-1,2-Dichloroethene	ND	5.0					
trans-1,3-Dichloropropene	ND	5.0					
Trichloroethene	ND	5.0					
Trichlorofluoromethane	ND	5.0					
Vinyl chloride	ND	5.0					
Xylenes, Total	ND	10					
Surr: 4-Bromofluorobenzene	*50.01*	0	*50*	0	*100*	*60-140*	0
Surr: Dibromofluoromethane	*58.92*	0	*50*	0	*118*	*60-140*	0
Surr: Toluene-d8	*52.23*	0	*50*	0	*104*	*60-140*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group
Work Order: 23091123
Project: Hillison Nut; MS23-13; ODAS0003-19

QC BATCH REPORT

Batch ID: **R221826** Instrument ID **VMS2** Method: **SW8260B**

LCS Sample ID: **LCS-R221826** Units: **µg/Kg** Analysis Date: **10/5/2023 10:13 AM**
Client ID: Run ID: **VMS2_231005A** SeqNo: **3191343** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	47.7	5.0	50	0	95.4	53.6-149	0			
1,1-Dichloroethene	49.36	5.0	50	0	98.7	38.8-176	0			
1,2-Dichloroethane	45.64	5.0	50	0	91.3	54.4-145	0			
1,3-Dichlorobenzene	48.7	5.0	50	0	97.4	54.2-137	0			
1,4-Dichlorobenzene	51.29	5.0	50	0	103	52.8-135	0			
Benzene	50.7	5.0	50	0	101	56-148	0			
Carbon tetrachloride	48.09	5.0	50	0	96.2	51.9-151	0			
Chlorobenzene	48.14	5.0	50	0	96.3	55.4-137	0			
Chloroform	48.43	5.0	50	0	96.9	51.1-147	0			
cis-1,2-Dichloroethene	49.49	5.0	50	0	99	47.6-149	0			
Ethylbenzene	49.49	5.0	50	0	99	55.8-142	0			
m,p-Xylene	99.93	5.0	100	0	99.9	57.6-141	0			
Styrene	50.02	5.0	50	0	100	59.6-143	0			
Tetrachloroethene	40.1	5.0	50	0	80.2	56.2-160	0			
Toluene	50.3	5.0	50	0	101	56-143	0			
Trichloroethene	49.37	5.0	50	0	98.7	56.5-143	0			
Surr: 4-Bromofluorobenzene	*49.37*	0	*50*	0	*98.7*	*60-140*	0			
Surr: Dibromofluoromethane	*47.92*	0	*50*	0	*95.8*	*60-140*	0			
Surr: Toluene-d8	*50.01*	0	*50*	0	*100*	*60-140*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group
Work Order: 23091123
Project: Hillison Nut; MS23-13; ODAS0003-19

QC BATCH REPORT

Batch ID: **R221826** Instrument ID **VMS2** Method: **SW8260B**

MS Sample ID: **23090939-01A MS** Units: **µg/Kg** Analysis Date: **10/5/2023 10:38 AM**
Client ID: Run ID: **VMS2_231005A** SeqNo: **3191344** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	45.08	5.0	50	0	90.2	66.9-140	0			
1,1-Dichloroethene	46.86	5.0	50	0	93.7	41.4-161	0			
1,2-Dichloroethane	42.99	5.0	50	0	86	58.9-137	0			
1,3-Dichlorobenzene	42.11	5.0	50	0	84.2	42.5-150	0			
1,4-Dichlorobenzene	43.21	5.0	50	0	86.4	52.1-137	0			
Benzene	46.72	5.0	50	0.6065	92.2	35.8-162	0			
Carbon tetrachloride	45.07	5.0	50	0	90.1	53.2-137	0			
Chlorobenzene	43.37	5.0	50	0	86.7	65.6-137	0			
Chloroform	45.46	5.0	50	0	90.9	58-130	0			
cis-1,2-Dichloroethene	46.13	5.0	50	0	92.3	52.9-138	0			
Ethylbenzene	44.11	5.0	50	0	88.2	57.5-134	0			
m,p-Xylene	89.34	5.0	100	0	89.3	56.4-135	0			
Styrene	43.81	5.0	50	0	87.6	60.9-135	0			
Tetrachloroethene	35.73	5.0	50	0	71.5	28.3-109	0			
Toluene	46.37	5.0	50	0	92.7	67.7-135	0			
Trichloroethene	45.71	5.0	50	0	91.4	56.5-136	0			
Surr: 4-Bromofluorobenzene	*48.89*	0	*50*	0	*97.8*	*60-140*	0			
Surr: Dibromofluoromethane	*50.06*	0	*50*	0	*100*	*60-140*	0			
Surr: Toluene-d8	*51.54*	0	*50*	0	*103*	*60-140*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group
Work Order: 23091123
Project: Hillison Nut; MS23-13; ODAS0003-19

QC BATCH REPORT

Batch ID: **R221826** Instrument ID **VMS2** Method: **SW8260B**

MSD	Sample ID: **23090939-01A MSD**				Units: **µg/Kg**		Analysis Date: **10/5/2023 11:04 AM**			
Client ID:		Run ID: **VMS2_231005A**			SeqNo: **3191345**	Prep Date:		DF: **1**		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	43.74	5.0	50	0	87.5	66.9-140	45.08	3.02	31.2	
1,1-Dichloroethene	45.97	5.0	50	0	91.9	41.4-161	46.86	1.92	38.1	
1,2-Dichloroethane	42.3	5.0	50	0	84.6	58.9-137	42.99	1.62	26.2	
1,3-Dichlorobenzene	40.94	5.0	50	0	81.9	42.5-150	42.11	2.82	21	
1,4-Dichlorobenzene	42.55	5.0	50	0	85.1	52.1-137	43.21	1.54	28.7	
Benzene	45.89	5.0	50	0.6065	90.6	35.8-162	46.72	1.79	23.6	
Carbon tetrachloride	44.37	5.0	50	0	88.7	53.2-137	45.07	1.57	32.3	
Chlorobenzene	42.71	5.0	50	0	85.4	65.6-137	43.37	1.53	20	
Chloroform	45.42	5.0	50	0	90.8	58-130	45.46	0.088	28.2	
cis-1,2-Dichloroethene	45.61	5.0	50	0	91.2	52.9-138	46.13	1.13	23.7	
Ethylbenzene	43.65	5.0	50	0	87.3	57.5-134	44.11	1.05	24.9	
m,p-Xylene	89.43	5.0	100	0	89.4	56.4-135	89.34	0.101	25.1	
Styrene	43.7	5.0	50	0	87.4	60.9-135	43.81	0.251	22.8	
Tetrachloroethene	35.18	5.0	50	0	70.4	28.3-109	35.73	1.55	24.7	
Toluene	45.05	5.0	50	0	90.1	67.7-135	46.37	2.89	20	
Trichloroethene	44.45	5.0	50	0	88.9	56.5-136	45.71	2.8	20	
Surr: 4-Bromofluorobenzene	*50.62*	0	*50*	0	*101*	*60-140*	48.89	*3.48*		
Surr: Dibromofluoromethane	*50*	0	*50*	0	*100*	*60-140*	50.06	*0.12*		
Surr: Toluene-d8	*50.63*	0	*50*	0	*101*	*60-140*	51.54	*1.78*		

The following samples were analyzed in this batch: 23091123-03A 23091123-06A 23091123-07A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

ALS Environmental

Date: 09-Oct-23

Client: The Mannik & Smith Group
Project: Hillison Nut; MS23-13; ODAS0003-19
WorkOrder: **23091123**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not 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 detected below quantitation limit
n	Not offered for accreditation
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

Acronym	Description
DUP	Method Duplicate
E	EPA Method
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SDL	Sample Detection Limit
SW	SW-846 Method

Units Reported	Description
% of sample	
mg/Kg-dry	

ALS Environmental

Sample Receipt Checklist

Client Name: **MANNIK-MAUMEE** Date/Time Received: **29-Sep-23 08:00**

Work Order: **23091123** Received by: **AB1**

Checklist completed by Alec Bolender 29-Sep-23 Reviewed by: Rob Nieman 04-Oct-23

eSignature Date eSignature Date

Matrices: soil

Carrier name: FedEx

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 ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody 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 ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	4.1	120258	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:			
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

Field Chain-of-Custody Record

Page 1 of 1

70099 REV 10/2017

Ship To: ALS | Environmental
4388 Glendale Milford Rd.
Cincinnati, Ohio 45242
Phone: (513) 733-5336
Fax: (513) 733-5347

2309 1123

☒ REGULAR Status ☐ RUSH Status — RESULTS REQUIRED BY: (Date) _____ CONTACT ALS ENVIRONMENTAL PRIOR TO SENDING SAMPLES

OH VAP: ☒ YES ☐ NO BUSTR: ☐ YES ☐ NO NELAC: ☐ YES ☐ NO

Date: _____ Purchase Order No.: _____

Company Name: The Mannik + Smith Group, Inc. Project No.: ODAS0003 - 19

Address: 1800 Indian Wood Circle Sampling Site: Hillson Nut

Maumee (City) OH (State) 43537 (Zip) MS23 - 13

Person to Contact: Matt Pesci Billing Address (if different): Ohio EPA

Email Address: mpesci@manniksmithgroup.com DERR

Telephone (419): 891-2222 x 2088 Lazarus Government Center PO 1049

Alternate Contact: _____ Columbus, OH 43216-1049

ALS Lab ID	Sample ID / Description	Date	Time	Preservation Key #	Sample Type / Matrix Key Abbr.	# of Sample Containers	ANALYSIS REQUESTED: VOCs 8260	PAHs 8270	RCRA Metals							
1	SB-25 (0-2)	9/27/23	10:50		S	5	X	X	X							
2	SB-26 (4-6)	9/27/23	11:10		S	5	X	X	X							
3	SB-26 (12-15)	9/27/23	11:15		S	5	X	X	X							
4	SB-27 (0-2)	9/27/23	11:30		S	5	X	X	X							
5	SB-28 (0-2)	9/27/23	11:40		S	5	X	X	X							
6	SB-29 (8-10)	9/27/23	12:30		S	5	X	X	X							
7	SB-29 (10-12)	9/27/23	12:40		S	5	X	X	X							
8	SB-30 (8-10)	9/27/23	13:00		S	5	X	X	X							
9	SB-30 (10-12)	9/27/23	13:05		S	5	X	X	X							
10	SB-31 (0-2)	9/27/23	13:30		S	5	X	X	X							
Notes: 11	DUP	9/27/23			S	5	X	X	X							

10 NO 15+ Overnight

Preservation Key: 1 - HCl 2 - HNO_3 3 - H_2SO_4 4 - NaOH 5 - $Na_2S_2O_3$ 6 - $NaHSO_4$ 7 - NaOH/ZnAcetate 8 - Other 9 - 4°C

Matrix Key: A - Air B - Bulk S - Soil W - Water

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.

Relinquished By: (Signature)	Time / Date	Received By: (Signature)	Time / Date
[signature]	9/27/23 16:00	[signature] ALS	9/28/23 0822
Relinquished By: (Signature)	Time / Date	Received By: (Signature)	Time / Date
Relinquished By: (Signature)	Time / Date	Received By: (Signature)	Time / Date

ALS LAB USE ONLY 120258

COOLER TEMP: 4.1 °C TAKEN WITH IR#: 119063 119059

COOLING METHOD: NONE COOLER WET ICE DRY ICE ICE PACK

DELIVERY METHOD: CLIENT DROP BOX FEDEX UPS

STD MAIL PRTY MAIL ALS COURIER OTHER: _____

CUSTODY SEALS: NOT REQUIRED COOLER PACKAGE SAMPLES

pH ADJUSTMENTS:

06-Oct-2023

Matt Pesci
The Mannik & Smith Group
1800 Indian Wood Circle
Maumee, OH 43537

Re: **Hillison Nut; MS23-13; ODAS0003-19** Work Order: **23091124**

Dear Matt,

ALS Environmental received 4 samples on 29-Sep-2023 08:00 AM for the analyses presented in the following report.

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

QC sample results for this data met 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 Laboratory Group. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 35.

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

Sincerely,

Rob Nieman

Electronically approved by: Rob Nieman

Rob Nieman
Project Manager

Report of Laboratory Analysis

ALS Environmental

Date: 06-Oct-23

Client: The Mannik & Smith Group
Project: Hillison Nut; MS23-13; ODAS0003-19
Work Order: **23091124**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
23091124-01	SB-23 (10-12)	Soil		9/27/2023 10:00	9/29/2023 08:00	☐
23091124-02	SB-23 (12-15)	Soil		9/27/2023 10:05	9/29/2023 08:00	☐
23091124-03	SB-24 (6-8)	Soil		9/27/2023 10:30	9/29/2023 08:00	☐
23091124-04	SB-24 (10-12)	Soil		9/27/2023 10:35	9/29/2023 08:00	☐

Client:	The Mannik & Smith Group
Project:	Hillison Nut; MS23-13; ODAS0003-19
Work Order:	23091124

Case Narrative

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

Results relate only to the items tested and are not blank corrected unless indicated.

QC sample results for this data met 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.

ALS is an EPA recognized NLLAP laboratory for lead paint, soil, and dust wipe analyses under its AIHA-LAP accreditation.

Batch 94168, Method 8015_DRO_S, Sample 23091124-01C: Surrogate failure due to coeluting peak.

Batch 94168, Method 8015_DRO_S, Sample 23091124-02C: Surrogate failure due to coeluting peak.

Batch 94168, Method 8015_DRO_S, Sample 23100002-03AMS: Surrogate failure due to coeluting peak.

Batch 94168, Method 8015_DRO_S, Sample 23100002-03AMSD: Surrogate failure due to coeluting peak.

Batch 94168, Method 8015_DRO_S, Sample LCS-94168: Surrogate failure due to coeluting peak.

Batch 94168, Method 8015_DRO_S, Sample MBLK-94168: Surrogate failure due to coeluting peak.

Batch 94169, Method 8270_PAH_S, Sample 23090861-35AMS: Select matrix spike recoveries fall outside of quality control limits due to sample matrix interference.

Batch 94169, Method 8270_PAH_S, Sample 23090861-35AMSD: Select matrix spike recoveries fall outside of quality control limits due to sample matrix interference.

Batch 94197, Method 8015_DRO_S, Sample 23091124-03C: Surrogate failure due to

hydrocarbons.

Batch 94197, Method 8015_DRO_S, Sample 23091124-04C: Surrogate failure due to coeluting peak.

ALS Environmental

Date: *06-Oct-23*

Client: The Mannik & Smith Group
Project: Hillison Nut; MS23-13; ODAS0003-19 **Work Order:** 23091124
Sample ID: SB-23 (10-12) **Lab ID:** 23091124-01
Collection Date: 9/27/2023 10:00 AM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS AND OIL RANGE ORGANICS			**SW8015B**	Prep: SW3546 10/3/23 18:07		Analyst: **TME**
TPH C10-C20	**28**		**16**	**mg/Kg-dry**	1	10/4/2023 06:25 PM
TPH C20-C34	ND		16	mg/Kg-dry	1	10/4/2023 06:25 PM
Surr: Nonane	*129*	S	*26.1-85.7*	*%REC*	1	10/4/2023 06:25 PM
Surr: Pentacosane	*69.0*		*30.6-143*	*%REC*	1	10/4/2023 06:25 PM
GASOLINE RANGE ORGANICS (C6-C12)			**SW8015A**			Analyst: **JG**
TPH C6-C12	ND		2.4	mg/Kg-dry	1	10/3/2023 01:53 PM
Surr: Cyclooctane	*97.6*		*55-135*	*%REC*	1	10/3/2023 01:53 PM
MOISTURE			**SM2540B**			Analyst: **CS**
Moisture	**16**			**% of sample**	1	10/6/2023
LEAD BY ICP			**SW6010B**	Prep: SW3050B 10/5/23 13:40		Analyst: **JW**
Lead	**7.0**		**0.35**	**mg/Kg-dry**	1	10/6/2023 09:13 AM
PAH COMPOUNDS			**SW8270C**	Prep: SW3546 10/3/23 18:03		Analyst: **RA**
Benzo(a)anthracene	ND		0.12	mg/Kg-dry	1	10/4/2023 06:22 PM
Benzo(a)pyrene	ND		0.12	mg/Kg-dry	1	10/4/2023 06:22 PM
Benzo(b)fluoranthene	ND		0.24	mg/Kg-dry	1	10/4/2023 06:22 PM
Benzo(k)fluoranthene	ND		0.24	mg/Kg-dry	1	10/4/2023 06:22 PM
Chrysene	ND		0.24	mg/Kg-dry	1	10/4/2023 06:22 PM
Dibenzo(a,h)anthracene	ND		0.12	mg/Kg-dry	1	10/4/2023 06:22 PM
Indeno(1,2,3-cd)pyrene	ND		0.12	mg/Kg-dry	1	10/4/2023 06:22 PM
Naphthalene	ND		0.24	mg/Kg-dry	1	10/4/2023 06:22 PM
Surr: 2-Fluorobiphenyl	*88.3*		*30-116*	*%REC*	1	10/4/2023 06:22 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**			Analyst: **SK**
1,2,4-Trimethylbenzene	ND		0.0045	mg/Kg-dry	1	10/4/2023 03:09 PM
1,2-Dibromoethane	ND		0.00050	mg/Kg-dry	1	10/4/2023 03:09 PM
1,2-Dichloroethane	ND		0.0045	mg/Kg-dry	1	10/4/2023 03:09 PM
Benzene	ND		0.0045	mg/Kg-dry	1	10/4/2023 03:09 PM
Ethylbenzene	ND		0.0045	mg/Kg-dry	1	10/4/2023 03:09 PM
m,p-Xylene	ND		0.0045	mg/Kg-dry	1	10/4/2023 03:09 PM
Methyl tert-butyl ether	ND		0.0045	mg/Kg-dry	1	10/4/2023 03:09 PM
Naphthalene	ND		0.0045	mg/Kg-dry	1	10/4/2023 03:09 PM
o-Xylene	ND		0.0045	mg/Kg-dry	1	10/4/2023 03:09 PM
Toluene	ND		0.0045	mg/Kg-dry	1	10/4/2023 03:09 PM
Xylenes, Total	ND		0.0090	mg/Kg-dry	1	10/4/2023 03:09 PM
Surr: 4-Bromofluorobenzene	*105*		*60-140*	*%REC*	1	10/4/2023 03:09 PM
Surr: Dibromofluoromethane	*124*		*60-140*	*%REC*	1	10/4/2023 03:09 PM
Surr: Toluene-d8	*101*		*60-140*	*%REC*	1	10/4/2023 03:09 PM

Note:

ALS Environmental

Date: *06-Oct-23*

Client: The Mannik & Smith Group
Project: Hillison Nut; MS23-13; ODAS0003-19 **Work Order:** 23091124
Sample ID: SB-23 (12-15) **Lab ID:** 23091124-02
Collection Date: 9/27/2023 10:05 AM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS AND OIL RANGE ORGANICS			**SW8015B**	Prep: SW3546 10/3/23 18:07		Analyst: **TME**
TPH C10-C20	**22**		**16**	**mg/Kg-dry**	1	10/4/2023 06:42 PM
TPH C20-C34	ND		16	mg/Kg-dry	1	10/4/2023 06:42 PM
Surr: Nonane	*153*	S	*26.1-85.7*	*%REC*	1	10/4/2023 06:42 PM
Surr: Pentacosane	*67.1*		*30.6-143*	*%REC*	1	10/4/2023 06:42 PM
GASOLINE RANGE ORGANICS (C6-C12)			**SW8015A**			Analyst: **JG**
TPH C6-C12	ND		2.4	mg/Kg-dry	1	10/3/2023 02:18 PM
Surr: Cyclooctane	*93.3*		*55-135*	*%REC*	1	10/3/2023 02:18 PM
MOISTURE			**SM2540B**			Analyst: **CS**
Moisture	**17**			**% of sample**	1	10/6/2023
LEAD BY ICP			**SW6010B**	Prep: SW3050B 10/5/23 13:40		Analyst: **JW**
Lead	**5.6**		**0.36**	**mg/Kg-dry**	1	10/6/2023 09:17 AM
PAH COMPOUNDS			**SW8270C**	Prep: SW3546 10/3/23 18:03		Analyst: **RA**
Benzo(a)anthracene	ND		0.12	mg/Kg-dry	1	10/5/2023 06:03 PM
Benzo(a)pyrene	ND		0.12	mg/Kg-dry	1	10/5/2023 06:03 PM
Benzo(b)fluoranthene	ND		0.24	mg/Kg-dry	1	10/5/2023 06:03 PM
Benzo(k)fluoranthene	ND		0.24	mg/Kg-dry	1	10/5/2023 06:03 PM
Chrysene	ND		0.24	mg/Kg-dry	1	10/5/2023 06:03 PM
Dibenzo(a,h)anthracene	ND		0.12	mg/Kg-dry	1	10/5/2023 06:03 PM
Indeno(1,2,3-cd)pyrene	ND		0.12	mg/Kg-dry	1	10/5/2023 06:03 PM
Naphthalene	ND		0.24	mg/Kg-dry	1	10/5/2023 06:03 PM
Surr: 2-Fluorobiphenyl	*81.9*		*30-116*	*%REC*	1	10/5/2023 06:03 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**			Analyst: **SK**
1,2,4-Trimethylbenzene	ND		0.0048	mg/Kg-dry	1	10/4/2023 03:35 PM
1,2-Dibromoethane	ND		0.00054	mg/Kg-dry	1	10/4/2023 03:35 PM
1,2-Dichloroethane	ND		0.0048	mg/Kg-dry	1	10/4/2023 03:35 PM
Benzene	ND		0.0048	mg/Kg-dry	1	10/4/2023 03:35 PM
Ethylbenzene	ND		0.0048	mg/Kg-dry	1	10/4/2023 03:35 PM
m,p-Xylene	ND		0.0048	mg/Kg-dry	1	10/4/2023 03:35 PM
Methyl tert-butyl ether	ND		0.0048	mg/Kg-dry	1	10/4/2023 03:35 PM
Naphthalene	ND		0.0048	mg/Kg-dry	1	10/4/2023 03:35 PM
o-Xylene	ND		0.0048	mg/Kg-dry	1	10/4/2023 03:35 PM
Toluene	ND		0.0048	mg/Kg-dry	1	10/4/2023 03:35 PM
Xylenes, Total	ND		0.0096	mg/Kg-dry	1	10/4/2023 03:35 PM
Surr: 4-Bromofluorobenzene	*102*		*60-140*	*%REC*	1	10/4/2023 03:35 PM
Surr: Dibromofluoromethane	*120*		*60-140*	*%REC*	1	10/4/2023 03:35 PM
Surr: Toluene-d8	*101*		*60-140*	*%REC*	1	10/4/2023 03:35 PM

Note:

ALS Environmental

Date: *06-Oct-23*

Client: The Mannik & Smith Group
Project: Hillison Nut; MS23-13; ODAS0003-19
Work Order: 23091124
Sample ID: SB-24 (6-8)
Lab ID: 23091124-03
Collection Date: 9/27/2023 10:30 AM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS AND OIL RANGE ORGANICS			**SW8015B**	Prep: SW3546 10/5/23 11:23		Analyst: **TME**
TPH C10-C20	**6,300**		**1,500**	**mg/Kg-dry**	100	10/6/2023 01:40 PM
TPH C20-C34	**160**		**15**	**mg/Kg-dry**	1	10/5/2023 04:44 PM
Surr: Nonane	*3,190*	S	*26.1-85.7*	*%REC*	1	10/5/2023 04:44 PM
Surr: Pentacosane	*79.8*		*30.6-143*	*%REC*	1	10/5/2023 04:44 PM
GASOLINE RANGE ORGANICS (C6-C12)			**SW8015A**			Analyst: **JG**
TPH C6-C12	**4,100**		**220**	**mg/Kg-dry**	100	10/4/2023 03:44 PM
Surr: Cyclooctane	*98.9*		*55-135*	*%REC*	100	10/4/2023 03:44 PM
MOISTURE			**SM2540B**			Analyst: **CS**
Moisture	**9.0**			**% of sample**	1	10/6/2023
LEAD BY ICP			**SW6010B**	Prep: SW3050B 10/5/23 13:40		Analyst: **JW**
Lead	**25**		**0.33**	**mg/Kg-dry**	1	10/6/2023 09:22 AM
PAH COMPOUNDS			**SW8270C**	Prep: SW3546 10/5/23 11:23		Analyst: **RA**
Benzo(a)anthracene	ND		0.11	mg/Kg-dry	1	10/5/2023 04:10 PM
Benzo(a)pyrene	ND		0.11	mg/Kg-dry	1	10/5/2023 04:10 PM
Benzo(b)fluoranthene	ND		0.22	mg/Kg-dry	1	10/5/2023 04:10 PM
Benzo(k)fluoranthene	ND		0.22	mg/Kg-dry	1	10/5/2023 04:10 PM
Chrysene	ND		0.22	mg/Kg-dry	1	10/5/2023 04:10 PM
Dibenzo(a,h)anthracene	ND		0.11	mg/Kg-dry	1	10/5/2023 04:10 PM
Indeno(1,2,3-cd)pyrene	ND		0.11	mg/Kg-dry	1	10/5/2023 04:10 PM
Naphthalene	**38**		**4.4**	**mg/Kg-dry**	20	10/6/2023 02:24 PM
Surr: 2-Fluorobiphenyl	*74.2*		*30-116*	*%REC*	1	10/5/2023 04:10 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**			Analyst: **SK**
1,2,4-Trimethylbenzene	**120**		**5.5**	**mg/Kg-dry**	1000	10/5/2023 02:24 PM
1,2-Dibromoethane	ND		0.031	mg/Kg-dry	50	10/4/2023 04:02 PM
1,2-Dichloroethane	ND		0.27	mg/Kg-dry	50	10/4/2023 04:02 PM
Benzene	ND		0.27	mg/Kg-dry	50	10/4/2023 04:02 PM
Ethylbenzene	**4.9**		**0.27**	**mg/Kg-dry**	50	10/4/2023 04:02 PM
m,p-Xylene	**20**		**0.27**	**mg/Kg-dry**	50	10/4/2023 04:02 PM
Methyl tert-butyl ether	ND		0.27	mg/Kg-dry	50	10/4/2023 04:02 PM
Naphthalene	**36**		**5.5**	**mg/Kg-dry**	1000	10/5/2023 02:24 PM
o-Xylene	**11**		**0.27**	**mg/Kg-dry**	50	10/4/2023 04:02 PM
Toluene	ND		0.27	mg/Kg-dry	50	10/4/2023 04:02 PM
Xylenes, Total	**31**		**0.55**	**mg/Kg-dry**	50	10/4/2023 04:02 PM
Surr: 4-Bromofluorobenzene	*170*	S	*60-140*	*%REC*	50	10/4/2023 04:02 PM
Surr: Dibromofluoromethane	*99.6*		*60-140*	*%REC*	50	10/4/2023 04:02 PM
Surr: Toluene-d8	*115*		*60-140*	*%REC*	50	10/4/2023 04:02 PM

Note:

ALS Environmental

Date: *06-Oct-23*

Client: The Mannik & Smith Group
Project: Hillison Nut; MS23-13; ODAS0003-19 **Work Order:** 23091124
Sample ID: SB-24 (10-12) **Lab ID:** 23091124-04
Collection Date: 9/27/2023 10:35 AM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS AND OIL RANGE ORGANICS			**SW8015B**	Prep: SW3546 10/5/23 11:23		Analyst: **TME**
TPH C10-C20	**35**		**16**	**mg/Kg-dry**	1	10/5/2023 05:01 PM
TPH C20-C34	**32**		**16**	**mg/Kg-dry**	1	10/5/2023 05:01 PM
Surr: Nonane	*110*	S	*26.1-85.7*	*%REC*	1	10/5/2023 05:01 PM
Surr: Pentacosane	*82.0*		*30.6-143*	*%REC*	1	10/5/2023 05:01 PM
GASOLINE RANGE ORGANICS (C6-C12)			**SW8015A**			Analyst: **JG**
TPH C6-C12	**3.8**		**2.4**	**mg/Kg-dry**	1	10/3/2023 03:10 PM
Surr: Cyclooctane	*93.4*		*55-135*	*%REC*	1	10/3/2023 03:10 PM
MOISTURE			**SM2540B**			Analyst: **CS**
Moisture	**17**			**% of sample**	1	10/6/2023
LEAD BY ICP			**SW6010B**	Prep: SW3050B 10/5/23 13:40		Analyst: **JW**
Lead	**4.5**		**0.35**	**mg/Kg-dry**	1	10/6/2023 09:26 AM
PAH COMPOUNDS			**SW8270C**	Prep: SW3546 10/5/23 11:23		Analyst: **RA**
Benzo(a)anthracene	ND		0.12	mg/Kg-dry	1	10/5/2023 04:26 PM
Benzo(a)pyrene	ND		0.12	mg/Kg-dry	1	10/5/2023 04:26 PM
Benzo(b)fluoranthene	ND		0.24	mg/Kg-dry	1	10/5/2023 04:26 PM
Benzo(k)fluoranthene	ND		0.24	mg/Kg-dry	1	10/5/2023 04:26 PM
Chrysene	ND		0.24	mg/Kg-dry	1	10/5/2023 04:26 PM
Dibenzo(a,h)anthracene	ND		0.12	mg/Kg-dry	1	10/5/2023 04:26 PM
Indeno(1,2,3-cd)pyrene	ND		0.12	mg/Kg-dry	1	10/5/2023 04:26 PM
Naphthalene	ND		0.24	mg/Kg-dry	1	10/5/2023 04:26 PM
Surr: 2-Fluorobiphenyl	*82.6*		*30-116*	*%REC*	1	10/5/2023 04:26 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**			Analyst: **SK**
1,2,4-Trimethylbenzene	**0.043**		**0.0060**	**mg/Kg-dry**	1	10/6/2023 01:01 PM
1,2-Dibromoethane	ND		0.00068	mg/Kg-dry	1	10/6/2023 01:01 PM
1,2-Dichloroethane	ND		0.0060	mg/Kg-dry	1	10/6/2023 01:01 PM
Benzene	ND		0.0060	mg/Kg-dry	1	10/6/2023 01:01 PM
Ethylbenzene	ND		0.0060	mg/Kg-dry	1	10/6/2023 01:01 PM
m,p-Xylene	ND		0.0060	mg/Kg-dry	1	10/6/2023 01:01 PM
Methyl tert-butyl ether	ND		0.0060	mg/Kg-dry	1	10/6/2023 01:01 PM
Naphthalene	**0.021**		**0.0060**	**mg/Kg-dry**	1	10/6/2023 01:01 PM
o-Xylene	ND		0.0060	mg/Kg-dry	1	10/6/2023 01:01 PM
Toluene	ND		0.0060	mg/Kg-dry	1	10/6/2023 01:01 PM
Xylenes, Total	ND		0.012	mg/Kg-dry	1	10/6/2023 01:01 PM
Surr: 4-Bromofluorobenzene	*98.1*		*60-140*	*%REC*	1	10/6/2023 01:01 PM
Surr: Dibromofluoromethane	*115*		*60-140*	*%REC*	1	10/6/2023 01:01 PM
Surr: Toluene-d8	*125*		*60-140*	*%REC*	1	10/6/2023 01:01 PM

Note:

ALS Environmental

Date: 06-Oct-23

Client: The Mannik & Smith Group

QC BATCH REPORT

Work Order: 23091124

Project: Hillison Nut; MS23-13; ODAS0003-19

Batch ID: **94168** Instrument ID **GC10** Method: **SW8015B**

MBLK Sample ID: **MBLK-94168-94168** Units: **mg/Kg** Analysis Date: **10/4/2023 12:09 PM**

Client ID: Run ID: **GC10_231004D** SeqNo: **3189476** Prep Date: **10/3/2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Diesel (total)	ND	13								
TPH C10-C20	ND	13								
TPH C20-C34	ND	13								
Surr: Nonane	*4.647*	0	*3.333*	0	*139*	*26.1-85.7*	0			*S*
Surr: Pentacosane	*2.482*	0	*3.333*	0	*74.5*	*30.6-143*	0			

LCS Sample ID: **LCS-94168-94168** Units: **mg/Kg** Analysis Date: **10/4/2023 12:26 PM**

Client ID: Run ID: **GC10_231004D** SeqNo: **3189477** Prep Date: **10/3/2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Diesel (total)	23.96	13	33.33	0	71.9	35.6-118	0			
Surr: Nonane	*4.623*	0	*3.333*	0	*139*	*26.1-85.7*	0			*S*
Surr: Pentacosane	*2.343*	0	*3.333*	0	*70.3*	*30.6-143*	0			

MS Sample ID: **23100002-03AMS** Units: **mg/Kg** Analysis Date: **10/4/2023 12:43 PM**

Client ID: Run ID: **GC10_231004D** SeqNo: **3189478** Prep Date: **10/3/2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Diesel (total)	24.96	13	33.31	0	74.9	15.3-133	0			
Surr: Nonane	*4.87*	0	*3.331*	0	*146*	*26.1-85.7*	0			*S*
Surr: Pentacosane	*2.285*	0	*3.331*	0	*68.6*	*30.6-143*	0			

MSD Sample ID: **23100002-03AMSD** Units: **mg/Kg** Analysis Date: **10/4/2023 01:00 PM**

Client ID: Run ID: **GC10_231004D** SeqNo: **3189479** Prep Date: **10/3/2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Diesel (total)	25.08	13	33.33	0	75.2	15.3-133	24.96	0.447	21	
Surr: Nonane	*4.45*	0	*3.333*	0	*134*	*26.1-85.7*	4.87	*9.03*		*S*
Surr: Pentacosane	*2.235*	0	*3.333*	0	*67*	*30.6-143*	2.285	*2.23*		

The following samples were analyzed in this batch: 23091124-01C 23091124-02C

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group
Work Order: 23091124
Project: Hillison Nut; MS23-13; ODAS0003-19

QC BATCH REPORT

Batch ID: **94197** Instrument ID **GC10** Method: **SW8015B**

MBLK Sample ID: **MBLK-94147-94197** Units: **mg/L** Analysis Date: **10/5/2023 10:28 PM**
Client ID: Run ID: **GC10_231005B** SeqNo: **3191153** Prep Date: **10/2/2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Diesel (total)	ND	0.13								
TPH C10-C20	ND	0.13								
TPH C20-C34	ND	0.13								
Surr: Nonane	*0.05415*	0	*0.05*	0	*108*	*20-108*	0			*S*
Surr: Pentacosane	*0.04217*	0	*0.05*	0	*84.3*	*1.45-170*	0			

LCS Sample ID: **LCS-94147-94197** Units: **mg/L** Analysis Date: **10/5/2023 10:45 PM**
Client ID: Run ID: **GC10_231005B** SeqNo: **3191154** Prep Date: **10/2/2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Diesel (total)	0.3376	0.13	0.5	0	67.5	25-156	0			
Surr: Nonane	*0.05375*	0	*0.05*	0	*108*	*13.9-90.6*	0			*S*
Surr: Pentacosane	*0.04006*	0	*0.05*	0	*80.1*	*1.45-170*	0			

MS Sample ID: **23091129-04BMS** Units: **mg/Kg** Analysis Date: **10/5/2023 12:00 PM**
Client ID: Run ID: **GC10_231005B** SeqNo: **3191819** Prep Date: **10/5/2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Diesel (total)	25.82	13	33.27	0	77.6	15.3-133	0			
Surr: Nonane	*3.195*	0	*3.326*	0	*96.1*	*26.1-85.7*	0			*S*
Surr: Pentacosane	*2.171*	0	*3.326*	0	*65.3*	*30.6-143*	0			

MSD Sample ID: **23091129-04BMSD** Units: **mg/Kg** Analysis Date: **10/5/2023 12:18 PM**
Client ID: Run ID: **GC10_231005B** SeqNo: **3191821** Prep Date: **10/5/2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Diesel (total)	25.86	13	33.4	0	77.4	15.3-133	25.82	0.153	21	
Surr: Nonane	*3.23*	0	*3.34*	0	*96.7*	*26.1-85.7*	3.195	*1.08*		*S*
Surr: Pentacosane	*2.185*	0	*3.34*	0	*65.4*	*30.6-143*	2.171	*0.66*		

The following samples were analyzed in this batch: 23091124-03C 23091124-04C

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group
Work Order: 23091124
Project: Hillison Nut; MS23-13; ODAS0003-19

QC BATCH REPORT

Batch ID: **R221664** Instrument ID **GC6** Method: **SW8015A**

MBLK	Sample ID: **MBLK-R221664**			Units: **mg/Kg**			Analysis Date: **10/3/2023 12:28 PM**			
Client ID:	Run ID: **GC6_231003A**			SeqNo: **3187586**		Prep Date:		DF: **1**		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
TPH C6-C12	ND	2.0								
Surr: Cyclooctane	*476.1*	0	*500*	0	*95.2*	*55-135*	0			

LCS	Sample ID: **LCS-R221664**			Units: **mg/Kg**			Analysis Date: **10/3/2023 11:12 AM**			
Client ID:	Run ID: **GC6_231003A**			SeqNo: **3187583**		Prep Date:		DF: **1**		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
TPH C6-C12	14.21	2.0	20	0	71	57.2-164	0			
Surr: Cyclooctane	*482.8*	0	*500*	0	*96.6*	*55-135*	0			

MS	Sample ID: **23091037-08A MS**			Units: **mg/Kg**			Analysis Date: **10/3/2023 11:37 AM**			
Client ID:	Run ID: **GC6_231003A**			SeqNo: **3187584**		Prep Date:		DF: **1**		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
TPH C6-C12	12.38	2.0	20	0	61.9	42.3-144	0			
Surr: Cyclooctane	*512*	0	*500*	0	*102*	*55-135*	0			

MSD	Sample ID: **23091037-08A MSD**			Units: **mg/Kg**			Analysis Date: **10/3/2023 12:03 PM**			
Client ID:	Run ID: **GC6_231003A**			SeqNo: **3187585**		Prep Date:		DF: **1**		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
TPH C6-C12	11.16	2.0	20	0	55.8	42.3-144	12.38	10.4	15.7	
Surr: Cyclooctane	*436.7*	0	*500*	0	*87.3*	*55-135*	512	*15.9*		

The following samples were analyzed in this batch: 23091124-01B 23091124-02B 23091124-04B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group
Work Order: 23091124
Project: Hillison Nut; MS23-13; ODAS0003-19

QC BATCH REPORT

Batch ID: **R221720** Instrument ID **GC6** Method: **SW8015A**

MBLK Sample ID: **MBLK-R221720** Units: **mg/Kg** Analysis Date: **10/4/2023 02:53 PM**
Client ID: Run ID: **GC6_231004B** SeqNo: **3189127** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
TPH C6-C12	ND	2.0								
Surr: Cyclooctane	*471.3*	0	*500*	0	*94.3*	*55-135*	0			

LCS Sample ID: **LCS-R221720** Units: **mg/Kg** Analysis Date: **10/4/2023 01:36 PM**
Client ID: Run ID: **GC6_231004B** SeqNo: **3189124** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
TPH C6-C12	15.88	2.0	20	0	79.4	57.2-164	0			
Surr: Cyclooctane	*498.9*	0	*500*	0	*99.8*	*55-135*	0			

MS Sample ID: **23091138-11B MS** Units: **mg/Kg** Analysis Date: **10/4/2023 02:02 PM**
Client ID: Run ID: **GC6_231004B** SeqNo: **3189125** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
TPH C6-C12	11.52	2.0	20	0	57.6	42.3-144	0			
Surr: Cyclooctane	*431.9*	0	*500*	0	*86.4*	*55-135*	0			

MSD Sample ID: **23091138-11B MSD** Units: **mg/Kg** Analysis Date: **10/4/2023 02:28 PM**
Client ID: Run ID: **GC6_231004B** SeqNo: **3189126** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
TPH C6-C12	12.01	2.0	20	0	60	42.3-144	11.52	4.16	15.7	
Surr: Cyclooctane	*455.7*	0	*500*	0	*91.1*	*55-135*	431.9	*5.34*		

The following samples were analyzed in this batch: 23091124-03B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group
Work Order: 23091124
Project: Hillison Nut; MS23-13; ODAS0003-19

QC BATCH REPORT

Batch ID: **94245** Instrument ID **ICP3** Method: **SW6010B**

MBLK	Sample ID: **MBLK-94245-94245**				Units: **mg/Kg**			Analysis Date: **10/6/2023 09:00 AM**		
Client ID:	Run ID: **ICP3_231006A**				SeqNo: **3190942**			Prep Date: **10/5/2023**		DF: **1**
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	ND	1.5								

LCS	Sample ID: **LCS-94245-94245**				Units: **mg/Kg**			Analysis Date: **10/6/2023 11:44 AM**		
Client ID:	Run ID: **ICP3_231006B**				SeqNo: **3191170**			Prep Date: **10/5/2023**		DF: **1**
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	2302	0.30	3245	0	70.9	70.1-121	0			

MS	Sample ID: **23091155-05B MS**				Units: **mg/Kg**			Analysis Date: **10/6/2023 10:26 AM**		
Client ID:	Run ID: **ICP3_231006A**				SeqNo: **3190960**			Prep Date: **10/5/2023**		DF: **1**
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	100.3	0.30	98.99	11.26	89.9	70-130	0			

MSD	Sample ID: **23091155-05B MSD**				Units: **mg/Kg**			Analysis Date: **10/6/2023 10:30 AM**		
Client ID:	Run ID: **ICP3_231006A**				SeqNo: **3190961**			Prep Date: **10/5/2023**		DF: **1**
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	97.59	0.30	98.89	11.26	87.3	62.3-133	100.3	2.72	20	

The following samples were analyzed in this batch:

23091124-01C 23091124-02C 23091124-03C
23091124-04C

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group
Work Order: 23091124
Project: Hillison Nut; MS23-13; ODAS0003-19

QC BATCH REPORT

Batch ID: **94169** Instrument ID **SVMS1** Method: **SW8270C**

MBLK Sample ID: **MBLK-94169-94169** Units: **µg/Kg** Analysis Date: **10/4/2023 03:53 PM**
Client ID: Run ID: **SVMS1_231004A** SeqNo: **3189650** Prep Date: **10/3/2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzo(a)anthracene	ND	100								
Benzo(a)pyrene	ND	100								
Benzo(b)fluoranthene	ND	200								
Benzo(k)fluoranthene	ND	200								
Chrysene	ND	200								
Dibenzo(a,h)anthracene	ND	100								
Indeno(1,2,3-cd)pyrene	ND	100								
Naphthalene	ND	200								
Surr: 2-Fluorobiphenyl	*3039*	0	*3330*	0	*91.2*	*30-116*	0			

LCS Sample ID: **LCS-94169-94169** Units: **µg/Kg** Analysis Date: **10/4/2023 04:08 PM**
Client ID: Run ID: **SVMS1_231004A** SeqNo: **3189651** Prep Date: **10/3/2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzo(a)anthracene	3188	100	3330	0	95.7	48-121	0			
Benzo(a)pyrene	3312	100	3330	0	99.5	40.1-114	0			
Benzo(b)fluoranthene	3158	200	3330	0	94.8	44-115	0			
Benzo(k)fluoranthene	3255	200	3330	0	97.7	39.5-116	0			
Chrysene	3245	200	3330	0	97.4	49.2-115	0			
Dibenzo(a,h)anthracene	3254	100	3330	0	97.7	41.7-123	0			
Indeno(1,2,3-cd)pyrene	3228	100	3330	0	97	41.1-124	0			
Naphthalene	2894	200	3330	0	86.9	42.5-103	0			
Surr: 2-Fluorobiphenyl	*3049*	0	*3330*	0	*91.6*	*30-116*	0			

MS Sample ID: **23090861-35AMS** Units: **µg/Kg** Analysis Date: **10/4/2023 04:23 PM**
Client ID: Run ID: **SVMS1_231004A** SeqNo: **3189652** Prep Date: **10/3/2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzo(a)anthracene	2440	100	3343	117	69.5	47-114	0			
Benzo(a)pyrene	2166	100	3343	165.5	59.8	43.8-115	0			
Benzo(b)fluoranthene	1938	200	3343	169.5	52.9	40-106	0			
Benzo(k)fluoranthene	2312	200	3343	100.9	66.1	48.6-107	0			
Chrysene	2618	200	3343	220.7	71.7	18.8-140	0			
Dibenzo(a,h)anthracene	1176	100	3343	21.99	34.5	46-116	0			S
Indeno(1,2,3-cd)pyrene	1189	100	3343	57.02	33.9	33-115	0			
Naphthalene	1699	200	3343	0	50.8	18.2-126	0			
Surr: 2-Fluorobiphenyl	*1826*	0	*3343*	0	*54.6*	*30-116*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group
Work Order: 23091124
Project: Hillison Nut; MS23-13; ODAS0003-19

QC BATCH REPORT

Batch ID: **94169** Instrument ID **SVMS1** Method: **SW8270C**

MSD Sample ID: **23090861-35AMSD** Units: **µg/Kg** Analysis Date: **10/4/2023 04:38 PM**
Client ID: Run ID: **SVMS1_231004A** SeqNo: **3189653** Prep Date: **10/3/2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzo(a)anthracene	2592	100	3323	117	74.5	47-114	2440	6.04	21	
Benzo(a)pyrene	2160	100	3323	165.5	60	43.8-115	2166	0.286	20	
Benzo(b)fluoranthene	1915	200	3323	169.5	52.5	40-106	1938	1.22	20	
Benzo(k)fluoranthene	2615	200	3323	100.9	75.7	48.6-107	2312	12.3	20	
Chrysene	2928	200	3323	220.7	81.5	18.8-140	2618	11.2	19	
Dibenzo(a,h)anthracene	1397	100	3323	21.99	41.4	46-116	1176	17.2	20	S
Indeno(1,2,3-cd)pyrene	1456	100	3323	57.02	42.1	33-115	1189	20.2	20	R
Naphthalene	1706	200	3323	0	51.3	18.2-126	1699	0.387	20	
Surr: 2-Fluorobiphenyl	*1846*	0	*3323*	0	*55.5*	*30-116*	1826	*1.09*		

The following samples were analyzed in this batch: 23091124-01C 23091124-02C

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group
Work Order: 23091124
Project: Hillison Nut; MS23-13; ODAS0003-19

QC BATCH REPORT

Batch ID: **94198** Instrument ID **SVMS1** Method: **SW8270C**

MBLK Sample ID: **MBLK-94198-94198** Units: **µg/Kg** Analysis Date: **10/5/2023 12:41 PM**
Client ID: Run ID: **SVMS1_231005A** SeqNo: **3189901** Prep Date: **10/5/2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzo(a)anthracene	ND	100								
Benzo(a)pyrene	8.333	100								J
Benzo(b)fluoranthene	ND	200								
Benzo(k)fluoranthene	ND	200								
Chrysene	ND	200								
Dibenzo(a,h)anthracene	ND	100								
Indeno(1,2,3-cd)pyrene	ND	100								
Naphthalene	ND	200								
Surr: 2-Fluorobiphenyl	*2542*	0	*3330*	0	*76.3*	*30-116*	0			

LCS Sample ID: **LCS-94198-94198** Units: **µg/Kg** Analysis Date: **10/5/2023 12:56 PM**
Client ID: Run ID: **SVMS1_231005A** SeqNo: **3189902** Prep Date: **10/5/2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzo(a)anthracene	2525	100	3330	0	75.8	48-121	0			
Benzo(a)pyrene	2997	100	3330	0	90	40.1-114	0			
Benzo(b)fluoranthene	2694	200	3330	0	80.9	44-115	0			
Benzo(k)fluoranthene	2767	200	3330	0	83.1	39.5-116	0			
Chrysene	2564	200	3330	0	77	49.2-115	0			
Dibenzo(a,h)anthracene	3233	100	3330	0	97.1	41.7-123	0			
Indeno(1,2,3-cd)pyrene	3193	100	3330	0	95.9	41.1-124	0			
Naphthalene	2672	200	3330	0	80.2	42.5-103	0			
Surr: 2-Fluorobiphenyl	*2679*	0	*3330*	0	*80.4*	*30-116*	0			

MS Sample ID: **23091129-04BMS** Units: **µg/Kg** Analysis Date: **10/5/2023 01:11 PM**
Client ID: Run ID: **SVMS1_231005A** SeqNo: **3189903** Prep Date: **10/5/2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzo(a)anthracene	2023	100	3328	0	60.8	47-114	0			
Benzo(a)pyrene	2543	100	3328	0	76.4	43.8-115	0			
Benzo(b)fluoranthene	2295	200	3328	0	69	40-106	0			
Benzo(k)fluoranthene	2357	200	3328	0	70.8	48.6-107	0			
Chrysene	2058	200	3328	0	61.8	18.8-140	0			
Dibenzo(a,h)anthracene	2761	100	3328	0	83	46-116	0			
Indeno(1,2,3-cd)pyrene	2781	100	3328	0	83.6	33-115	0			
Naphthalene	2458	200	3328	0	73.9	18.2-126	0			
Surr: 2-Fluorobiphenyl	*2570*	0	*3328*	0	*77.2*	*30-116*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group
Work Order: 23091124
Project: Hillison Nut; MS23-13; ODAS0003-19

QC BATCH REPORT

Batch ID: **94198** Instrument ID **SVMS1** Method: **SW8270C**

MSD Sample ID: **23091129-04BMSD** Units: **µg/Kg** Analysis Date: **10/5/2023 01:25 PM**

Client ID: Run ID: **SVMS1_231005A** SeqNo: **3189904** Prep Date: **10/5/2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzo(a)anthracene	2338	100	3321	0	70.4	47-114	2023	14.4	21	
Benzo(a)pyrene	2867	100	3321	0	86.3	43.8-115	2543	12	20	
Benzo(b)fluoranthene	2574	200	3321	0	77.5	40-106	2295	11.5	20	
Benzo(k)fluoranthene	2616	200	3321	0	78.8	48.6-107	2357	10.4	20	
Chrysene	2406	200	3321	0	72.4	18.8-140	2058	15.6	19	
Dibenzo(a,h)anthracene	3029	100	3321	0	91.2	46-116	2761	9.25	20	
Indeno(1,2,3-cd)pyrene	2979	100	3321	0	89.7	33-115	2781	6.88	20	
Naphthalene	2510	200	3321	0	75.6	18.2-126	2458	2.1	20	
Surr: 2-Fluorobiphenyl	*2524*	0	*3321*	0	*76*	*30-116*	2570	*1.83*		

The following samples were analyzed in this batch: 23091124-03C 23091124-04C

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group
Work Order: 23091124
Project: Hillison Nut; MS23-13; ODAS0003-19

QC BATCH REPORT

Batch ID: **R221728** Instrument ID **VMS2** Method: **SW8260B**

MBLK	Sample ID: **MBLK-R221728**				Units: **µg/Kg**			Analysis Date: **10/4/2023 09:05 AM**		
Client ID:		Run ID: **VMS2_231004B**			SeqNo: **3189367**		Prep Date:		DF: **1**	

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	ND	5.0								
1,1,1-Trichloroethane	ND	5.0								
1,1,2,2-Tetrachloroethane	ND	5.0								
1,1,2-Trichloroethane	ND	5.0								
1,1-Dichloroethane	ND	5.0								
1,1-Dichloroethene	ND	5.0								
1,1-Dichloropropene	ND	5.0								
1,2,3-Trichlorobenzene	ND	5.0								
1,2,3-Trichloropropane	ND	5.0								
1,2,4-Trichlorobenzene	ND	5.0								
1,2,4-Trimethylbenzene	ND	5.0								
1,2-Dibromo-3-chloropropane	ND	5.0								
1,2-Dibromoethane	ND	5.0								
1,2-Dichlorobenzene	ND	5.0								
1,2-Dichloroethane	ND	5.0								
1,2-Dichloropropane	ND	5.0								
1,3,5-Trimethylbenzene	ND	5.0								
1,3-Dichlorobenzene	ND	5.0								
1,3-Dichloropropane	ND	5.0								
1,4-Dichlorobenzene	ND	5.0								
2,2-Dichloropropane	ND	5.0								
2-Butanone	ND	50								
2-Chlorotoluene	ND	5.0								
2-Hexanone	ND	5.0								
4-Chlorotoluene	ND	5.0								
4-Methyl-2-pentanone	ND	5.0								
Acetone	ND	50								
Benzene	ND	5.0								
Bromobenzene	ND	5.0								
Bromochloromethane	ND	5.0								
Bromodichloromethane	ND	5.0								
Bromoform	ND	5.0								
Bromomethane	ND	5.0								
Carbon disulfide	ND	5.0								
Carbon tetrachloride	ND	5.0								
Chlorobenzene	ND	5.0								
Chloroethane	ND	5.0								
Chloroform	ND	5.0								
Chloromethane	ND	5.0								
cis-1,2-Dichloroethene	ND	5.0								
cis-1,3-Dichloropropene	ND	5.0								
Dibromochloromethane	ND	5.0								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **R221728** Instrument ID **VMS2** Method: **SW8260B**

Dibromomethane	ND	5.0					
Dichlorodifluoromethane	ND	5.0					
Ethylbenzene	ND	5.0					
Hexachlorobutadiene	ND	5.0					
Isopropylbenzene	ND	5.0					
m,p-Xylene	ND	5.0					
Methyl tert-butyl ether	ND	5.0					
Methylene chloride	ND	20					
Naphthalene	ND	5.0					
n-Butylbenzene	ND	5.0					
n-Propylbenzene	ND	5.0					
o-Xylene	ND	5.0					
p-Isopropyltoluene	ND	5.0					
sec-Butylbenzene	ND	5.0					
Styrene	ND	5.0					
tert-Butylbenzene	ND	5.0					
Tetrachloroethene	ND	5.0					
Toluene	ND	5.0					
trans-1,2-Dichloroethene	ND	5.0					
trans-1,3-Dichloropropene	ND	5.0					
Trichloroethene	ND	5.0					
Trichlorofluoromethane	ND	5.0					
Vinyl chloride	ND	5.0					
Xylenes, Total	ND	10					
Surr: 4-Bromofluorobenzene	*48.73*	0	*50*	0	*97.5*	*60-140*	0
Surr: Dibromofluoromethane	*58.68*	0	*50*	0	*117*	*60-140*	0
Surr: Toluene-d8	*52.07*	0	*50*	0	*104*	*60-140*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group
Work Order: 23091124
Project: Hillison Nut; MS23-13; ODAS0003-19

QC BATCH REPORT

Batch ID: **R221728** Instrument ID **VMS2** Method: **SW8260B**

LCS	Sample ID: **LCS-R221728**				Units: **µg/Kg**			Analysis Date: **10/4/2023 07:44 AM**		
Client ID:		Run ID: **VMS2_231004B**			SeqNo: **3189361**	Prep Date:		DF: **1**		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	39.68	5.0	50	0	79.4	53.6-149	0			
1,1-Dichloroethene	37.81	5.0	50	0	75.6	38.8-176	0			
1,2-Dichloroethane	37.55	5.0	50	0	75.1	54.4-145	0			
1,3-Dichlorobenzene	36.59	5.0	50	0	73.2	54.2-137	0			
1,4-Dichlorobenzene	38.08	5.0	50	0	76.2	52.8-135	0			
Benzene	37.18	5.0	50	0	74.4	56-148	0			
Carbon tetrachloride	41.17	5.0	50	0	82.3	51.9-151	0			
Chlorobenzene	34.76	5.0	50	0	69.5	55.4-137	0			
Chloroform	38.56	5.0	50	0	77.1	51.1-147	0			
cis-1,2-Dichloroethene	36.26	5.0	50	0	72.5	47.6-149	0			
Ethylbenzene	36.31	5.0	50	0	72.6	55.8-142	0			
m,p-Xylene	74.64	5.0	100	0	74.6	57.6-141	0			
Styrene	36.45	5.0	50	0	72.9	59.6-143	0			
Tetrachloroethene	29.42	5.0	50	0	58.8	56.2-160	0			
Toluene	37.63	5.0	50	0	75.3	56-143	0			
Trichloroethene	37.23	5.0	50	0	74.5	56.5-143	0			
Surr: 4-Bromofluorobenzene	*47.66*	0	*50*	0	*95.3*	*60-140*	0			
Surr: Dibromofluoromethane	*51.78*	0	*50*	0	*104*	*60-140*	0			
Surr: Toluene-d8	*50.74*	0	*50*	0	*101*	*60-140*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group
Work Order: 23091124
Project: Hillison Nut; MS23-13; ODAS0003-19

QC BATCH REPORT

Batch ID: **R221728** Instrument ID **VMS2** Method: **SW8260B**

MS Sample ID: **23091122-11 MS** Units: **µg/Kg** Analysis Date: **10/4/2023 08:14 AM**
Client ID: Run ID: **VMS2_231004B** SeqNo: **3189363** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	42.19	5.0	50	0	84.4	66.9-140	0			
1,1-Dichloroethene	40.57	5.0	50	0	81.1	41.4-161	0			
1,2-Dichloroethane	41.05	5.0	50	0	82.1	58.9-137	0			
1,3-Dichlorobenzene	39	5.0	50	0	78	42.5-150	0			
1,4-Dichlorobenzene	40.64	5.0	50	0	81.3	52.1-137	0			
Benzene	39.75	5.0	50	0	79.5	35.8-162	0			
Carbon tetrachloride	43.86	5.0	50	0	87.7	53.2-137	0			
Chlorobenzene	37.69	5.0	50	0	75.4	65.6-137	0			
Chloroform	41.14	5.0	50	0	82.3	58-130	0			
cis-1,2-Dichloroethene	38.73	5.0	50	0	77.5	52.9-138	0			
Ethylbenzene	38.57	5.0	50	0	77.1	57.5-134	0			
m,p-Xylene	79.05	5.0	100	0	79	56.4-135	0			
Styrene	39.14	5.0	50	0	78.3	60.9-135	0			
Tetrachloroethene	31.58	5.0	50	0	63.2	28.3-109	0			
Toluene	40.35	5.0	50	0	80.7	67.7-135	0			
Trichloroethene	40.31	5.0	50	0	80.6	56.5-136	0			
Surr: 4-Bromofluorobenzene	*48.89*	0	*50*	0	*97.8*	*60-140*	0			
Surr: Dibromofluoromethane	*51.71*	0	*50*	0	*103*	*60-140*	0			
Surr: Toluene-d8	*50.75*	0	*50*	0	*102*	*60-140*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group
Work Order: 23091124
Project: Hillison Nut; MS23-13; ODAS0003-19

QC BATCH REPORT

Batch ID: **R221728** Instrument ID **VMS2** Method: **SW8260B**

MSD	Sample ID: **23091122-11A MSD**				Units: **µg/Kg**			Analysis Date: **10/4/2023 08:39 AM**	
Client ID:	Run ID: **VMS2_231004B**				SeqNo: **3189365**	Prep Date:		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	48.14	5.0	50	0	96.3	66.9-140	0			
1,1-Dichloroethene	45.83	5.0	50	0	91.7	41.4-161	0			
1,2-Dichloroethane	46.48	5.0	50	0	93	58.9-137	0			
1,3-Dichlorobenzene	45.11	5.0	50	0	90.2	42.5-150	0			
1,4-Dichlorobenzene	47.02	5.0	50	0	94	52.1-137	0			
Benzene	46.36	5.0	50	0	92.7	35.8-162	0			
Carbon tetrachloride	50.24	5.0	50	0	100	53.2-137	0			
Chlorobenzene	44.44	5.0	50	0	88.9	65.6-137	0			
Chloroform	46.5	5.0	50	0	93	58-130	0			
cis-1,2-Dichloroethene	45.15	5.0	50	0	90.3	52.9-138	0			
Ethylbenzene	46.12	5.0	50	0	92.2	57.5-134	0			
m,p-Xylene	94.97	5.0	100	0	95	56.4-135	0			
Styrene	46.2	5.0	50	0	92.4	60.9-135	0			
Tetrachloroethene	37.37	5.0	50	0	74.7	28.3-109	0			
Toluene	46.88	5.0	50	0	93.8	67.7-135	0			
Trichloroethene	46.57	5.0	50	0	93.1	56.5-136	0			
Surr: 4-Bromofluorobenzene	*47.65*	0	*50*	0	*95.3*	*60-140*	0			
Surr: Dibromofluoromethane	*49.56*	0	*50*	0	*99.1*	*60-140*	0			
Surr: Toluene-d8	*50.26*	0	*50*	0	*101*	*60-140*	0			

The following samples were analyzed in this batch: 23091124-01A 23091124-02A 23091124-03A 23091124-04A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **R221811** Instrument ID **VMS5** Method: **SW8260B**

MBLK	Sample ID: **MBLK-R221811**				Units: **µg/Kg**		Analysis Date: **10/5/2023 11:22 AM**			
Client ID:		Run ID: **VMS5_231005B**			SeqNo: **3190994**		Prep Date:		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	ND	5.0								
1,1,1-Trichloroethane	ND	5.0								
1,1,2,2-Tetrachloroethane	ND	5.0								
1,1,2-Trichloroethane	ND	5.0								
1,1-Dichloroethane	ND	5.0								
1,1-Dichloroethene	ND	5.0								
1,1-Dichloropropene	ND	5.0								
1,2,3-Trichlorobenzene	ND	5.0								
1,2,3-Trichloropropane	ND	5.0								
1,2,4-Trichlorobenzene	ND	5.0								
1,2,4-Trimethylbenzene	ND	5.0								
1,2-Dibromo-3-chloropropane	ND	5.0								
1,2-Dibromoethane	ND	5.0								
1,2-Dichlorobenzene	ND	5.0								
1,2-Dichloroethane	ND	5.0								
1,2-Dichloropropane	ND	5.0								
1,3,5-Trimethylbenzene	ND	5.0								
1,3-Dichlorobenzene	ND	5.0								
1,3-Dichloropropane	ND	5.0								
1,4-Dichlorobenzene	ND	5.0								
2,2-Dichloropropane	ND	5.0								
2-Butanone	ND	50								
2-Chlorotoluene	ND	5.0								
2-Hexanone	ND	5.0								
4-Chlorotoluene	ND	5.0								
4-Methyl-2-pentanone	ND	5.0								
Acetone	ND	50								
Benzene	ND	5.0								
Bromobenzene	ND	5.0								
Bromochloromethane	ND	5.0								
Bromodichloromethane	ND	5.0								
Bromoform	ND	5.0								
Bromomethane	ND	5.0								
Carbon disulfide	ND	5.0								
Carbon tetrachloride	ND	5.0								
Chlorobenzene	ND	5.0								
Chloroethane	ND	5.0								
Chloroform	ND	5.0								
Chloromethane	ND	5.0								
cis-1,2-Dichloroethene	ND	5.0								
cis-1,3-Dichloropropene	ND	5.0								
Dibromochloromethane	ND	5.0								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **R221811** Instrument ID **VMS5** Method: **SW8260B**

Dibromomethane	ND	5.0					
Dichlorodifluoromethane	ND	5.0					
Ethylbenzene	ND	5.0					
Hexachlorobutadiene	ND	5.0					
Isopropylbenzene	ND	5.0					
m,p-Xylene	ND	5.0					
Methyl tert-butyl ether	ND	5.0					
Methylene chloride	ND	20					
Naphthalene	ND	5.0					
n-Butylbenzene	ND	5.0					
n-Propylbenzene	ND	5.0					
o-Xylene	ND	5.0					
p-Isopropyltoluene	ND	5.0					
sec-Butylbenzene	ND	5.0					
Styrene	ND	5.0					
tert-Butylbenzene	ND	5.0					
Tetrachloroethene	ND	5.0					
Toluene	ND	5.0					
trans-1,2-Dichloroethene	ND	5.0					
trans-1,3-Dichloropropene	ND	5.0					
Trichloroethene	ND	5.0					
Trichlorofluoromethane	ND	5.0					
Vinyl chloride	ND	5.0					
Xylenes, Total	ND	10					
Surr: 4-Bromofluorobenzene	*49.74*	0	*50*	0	*99.5*	*60-140*	0
Surr: Dibromofluoromethane	*51.4*	0	*50*	0	*103*	*60-140*	0
Surr: Toluene-d8	*48.69*	0	*50*	0	*97.4*	*60-140*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group
Work Order: 23091124
Project: Hillison Nut; MS23-13; ODAS0003-19

QC BATCH REPORT

Batch ID: **R221811** Instrument ID **VMS5** Method: **SW8260B**

LCS	Sample ID: **LCS-R221811**				Units: **µg/Kg**			Analysis Date: **10/5/2023 10:00 AM**		
Client ID:		Run ID: **VMS5_231005B**			SeqNo: **3190991**	Prep Date:		DF: **1**		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	40.28	5.0	50	0	80.6	53.6-149	0			
1,1-Dichloroethene	41.96	5.0	50	0	83.9	38.8-176	0			
1,2-Dichloroethane	40.18	5.0	50	0	80.4	54.4-145	0			
1,3-Dichlorobenzene	42.48	5.0	50	0	85	54.2-137	0			
1,4-Dichlorobenzene	44.04	5.0	50	0	88.1	52.8-135	0			
Benzene	40.97	5.0	50	0	81.9	56-148	0			
Carbon tetrachloride	41.45	5.0	50	0	82.9	51.9-151	0			
Chlorobenzene	40.83	5.0	50	0	81.7	55.4-137	0			
Chloroform	40.84	5.0	50	0	81.7	51.1-147	0			
cis-1,2-Dichloroethene	41.78	5.0	50	0	83.6	47.6-149	0			
Ethylbenzene	40.11	5.0	50	0	80.2	55.8-142	0			
m,p-Xylene	80.94	5.0	100	0	80.9	57.6-141	0			
Styrene	40.74	5.0	50	0	81.5	59.6-143	0			
Tetrachloroethene	30.78	5.0	50	0	61.6	56.2-160	0			
Toluene	40.23	5.0	50	0	80.5	56-143	0			
Trichloroethene	42.45	5.0	50	0	84.9	56.5-143	0			
Surr: 4-Bromofluorobenzene	*49.7*	0	*50*	0	*99.4*	*60-140*	0			
Surr: Dibromofluoromethane	*49.48*	0	*50*	0	*99*	*60-140*	0			
Surr: Toluene-d8	*48.42*	0	*50*	0	*96.8*	*60-140*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group
Work Order: 23091124
Project: Hillison Nut; MS23-13; ODAS0003-19

QC BATCH REPORT

Batch ID: **R221811** Instrument ID **VMS5** Method: **SW8260B**

MS Sample ID: **23090939-02A MS** Units: **µg/Kg** Analysis Date: **10/5/2023 10:22 AM**
Client ID: Run ID: **VMS5_231005B** SeqNo: **3190992** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	43.06	5.0	50	0	86.1	66.9-140	0			
1,1-Dichloroethene	45.79	5.0	50	0	91.6	41.4-161	0			
1,2-Dichloroethane	43.2	5.0	50	0	86.4	58.9-137	0			
1,3-Dichlorobenzene	44.03	5.0	50	0	88.1	42.5-150	0			
1,4-Dichlorobenzene	45.68	5.0	50	0	91.4	52.1-137	0			
Benzene	44.13	5.0	50	0	88.3	35.8-162	0			
Carbon tetrachloride	45.63	5.0	50	0	91.3	53.2-137	0			
Chlorobenzene	43.5	5.0	50	0	87	65.6-137	0			
Chloroform	44.24	5.0	50	0	88.5	58-130	0			
cis-1,2-Dichloroethene	44.74	5.0	50	0	89.5	52.9-138	0			
Ethylbenzene	43.12	5.0	50	0	86.2	57.5-134	0			
m,p-Xylene	86.73	5.0	100	0	86.7	56.4-135	0			
Styrene	43.3	5.0	50	0	86.6	60.9-135	0			
Tetrachloroethene	32.67	5.0	50	0	65.3	28.3-109	0			
Toluene	43.23	5.0	50	0	86.5	67.7-135	0			
Trichloroethene	45.29	5.0	50	0	90.6	56.5-136	0			
Surr: 4-Bromofluorobenzene	*49.51*	0	*50*	0	*99*	*60-140*	0			
Surr: Dibromofluoromethane	*49.75*	0	*50*	0	*99.5*	*60-140*	0			
Surr: Toluene-d8	*48.63*	0	*50*	0	*97.3*	*60-140*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group
Work Order: 23091124
Project: Hillison Nut; MS23-13; ODAS0003-19

QC BATCH REPORT

Batch ID: **R221811** Instrument ID **VMS5** Method: **SW8260B**

MSD	Sample ID: **23090939-02A MSD**				Units: **µg/Kg**			Analysis Date: **10/5/2023 10:42 AM**			
Client ID:		Run ID: **VMS5_231005B**			SeqNo: **3190993**	Prep Date:		DF: **1**			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	39.93	5.0	50	0	79.9	66.9-140	43.06	7.54	31.2	
1,1-Dichloroethene	42.34	5.0	50	0	84.7	41.4-161	45.79	7.83	38.1	
1,2-Dichloroethane	38.11	5.0	50	0	76.2	58.9-137	43.2	12.5	26.2	
1,3-Dichlorobenzene	34.64	5.0	50	0	69.3	42.5-150	44.03	23.9	21	R
1,4-Dichlorobenzene	35.28	5.0	50	0	70.6	52.1-137	45.68	25.7	28.7	
Benzene	39.99	5.0	50	0	80	35.8-162	44.13	9.84	23.6	
Carbon tetrachloride	41.65	5.0	50	0	83.3	53.2-137	45.63	9.12	32.3	
Chlorobenzene	36.9	5.0	50	0	73.8	65.6-137	43.5	16.4	20	
Chloroform	39.89	5.0	50	0	79.8	58-130	44.24	10.3	28.2	
cis-1,2-Dichloroethene	40.46	5.0	50	0	80.9	52.9-138	44.74	10	23.7	
Ethylbenzene	37.18	5.0	50	0	74.4	57.5-134	43.12	14.8	24.9	
m,p-Xylene	74.82	5.0	100	0	74.8	56.4-135	86.73	14.7	25.1	
Styrene	35.96	5.0	50	0	71.9	60.9-135	43.3	18.5	22.8	
Tetrachloroethene	29.1	5.0	50	0	58.2	28.3-109	32.67	11.6	24.7	
Toluene	38.49	5.0	50	0	77	67.7-135	43.23	11.6	20	
Trichloroethene	41.11	5.0	50	0	82.2	56.5-136	45.29	9.68	20	
Surr: 4-Bromofluorobenzene	*49.56*	0	*50*	0	*99.1*	*60-140*	49.51	*0.101*		
Surr: Dibromofluoromethane	*50.09*	0	*50*	0	*100*	*60-140*	49.75	*0.681*		
Surr: Toluene-d8	*48.76*	0	*50*	0	*97.5*	*60-140*	48.63	*0.267*		

The following samples were analyzed in this batch: 23091124-03A 23091124-04A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group
Work Order: 23091124
Project: Hillison Nut; MS23-13; ODAS0003-19

QC BATCH REPORT

Batch ID: **R221849** Instrument ID **VMS2** Method: **SW8260B**

MBLK	Sample ID: **MBLK-R221849**				Units: **µg/Kg**		Analysis Date: **10/6/2023 12:35 PM**			
Client ID:		Run ID: **VMS2_231006A**			SeqNo: **3191851**		Prep Date:		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	ND	5.0								
1,1,1-Trichloroethane	ND	5.0								
1,1,2,2-Tetrachloroethane	ND	5.0								
1,1,2-Trichloroethane	ND	5.0								
1,1-Dichloroethane	ND	5.0								
1,1-Dichloroethene	ND	5.0								
1,1-Dichloropropene	ND	5.0								
1,2,3-Trichlorobenzene	ND	5.0								
1,2,3-Trichloropropane	ND	5.0								
1,2,4-Trichlorobenzene	ND	5.0								
1,2,4-Trimethylbenzene	ND	5.0								
1,2-Dibromo-3-chloropropane	ND	5.0								
1,2-Dibromoethane	ND	5.0								
1,2-Dichlorobenzene	ND	5.0								
1,2-Dichloroethane	ND	5.0								
1,2-Dichloropropane	ND	5.0								
1,3,5-Trimethylbenzene	ND	5.0								
1,3-Dichlorobenzene	ND	5.0								
1,3-Dichloropropane	ND	5.0								
1,4-Dichlorobenzene	ND	5.0								
2,2-Dichloropropane	ND	5.0								
2-Butanone	ND	50								
2-Chlorotoluene	ND	5.0								
2-Hexanone	ND	5.0								
4-Chlorotoluene	ND	5.0								
4-Methyl-2-pentanone	ND	5.0								
Acetone	ND	50								
Benzene	ND	5.0								
Bromobenzene	ND	5.0								
Bromochloromethane	ND	5.0								
Bromodichloromethane	ND	5.0								
Bromoform	ND	5.0								
Bromomethane	ND	5.0								
Carbon disulfide	ND	5.0								
Carbon tetrachloride	ND	5.0								
Chlorobenzene	ND	5.0								
Chloroethane	ND	5.0								
Chloroform	ND	5.0								
Chloromethane	ND	5.0								
cis-1,2-Dichloroethene	ND	5.0								
cis-1,3-Dichloropropene	ND	5.0								
Dibromochloromethane	ND	5.0								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **R221849** Instrument ID **VMS2** Method: **SW8260B**

Dibromomethane	ND	5.0					
Dichlorodifluoromethane	ND	5.0					
Ethylbenzene	ND	5.0					
Hexachlorobutadiene	ND	5.0					
Isopropylbenzene	ND	5.0					
m,p-Xylene	ND	5.0					
Methyl tert-butyl ether	ND	5.0					
Methylene chloride	ND	20					
Naphthalene	ND	5.0					
n-Butylbenzene	ND	5.0					
n-Propylbenzene	ND	5.0					
o-Xylene	ND	5.0					
p-Isopropyltoluene	ND	5.0					
sec-Butylbenzene	ND	5.0					
Styrene	ND	5.0					
tert-Butylbenzene	ND	5.0					
Tetrachloroethene	ND	5.0					
Toluene	ND	5.0					
trans-1,2-Dichloroethene	ND	5.0					
trans-1,3-Dichloropropene	ND	5.0					
Trichloroethene	ND	5.0					
Trichlorofluoromethane	ND	5.0					
Vinyl chloride	ND	5.0					
Xylenes, Total	ND	10					
Surr: 4-Bromofluorobenzene	*49.27*	0	*50*	0	*98.5*	*60-140*	0
Surr: Dibromofluoromethane	*57.65*	0	*50*	0	*115*	*60-140*	0
Surr: Toluene-d8	*51.94*	0	*50*	0	*104*	*60-140*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group
Work Order: 23091124
Project: Hillison Nut; MS23-13; ODAS0003-19

QC BATCH REPORT

Batch ID: **R221849** Instrument ID **VMS2** Method: **SW8260B**

LCS	Sample ID: **LCS-R221849**				Units: **µg/Kg**			Analysis Date: **10/6/2023 10:53 AM**		
Client ID:		Run ID: **VMS2_231006A**			SeqNo: **3191848**	Prep Date:		DF: **1**		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	48.98	5.0	50	0	98	53.6-149	0			
1,1-Dichloroethene	48.02	5.0	50	0	96	38.8-176	0			
1,2-Dichloroethane	47.47	5.0	50	0	94.9	54.4-145	0			
1,3-Dichlorobenzene	46.94	5.0	50	0	93.9	54.2-137	0			
1,4-Dichlorobenzene	48.77	5.0	50	0	97.5	52.8-135	0			
Benzene	47.3	5.0	50	0	94.6	56-148	0			
Carbon tetrachloride	45.59	5.0	50	0	91.2	51.9-151	0			
Chlorobenzene	45.3	5.0	50	0	90.6	55.4-137	0			
Chloroform	47.85	5.0	50	0	95.7	51.1-147	0			
cis-1,2-Dichloroethene	48.02	5.0	50	0	96	47.6-149	0			
Ethylbenzene	46.29	5.0	50	0	92.6	55.8-142	0			
m,p-Xylene	95.61	5.0	100	0	95.6	57.6-141	0			
Styrene	46.56	5.0	50	0	93.1	59.6-143	0			
Tetrachloroethene	38.43	5.0	50	0	76.9	56.2-160	0			
Toluene	47.32	5.0	50	0	94.6	56-143	0			
Trichloroethene	46.49	5.0	50	0	93	56.5-143	0			
Surr: 4-Bromofluorobenzene	*49.54*	0	*50*	0	*99.1*	*60-140*	0			
Surr: Dibromofluoromethane	*49.97*	0	*50*	0	*99.9*	*60-140*	0			
Surr: Toluene-d8	*50.2*	0	*50*	0	*100*	*60-140*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group
Work Order: 23091124
Project: Hillison Nut; MS23-13; ODAS0003-19

QC BATCH REPORT

Batch ID: **R221849** Instrument ID **VMS2** Method: **SW8260B**

MS Sample ID: **23100084-02B MS** Units: **µg/Kg** Analysis Date: **10/6/2023 11:18 AM**
Client ID: Run ID: **VMS2_231006A** SeqNo: **3191849** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	51.86	5.0	50	0	104	66.9-140	0			
1,1-Dichloroethene	51.88	5.0	50	0	104	41.4-161	0			
1,2-Dichloroethane	49.64	5.0	50	0	99.3	58.9-137	0			
1,3-Dichlorobenzene	43.17	5.0	50	0	86.3	42.5-150	0			
1,4-Dichlorobenzene	45.01	5.0	50	0	90	52.1-137	0			
Benzene	48.94	5.0	50	0	97.9	35.8-162	0			
Carbon tetrachloride	48.3	5.0	50	0	96.6	53.2-137	0			
Chlorobenzene	46.45	5.0	50	0	92.9	65.6-137	0			
Chloroform	50.14	5.0	50	0	100	58-130	0			
cis-1,2-Dichloroethene	51.15	5.0	50	0	102	52.9-138	0			
Ethylbenzene	48.13	5.0	50	0	96.3	57.5-134	0			
m,p-Xylene	99.17	5.0	100	0	99.2	56.4-135	0			
Styrene	47.25	5.0	50	0	94.5	60.9-135	0			
Tetrachloroethene	39.15	5.0	50	0	78.3	28.3-109	0			
Toluene	48.55	5.0	50	0	97.1	67.7-135	0			
Trichloroethene	48.88	5.0	50	0	97.8	56.5-136	0			
Surr: 4-Bromofluorobenzene	*48.45*	0	*50*	0	*96.9*	*60-140*	0			
Surr: Dibromofluoromethane	*50.77*	0	*50*	0	*102*	*60-140*	0			
Surr: Toluene-d8	*49.24*	0	*50*	0	*98.5*	*60-140*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group
Work Order: 23091124
Project: Hillison Nut; MS23-13; ODAS0003-19

QC BATCH REPORT

Batch ID: **R221849** Instrument ID **VMS2** Method: **SW8260B**

MSD	Sample ID: **23100084-02B MSD**				Units: **µg/Kg**			Analysis Date: **10/6/2023 11:44 AM**		
Client ID:	Run ID: **VMS2_231006A**				SeqNo: **3191850**	Prep Date:		DF: **1**		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	53.83	5.0	50	0	108	66.9-140	51.86	3.73	31.2	
1,1-Dichloroethene	49.97	5.0	50	0	99.9	41.4-161	51.88	3.75	38.1	
1,2-Dichloroethane	53.21	5.0	50	0	106	58.9-137	49.64	6.94	26.2	
1,3-Dichlorobenzene	46.94	5.0	50	0	93.9	42.5-150	43.17	8.37	21	
1,4-Dichlorobenzene	48.98	5.0	50	0	98	52.1-137	45.01	8.45	28.7	
Benzene	51.1	5.0	50	0	102	35.8-162	48.94	4.32	23.6	
Carbon tetrachloride	49.36	5.0	50	0	98.7	53.2-137	48.3	2.17	32.3	
Chlorobenzene	48.09	5.0	50	0	96.2	65.6-137	46.45	3.47	20	
Chloroform	50.96	5.0	50	0	102	58-130	50.14	1.62	28.2	
cis-1,2-Dichloroethene	51.2	5.0	50	0	102	52.9-138	51.15	0.0977	23.7	
Ethylbenzene	49.08	5.0	50	0	98.2	57.5-134	48.13	1.95	24.9	
m,p-Xylene	103.7	5.0	100	0	104	56.4-135	99.17	4.45	25.1	
Styrene	48.91	5.0	50	0	97.8	60.9-135	47.25	3.45	22.8	
Tetrachloroethene	41.44	5.0	50	0	82.9	28.3-109	39.15	5.68	24.7	
Toluene	51.74	5.0	50	0	103	67.7-135	48.55	6.36	20	
Trichloroethene	51.79	5.0	50	0	104	56.5-136	48.88	5.78	20	
Surr: 4-Bromofluorobenzene	*48.52*	0	*50*	0	*97*	*60-140*	48.45	*0.144*		
Surr: Dibromofluoromethane	*47.93*	0	*50*	0	*95.9*	*60-140*	50.77	*5.75*		
Surr: Toluene-d8	*49.67*	0	*50*	0	*99.3*	*60-140*	49.24	*0.869*		

The following samples were analyzed in this batch: 23091124-04A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

ALS Environmental

Date: 06-Oct-23

Client: The Mannik & Smith Group
Project: Hillison Nut; MS23-13; ODAS0003-19
WorkOrder: **23091124**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not 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 detected below quantitation limit
n	Not offered for accreditation
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

Acronym	Description
DUP	Method Duplicate
E	EPA Method
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SDL	Sample Detection Limit
SW	SW-846 Method

Units Reported	Description
% of sample	
mg/Kg-dry	

ALS Environmental

Sample Receipt Checklist

Client Name: **MANNIK-MAUMEE** Date/Time Received: **29-Sep-23 08:00**

Work Order: **23091124** Received by: **AB1**

Checklist completed by Alec Bolender 29-Sep-23 Reviewed by: Rob Nieman 04-Oct-23

eSignature Date eSignature Date

Matrices: soil

Carrier name: FedEx

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 ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody 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 ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	4.1	120258	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:			
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

Field Chain-of-Custody Record

Page 1 of 1

70098 REV 10/2017

23091124

Ship To: ALS | Environmental
4388 Glendale Milford Rd.
Cincinnati, Ohio 45242
Phone: (513) 733-5336
Fax: (513) 733-5347

[X] REGULAR Status [ ] RUSH Status RESULTS REQUIRED BY: (Date) ____ CONTACT ALS ENVIRONMENTAL PRIOR TO SENDING SAMPLES

OH VAP: [ ] YES [ ] NO BUSTR: [X] YES [ ] NO NELAC: [ ] YES [ ] NO

Date:
Company Name: The Mannik + Smith Group, Inc.
Address: 1800 Indian Wood Circle
Maumee (City) OH (State) 43537 (Zip)
Person to Contact: Matt Pesci
Email Address: mpesci@manniksmithgroup.com
Telephone (419): 891-2222 x 2088
Alternate Contact:

Purchase Order No.:
Project No.: ODAS0003-19
Sampling Site: Hillson Nut
MS23-13
Billing Address (if different): Ohio EPA
DERR
Lazarus Government Center PO 1049
Columbus, OH 43216-1049

ALS Lab ID	Sample ID / Description	Date	Time	Preservation Key #	Sample Type / Matrix Key Abbr.	# of Sample Containers	BUSTR VOCs* 8260	BUSTR PAHs 8270	TPH GRO, DRO + ORO 8015	Total Lead						
1	SB-23 (10-12)	9/27/23	10:00		S	6	X	X	X	X						
2	SB-23 (12-15)	9/27/23	10:05		S	6	X	X	X	X						
3	SB-24 (6-8)	9/27/23	10:30		S	6	X	X	X	X						
4	SB-24 (10-12)	9/27/23	10:35		S	6	X	X	X	X						

Notes: * BUSTR VOCs = BTEX, MTBE, Naphthalene, 1,2,4-TMB, EDB + EDC

no 1st [illegible]

Preservation Key: 1 - HCl 2 - HNO_3 3 - H_2SO_4 4 - NaOH 5 - $Na_2S_2O_3$ 6 - $NaHSO_4$ 7 - NaOH/ZnAcetate 8 - Other 9 - 4°C

Matrix Key: A - Air B - Bulk S - Soil W - Water

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.

Relinquished By: (Signature)	Time / Date	Received By: (Signature)	Time / Date
A. Langer	9/27/23 16:00	Alan Br[illegible] ALS	9/29/23 0800

ALS LAB USE ONLY 120258

COOLER TEMP: 4.4 °C TAKEN WITH IR#: 119063 119059
COOLING METHOD: NONE (COOLER) (WET ICE) DRY ICE ICE PACK
DELIVERY METHOD: CLIENT DROP BOX (FEDEX) UPS STD MAIL PRTY MAIL ALS COURIER OTHER:
CUSTODY SEALS: NOT REQUIRED (COOLER) PACKAGE SAMPLES
pH ADJUSTMENTS:

27-Oct-2023

Matt Pesci
The Mannik & Smith Group
1800 Indian Wood Circle
Maumee, OH 43537

Re: **Hillson Nut; MS23-13; ODAS0003-19** Work Order: **23100579**

Dear Matt,

ALS Environmental received 4 samples on 13-Oct-2023 10:12 AM for the analyses presented in the following report.

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

QC sample results for this data met 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 Laboratory Group. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 31.

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

Sincerely,

Rob Nieman

Electronically approved by: Rob Nieman

Rob Nieman
Project Manager

Report of Laboratory Analysis

ALS Environmental

Date: 27-Oct-23

Client: The Mannik & Smith Group
Project: Hillson Nut; MS23-13; ODAS0003-19
Work Order: **23100579**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
23100579-01	MW-23	Water		10/12/2023 10:00	10/13/2023 10:12	☐
23100579-02	MW-24	Water		10/12/2023 10:50	10/13/2023 10:12	☐
23100579-02	MW-24	Water		10/12/2023 10:50	10/13/2023 10:12	☐
23100579-03	MW-29	Water		10/12/2023 11:00	10/13/2023 10:12	☐
23100579-03	MW-29	Water		10/12/2023 11:00	10/13/2023 10:12	☐
23100579-04	MW-30	Water		10/12/2023 11:15	10/13/2023 10:12	☐
23100579-04	MW-30	Water		10/12/2023 11:15	10/13/2023 10:12	☐

ALS Environmental

Date: 27-Oct-23

Client: The Mannik & Smith Group
Project: Hillson Nut; MS23-13; ODAS0003-19
Work Order: 23100579

Case Narrative

The analyses requested were analyzed according to Ohio Voluntary Action Program requirements. Affidavits are available upon request.

The analytical data provided relates directly to the samples received by ALS Laboratory Group and for only the analyses requested.

QC sample results for this data met 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 Laboratory Group. Samples will be disposed in 30 days unless storage arrangements are made.

EDB by 8011 samples were analyzed at ALS Holland, MI lab.

Batch 94516, Method 7470_HGPR_W, Sample 23100579-02C: Dirty sample, diluted x10 (0.8 sample, 7.2 DI)

Batch 94588, Method 3010_METPR_W, Sample 23100579-01D: Dirty sample, diluted x10 (1ml sample, 9 ml DI)

Batch 94588, Method 3010_METPR_W, Sample 23100579-02C: Dirty sample, diluted x10 (1ml sample, 9 ml DI)

Batch 94588, Method 3010_METPR_W, Sample 23100579-03C: Dirty sample, diluted x10 (1ml sample, 9 ml DI)

Batch 94588, Method 3010_METPR_W, Sample 23100579-04C: Dirty sample, diluted x10 (1ml sample, 9 ml DI)

ALS Environmental

Date: *27-Oct-23*

Client: The Mannik & Smith Group
Project: Hillson Nut; MS23-13; ODAS0003-19 **Work Order:** 23100579
Sample ID: MW-23 **Lab ID:** 23100579-01
Collection Date: 10/12/2023 10:00 AM **Matrix:** WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP			**SW6010B**		Prep: SW3010A 10/19/23 13:04	Analyst: **SLT**
Lead	**0.22**		**0.15**	**mg/L**	1	10/25/2023 12:05 PM
EDB BY EPA 8011			**SW8011**			Analyst: **ALSHN**
1,2-Dibromoethane	ND		0.000050	mg/L	1	10/17/2023 08:38 PM
PAH COMPOUNDS			**SW8270C**		Prep: SW3511 10/16/23 14:28	Analyst: **DTL**
Benzo(a)anthracene	ND		0.00015	mg/L	1	10/16/2023 05:40 PM
Benzo(a)pyrene	ND		0.00012	mg/L	1	10/16/2023 05:40 PM
Benzo(b)fluoranthene	ND		0.00012	mg/L	1	10/16/2023 05:40 PM
Benzo(k)fluoranthene	ND		0.00015	mg/L	1	10/16/2023 05:40 PM
Chrysene	ND		0.00015	mg/L	1	10/16/2023 05:40 PM
Dibenzo(a,h)anthracene	ND		0.000038	mg/L	1	10/16/2023 05:40 PM
Indeno(1,2,3-cd)pyrene	ND		0.00012	mg/L	1	10/16/2023 05:40 PM
Naphthalene	ND		0.00015	mg/L	1	10/16/2023 05:40 PM
Surr: 2-Fluorobiphenyl	*72.5*		*21.6-144*	*%REC*	1	10/16/2023 05:40 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**			Analyst: **TJH**
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	10/23/2023 07:40 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	10/23/2023 07:40 PM
Benzene	ND		0.0050	mg/L	1	10/23/2023 07:40 PM
Ethylbenzene	ND		0.0050	mg/L	1	10/23/2023 07:40 PM
m,p-Xylene	ND		0.0050	mg/L	1	10/23/2023 07:40 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	10/23/2023 07:40 PM
Naphthalene	ND		0.0014	mg/L	1	10/23/2023 07:40 PM
o-Xylene	ND		0.0050	mg/L	1	10/23/2023 07:40 PM
Toluene	ND		0.0050	mg/L	1	10/23/2023 07:40 PM
Xylenes, Total	ND		0.010	mg/L	1	10/23/2023 07:40 PM
Surr: 4-Bromofluorobenzene	*106*		*61-131*	*%REC*	1	10/23/2023 07:40 PM
Surr: Dibromofluoromethane	*125*		*72-137*	*%REC*	1	10/23/2023 07:40 PM
Surr: Toluene-d8	*115*		*80.4-119*	*%REC*	1	10/23/2023 07:40 PM

Note:

ALS Environmental

Date: *27-Oct-23*

Client: The Mannik & Smith Group
Project: Hillson Nut; MS23-13; ODAS0003-19 **Work Order:** 23100579
Sample ID: MW-24 **Lab ID:** 23100579-02
Collection Date: 10/12/2023 10:50 AM **Matrix:** WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			**SW7470A**		Prep: SW7470A 10/17/23 10:50	Analyst: **JW**
Mercury	**13**		**2.5**	**µg/L**	1	10/17/2023 12:54 PM
METALS BY ICP			**SW6010B**		Prep: SW3010A 10/19/23 13:04	Analyst: **SLT**
Arsenic	**0.35**		**0.10**	**mg/L**	1	10/25/2023 12:09 PM
Barium	**1.6**		**1.0**	**mg/L**	1	10/25/2023 12:09 PM
Cadmium	ND		0.50	mg/L	1	10/25/2023 12:09 PM
Chromium	**0.35**		**0.10**	**mg/L**	1	10/25/2023 12:09 PM
Lead	**0.81**		**0.15**	**mg/L**	1	10/25/2023 12:09 PM
Selenium	ND		0.30	mg/L	1	10/25/2023 12:09 PM
Silver	ND		0.50	mg/L	1	10/25/2023 12:09 PM
PAH COMPOUNDS			**SW8270C**		Prep: SW3511 10/16/23 14:28	Analyst: **DTL**
1-Methylnaphthalene	**0.0048**		**0.000099**	**mg/L**	1	10/16/2023 05:57 PM
2-Methylnaphthalene	**0.0066**		**0.000099**	**mg/L**	1	10/16/2023 05:57 PM
Acenaphthene	ND		0.000099	mg/L	1	10/16/2023 05:57 PM
Acenaphthylene	ND		0.000099	mg/L	1	10/16/2023 05:57 PM
Anthracene	ND		0.000099	mg/L	1	10/16/2023 05:57 PM
Benzo(a)anthracene	ND		0.000099	mg/L	1	10/16/2023 05:57 PM
Benzo(a)pyrene	ND		0.000075	mg/L	1	10/16/2023 05:57 PM
Benzo(b)fluoranthene	ND		0.000075	mg/L	1	10/16/2023 05:57 PM
Benzo(g,h,i)perylene	ND		0.000099	mg/L	1	10/16/2023 05:57 PM
Benzo(k)fluoranthene	ND		0.000099	mg/L	1	10/16/2023 05:57 PM
Carbazole	ND		0.000099	mg/L	1	10/16/2023 05:57 PM
Chrysene	ND		0.000099	mg/L	1	10/16/2023 05:57 PM
Dibenzo(a,h)anthracene	ND		0.000025	mg/L	1	10/16/2023 05:57 PM
Dibenzofuran	ND		0.000099	mg/L	1	10/16/2023 05:57 PM
Fluoranthene	ND		0.000099	mg/L	1	10/16/2023 05:57 PM
Fluorene	ND		0.000099	mg/L	1	10/16/2023 05:57 PM
Indeno(1,2,3-cd)pyrene	ND		0.000075	mg/L	1	10/16/2023 05:57 PM
Naphthalene	**0.0058**		**0.000099**	**mg/L**	1	10/16/2023 05:57 PM
Phenanthrene	**0.00014**		**0.000099**	**mg/L**	1	10/16/2023 05:57 PM
Pyrene	ND		0.000099	mg/L	1	10/16/2023 05:57 PM
Surr: 2-Fluorobiphenyl	*51.6*		*21.6-144*	*%REC*	1	10/16/2023 05:57 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**			Analyst: **TJH**
1,1,1,2-Tetrachloroethane	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	10/23/2023 08:01 PM

Note:

ALS Environmental

Date: *27-Oct-23*

Client: The Mannik & Smith Group
Project: Hillson Nut; MS23-13; ODAS0003-19 **Work Order:** 23100579
Sample ID: MW-24 **Lab ID:** 23100579-02
Collection Date: 10/12/2023 10:50 AM **Matrix:** WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
1,1-Dichloroethene	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
1,1-Dichloropropene	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
1,2,3-Trichlorobenzene	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
1,2,3-Trichloropropane	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
1,2,4-Trichlorobenzene	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
1,2,4-Trimethylbenzene	**0.11**		**0.0050**	**mg/L**	1	10/23/2023 08:01 PM
1,2-Dibromo-3-chloropropane	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
1,2-Dibromoethane	ND		0.00023	mg/L	1	10/23/2023 08:01 PM
1,2-Dichlorobenzene	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
1,3,5-Trimethylbenzene	**0.037**		**0.0050**	**mg/L**	1	10/23/2023 08:01 PM
1,3-Dichlorobenzene	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
1,3-Dichloropropane	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
1,4-Dichlorobenzene	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
2,2-Dichloropropane	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
2-Butanone	ND		0.050	mg/L	1	10/23/2023 08:01 PM
2-Chlorotoluene	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
2-Hexanone	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
4-Chlorotoluene	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
4-Methyl-2-pentanone	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
Acetone	ND		0.050	mg/L	1	10/23/2023 08:01 PM
Benzene	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
Bromobenzene	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
Bromochloromethane	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
Bromodichloromethane	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
Bromoform	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
Bromomethane	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
Carbon disulfide	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
Chlorobenzene	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
Chloroethane	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
Chloroform	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
Chloromethane	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
Dibromochloromethane	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
Dibromomethane	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
Dichlorodifluoromethane	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
Ethylbenzene	**0.017**		**0.0050**	**mg/L**	1	10/23/2023 08:01 PM

Note:

Client: The Mannik & Smith Group
Project: Hillson Nut; MS23-13; ODAS0003-19 **Work Order:** 23100579
Sample ID: MW-24 **Lab ID:** 23100579-02
Collection Date: 10/12/2023 10:50 AM **Matrix:** WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorobutadiene	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
Isopropylbenzene	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
m,p-Xylene	**0.080**		**0.010**	**mg/L**	1	10/23/2023 08:01 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
Methylene chloride	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
Naphthalene	**0.013**		**0.0014**	**mg/L**	1	10/23/2023 08:01 PM
n-Butylbenzene	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
n-Propylbenzene	**0.0062**		**0.0050**	**mg/L**	1	10/23/2023 08:01 PM
o-Xylene	**0.040**		**0.0050**	**mg/L**	1	10/23/2023 08:01 PM
p-Isopropyltoluene	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
Styrene	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
tert-Butylbenzene	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
Tetrachloroethene	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
Toluene	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
Trichloroethene	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
Trichlorofluoromethane	ND		0.0050	mg/L	1	10/23/2023 08:01 PM
Vinyl chloride	ND		0.0020	mg/L	1	10/23/2023 08:01 PM
Xylenes, Total	**0.12**		**0.015**	**mg/L**	1	10/23/2023 08:01 PM
Surr: 4-Bromofluorobenzene	*101*		*61-131*	*%REC*	1	10/23/2023 08:01 PM
Surr: Dibromofluoromethane	*122*		*72-137*	*%REC*	1	10/23/2023 08:01 PM
Surr: Toluene-d8	*117*		*94.5-128*	*%REC*	1	10/24/2023 02:13 PM

Note:

ALS Environmental

Date: *27-Oct-23*

Client: The Mannik & Smith Group
Project: Hillson Nut; MS23-13; ODAS0003-19 **Work Order:** 23100579
Sample ID: MW-29 **Lab ID:** 23100579-03
Collection Date: 10/12/2023 11:00 AM **Matrix:** WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			**SW7470A**		Prep: SW7470A 10/17/23 10:50	Analyst: **JW**
Mercury	**0.43**		**0.25**	**µg/L**	1	10/17/2023 12:56 PM
METALS BY ICP			**SW6010B**		Prep: SW3010A 10/19/23 13:04	Analyst: **SLT**
Arsenic	ND		0.10	mg/L	1	10/25/2023 12:13 PM
Barium	ND		1.0	mg/L	1	10/25/2023 12:13 PM
Cadmium	ND		0.50	mg/L	1	10/25/2023 12:13 PM
Chromium	ND		0.10	mg/L	1	10/25/2023 12:13 PM
Lead	ND		0.15	mg/L	1	10/25/2023 12:13 PM
Selenium	ND		0.30	mg/L	1	10/25/2023 12:13 PM
Silver	ND		0.50	mg/L	1	10/25/2023 12:13 PM
PAH COMPOUNDS			**SW8270C**		Prep: SW3511 10/16/23 14:28	Analyst: **DTL**
1-Methylnaphthalene	ND		0.00013	mg/L	1	10/16/2023 06:14 PM
2-Methylnaphthalene	ND		0.00013	mg/L	1	10/16/2023 06:14 PM
Acenaphthene	ND		0.00013	mg/L	1	10/16/2023 06:14 PM
Acenaphthylene	ND		0.00013	mg/L	1	10/16/2023 06:14 PM
Anthracene	ND		0.00013	mg/L	1	10/16/2023 06:14 PM
Benzo(a)anthracene	ND		0.00013	mg/L	1	10/16/2023 06:14 PM
Benzo(a)pyrene	ND		0.000096	mg/L	1	10/16/2023 06:14 PM
Benzo(b)fluoranthene	ND		0.000096	mg/L	1	10/16/2023 06:14 PM
Benzo(g,h,i)perylene	ND		0.00013	mg/L	1	10/16/2023 06:14 PM
Benzo(k)fluoranthene	ND		0.00013	mg/L	1	10/16/2023 06:14 PM
Carbazole	ND		0.00013	mg/L	1	10/16/2023 06:14 PM
Chrysene	ND		0.00013	mg/L	1	10/16/2023 06:14 PM
Dibenzo(a,h)anthracene	ND		0.000032	mg/L	1	10/16/2023 06:14 PM
Dibenzofuran	ND		0.00013	mg/L	1	10/16/2023 06:14 PM
Fluoranthene	ND		0.00013	mg/L	1	10/16/2023 06:14 PM
Fluorene	ND		0.00013	mg/L	1	10/16/2023 06:14 PM
Indeno(1,2,3-cd)pyrene	ND		0.000096	mg/L	1	10/16/2023 06:14 PM
Naphthalene	ND		0.00013	mg/L	1	10/16/2023 06:14 PM
Phenanthrene	ND		0.00013	mg/L	1	10/16/2023 06:14 PM
Pyrene	ND		0.00013	mg/L	1	10/16/2023 06:14 PM
Surr: 2-Fluorobiphenyl	*60.7*		*21.6-144*	*%REC*	1	10/16/2023 06:14 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**			Analyst: **TJH**
1,1,1,2-Tetrachloroethane	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	10/23/2023 08:21 PM

Note:

ALS Environmental

Date: *27-Oct-23*

Client: The Mannik & Smith Group
Project: Hillson Nut; MS23-13; ODAS0003-19 **Work Order:** 23100579
Sample ID: MW-29 **Lab ID:** 23100579-03
Collection Date: 10/12/2023 11:00 AM **Matrix:** WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
1,1-Dichloroethene	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
1,1-Dichloropropene	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
1,2,3-Trichlorobenzene	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
1,2,3-Trichloropropane	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
1,2,4-Trichlorobenzene	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
1,2-Dibromo-3-chloropropane	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
1,2-Dibromoethane	ND		0.00023	mg/L	1	10/23/2023 08:21 PM
1,2-Dichlorobenzene	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
1,3-Dichlorobenzene	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
1,3-Dichloropropane	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
1,4-Dichlorobenzene	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
2,2-Dichloropropane	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
2-Butanone	ND		0.050	mg/L	1	10/23/2023 08:21 PM
2-Chlorotoluene	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
2-Hexanone	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
4-Chlorotoluene	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
4-Methyl-2-pentanone	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
Acetone	ND		0.050	mg/L	1	10/23/2023 08:21 PM
Benzene	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
Bromobenzene	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
Bromochloromethane	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
Bromodichloromethane	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
Bromoform	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
Bromomethane	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
Carbon disulfide	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
Chlorobenzene	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
Chloroethane	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
Chloroform	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
Chloromethane	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
Dibromochloromethane	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
Dibromomethane	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
Dichlorodifluoromethane	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
Ethylbenzene	ND		0.0050	mg/L	1	10/23/2023 08:21 PM

Note:

ALS Environmental

Date: *27-Oct-23*

Client: The Mannik & Smith Group
Project: Hillson Nut; MS23-13; ODAS0003-19 **Work Order:** 23100579
Sample ID: MW-29 **Lab ID:** 23100579-03
Collection Date: 10/12/2023 11:00 AM **Matrix:** WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorobutadiene	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
Isopropylbenzene	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
m,p-Xylene	ND		0.010	mg/L	1	10/23/2023 08:21 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
Methylene chloride	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
Naphthalene	ND		0.0014	mg/L	1	10/23/2023 08:21 PM
n-Butylbenzene	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
n-Propylbenzene	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
o-Xylene	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
p-Isopropyltoluene	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
Styrene	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
tert-Butylbenzene	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
Tetrachloroethene	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
Toluene	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
Trichloroethene	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
Trichlorofluoromethane	ND		0.0050	mg/L	1	10/23/2023 08:21 PM
Vinyl chloride	ND		0.0020	mg/L	1	10/23/2023 08:21 PM
Xylenes, Total	ND		0.015	mg/L	1	10/23/2023 08:21 PM
Surr: 4-Bromofluorobenzene	*104*		*61-131*	*%REC*	1	10/23/2023 08:21 PM
Surr: Dibromofluoromethane	*121*		*72-137*	*%REC*	1	10/23/2023 08:21 PM
Surr: Toluene-d8	*112*		*80.4-119*	*%REC*	1	10/23/2023 08:21 PM

Note:

ALS Environmental

Date: *27-Oct-23*

Client: The Mannik & Smith Group
Project: Hillson Nut; MS23-13; ODAS0003-19 **Work Order:** 23100579
Sample ID: MW-30 **Lab ID:** 23100579-04
Collection Date: 10/12/2023 11:15 AM **Matrix:** WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			**SW7470A**		Prep: SW7470A 10/17/23 10:50	Analyst: **JW**
Mercury	**2.0**		**0.25**	**µg/L**	1	10/17/2023 12:58 PM
METALS BY ICP			**SW6010B**		Prep: SW3010A 10/19/23 13:04	Analyst: **SLT**
Arsenic	ND		0.10	mg/L	1	10/25/2023 12:17 PM
Barium	ND		1.0	mg/L	1	10/25/2023 12:17 PM
Cadmium	ND		0.50	mg/L	1	10/25/2023 12:17 PM
Chromium	**0.91**		**0.10**	**mg/L**	1	10/25/2023 12:17 PM
Lead	ND		0.15	mg/L	1	10/25/2023 12:17 PM
Selenium	ND		0.30	mg/L	1	10/25/2023 12:17 PM
Silver	ND		0.50	mg/L	1	10/25/2023 12:17 PM
PAH COMPOUNDS			**SW8270C**		Prep: SW3511 10/16/23 14:28	Analyst: **DTL**
1-Methylnaphthalene	ND		0.00011	mg/L	1	10/16/2023 06:30 PM
2-Methylnaphthalene	ND		0.00011	mg/L	1	10/16/2023 06:30 PM
Acenaphthene	ND		0.00011	mg/L	1	10/16/2023 06:30 PM
Acenaphthylene	ND		0.00011	mg/L	1	10/16/2023 06:30 PM
Anthracene	ND		0.00011	mg/L	1	10/16/2023 06:30 PM
Benzo(a)anthracene	ND		0.00011	mg/L	1	10/16/2023 06:30 PM
Benzo(a)pyrene	ND		0.000083	mg/L	1	10/16/2023 06:30 PM
Benzo(b)fluoranthene	ND		0.000083	mg/L	1	10/16/2023 06:30 PM
Benzo(g,h,i)perylene	ND		0.00011	mg/L	1	10/16/2023 06:30 PM
Benzo(k)fluoranthene	ND		0.00011	mg/L	1	10/16/2023 06:30 PM
Carbazole	ND		0.00011	mg/L	1	10/16/2023 06:30 PM
Chrysene	ND		0.00011	mg/L	1	10/16/2023 06:30 PM
Dibenzo(a,h)anthracene	ND		0.000028	mg/L	1	10/16/2023 06:30 PM
Dibenzofuran	ND		0.00011	mg/L	1	10/16/2023 06:30 PM
Fluoranthene	ND		0.00011	mg/L	1	10/16/2023 06:30 PM
Fluorene	ND		0.00011	mg/L	1	10/16/2023 06:30 PM
Indeno(1,2,3-cd)pyrene	ND		0.000083	mg/L	1	10/16/2023 06:30 PM
Naphthalene	ND		0.00011	mg/L	1	10/16/2023 06:30 PM
Phenanthrene	ND		0.00011	mg/L	1	10/16/2023 06:30 PM
Pyrene	ND		0.00011	mg/L	1	10/16/2023 06:30 PM
Surr: 2-Fluorobiphenyl	*51.1*		*21.6-144*	*%REC*	1	10/16/2023 06:30 PM
VOLATILE ORGANIC COMPOUNDS			**SW8260B**			Analyst: **TJH**
1,1,1,2-Tetrachloroethane	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	10/23/2023 08:42 PM

Note:

ALS Environmental

Date: *27-Oct-23*

Client: The Mannik & Smith Group
Project: Hillson Nut; MS23-13; ODAS0003-19
Work Order: 23100579
Sample ID: MW-30
Lab ID: 23100579-04
Collection Date: 10/12/2023 11:15 AM
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
1,1-Dichloroethene	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
1,1-Dichloropropene	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
1,2,3-Trichlorobenzene	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
1,2,3-Trichloropropane	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
1,2,4-Trichlorobenzene	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
1,2-Dibromo-3-chloropropane	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
1,2-Dibromoethane	ND		0.00023	mg/L	1	10/23/2023 08:42 PM
1,2-Dichlorobenzene	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
1,3-Dichlorobenzene	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
1,3-Dichloropropane	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
1,4-Dichlorobenzene	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
2,2-Dichloropropane	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
2-Butanone	ND		0.050	mg/L	1	10/23/2023 08:42 PM
2-Chlorotoluene	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
2-Hexanone	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
4-Chlorotoluene	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
4-Methyl-2-pentanone	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
Acetone	ND		0.050	mg/L	1	10/23/2023 08:42 PM
Benzene	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
Bromobenzene	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
Bromochloromethane	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
Bromodichloromethane	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
Bromoform	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
Bromomethane	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
Carbon disulfide	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
Chlorobenzene	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
Chloroethane	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
Chloroform	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
Chloromethane	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
Dibromochloromethane	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
Dibromomethane	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
Dichlorodifluoromethane	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
Ethylbenzene	ND		0.0050	mg/L	1	10/23/2023 08:42 PM

Note:

ALS Environmental

Date: *27-Oct-23*

Client: The Mannik & Smith Group
Project: Hillson Nut; MS23-13; ODAS0003-19 **Work Order:** 23100579
Sample ID: MW-30 **Lab ID:** 23100579-04
Collection Date: 10/12/2023 11:15 AM **Matrix:** WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorobutadiene	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
Isopropylbenzene	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
m,p-Xylene	ND		0.010	mg/L	1	10/23/2023 08:42 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
Methylene chloride	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
Naphthalene	ND		0.0014	mg/L	1	10/23/2023 08:42 PM
n-Butylbenzene	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
n-Propylbenzene	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
o-Xylene	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
p-Isopropyltoluene	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
Styrene	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
tert-Butylbenzene	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
Tetrachloroethene	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
Toluene	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
Trichloroethene	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
Trichlorofluoromethane	ND		0.0050	mg/L	1	10/23/2023 08:42 PM
Vinyl chloride	ND		0.0020	mg/L	1	10/23/2023 08:42 PM
Xylenes, Total	ND		0.015	mg/L	1	10/23/2023 08:42 PM
Surr: 4-Bromofluorobenzene	*103*		*61-131*	*%REC*	1	10/23/2023 08:42 PM
Surr: Dibromofluoromethane	*124*		*72-137*	*%REC*	1	10/23/2023 08:42 PM
Surr: Toluene-d8	*113*		*80.4-119*	*%REC*	1	10/23/2023 08:42 PM

Note:

ALS Environmental

Date: 27-Oct-23

Client: The Mannik & Smith Group

QC BATCH REPORT

Work Order: 23100579

Project: Hillson Nut; MS23-13; ODAS0003-19

Batch ID: **94516** Instrument ID **HG2** Method: **SW7470A**

MBLK Sample ID: **MBLK-94516-94516** Units: **µg/L** Analysis Date: **10/17/2023 12:45 PM**

Client ID: Run ID: **HG2_231017B** SeqNo: **3202715** Prep Date: **10/17/2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.25								

LCS Sample ID: **LCS-94516-94516** Units: **µg/L** Analysis Date: **10/17/2023 12:47 PM**

Client ID: Run ID: **HG2_231017B** SeqNo: **3202716** Prep Date: **10/17/2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	4.48	0.25	5	0	89.6	73.2-118	0			

LCSD Sample ID: **LCSD-94516-94516** Units: **µg/L** Analysis Date: **10/17/2023 12:50 PM**

Client ID: Run ID: **HG2_231017B** SeqNo: **3202717** Prep Date: **10/17/2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	4.66	0.25	5	0	93.2	73.2-118	4.48	3.94	20	

MS Sample ID: **23100611-16C MS** Units: **µg/L** Analysis Date: **10/17/2023 01:11 PM**

Client ID: Run ID: **HG2_231017B** SeqNo: **3202725** Prep Date: **10/17/2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	4.74	0.25	5	0	94.8	68.9-116	0			

MSD Sample ID: **23100611-16C MSD** Units: **µg/L** Analysis Date: **10/17/2023 01:13 PM**

Client ID: Run ID: **HG2_231017B** SeqNo: **3202726** Prep Date: **10/17/2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	5.37	0.25	5	0	107	68.9-116	4.74	12.5	20	

The following samples were analyzed in this batch: 23100579-02C 23100579-03C 23100579-04C

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group
Work Order: 23100579
Project: Hillson Nut; MS23-13; ODAS0003-19

QC BATCH REPORT

Batch ID: **94588** Instrument ID **ICP1** Method: **SW6010B**

MBLK Sample ID: **MBLK-94588-94588** Units: **mg/L** Analysis Date: **10/25/2023 09:52 AM**
Client ID: Run ID: **ICP1_231025A** SeqNo: **3210002** Prep Date: **10/19/2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.010								
Barium	ND	0.10								
Cadmium	ND	0.0050								
Chromium	ND	0.010								
Lead	ND	0.015								
Selenium	ND	0.030								
Silver	ND	0.050								

LCS Sample ID: **LCS-94588-94588** Units: **mg/L** Analysis Date: **10/25/2023 09:56 AM**
Client ID: Run ID: **ICP1_231025A** SeqNo: **3210003** Prep Date: **10/19/2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	1.009	0.010	1.1	0	91.7	81.7-107	0			
Barium	1.01	0.10	1.1	0	91.9	81.2-107	0			
Cadmium	1.027	0.0050	1.1	0	93.4	77.6-114	0			
Chromium	0.9864	0.010	1.1	0	89.7	72.9-109	0			
Lead	0.9876	0.015	1.1	0	89.8	73.7-110	0			
Selenium	1.004	0.030	1.1	0	91.2	70.7-106	0			
Silver	1.085	0.050	1.1	0	98.6	77.5-99.3	0			

LCSD Sample ID: **LCSD-94588-94588** Units: **mg/L** Analysis Date: **10/25/2023 10:00 AM**
Client ID: Run ID: **ICP1_231025A** SeqNo: **3210004** Prep Date: **10/19/2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	1	0.010	1.1	0	90.9	81.7-107	1.009	0.832	20	
Barium	1	0.10	1.1	0	91	81.2-107	1.01	0.996	20	
Cadmium	1.02	0.0050	1.1	0	92.7	77.6-114	1.027	0.731	20	
Chromium	0.9827	0.010	1.1	0	89.3	72.9-109	0.9864	0.369	20	
Lead	0.978	0.015	1.1	0	88.9	73.7-110	0.9876	0.974	20	
Selenium	0.997	0.030	1.1	0	90.6	70.7-106	1.004	0.66	20	
Silver	1.086	0.050	1.1	0	98.7	77.5-99.3	1.085	0.0709	20	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group
Work Order: 23100579
Project: Hillson Nut; MS23-13; ODAS0003-19

QC BATCH REPORT

Batch ID: **94588** Instrument ID **ICP1** Method: **SW6010B**

MS Sample ID: **23100722-01A MS** Units: **mg/L** Analysis Date: **10/25/2023 10:08 AM**
Client ID: Run ID: **ICP1_231025A** SeqNo: **3210006** Prep Date: **10/19/2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	1.01	0.010	1.1	0	91.8	75-125	0			
Barium	1.019	0.10	1.1	0	92.6	75-125	0			
Cadmium	1.022	0.0050	1.1	0	92.9	75-125	0			
Chromium	0.9804	0.010	1.1	0	89.1	75-125	0			
Lead	0.9753	0.015	1.1	0	88.7	59.3-111	0			
Selenium	1.004	0.030	1.1	0	91.3	75-125	0			
Silver	1.103	0.050	1.1	0	100	75-125	0			

MSD Sample ID: **23100722-01A MSD** Units: **mg/L** Analysis Date: **10/25/2023 10:11 AM**
Client ID: Run ID: **ICP1_231025A** SeqNo: **3210007** Prep Date: **10/19/2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	1.003	0.010	1.1	0	91.2	73.2-107	1.01	0.678	20	
Barium	1.009	0.10	1.1	0	91.7	75-125	1.019	0.987	20	
Cadmium	1.012	0.0050	1.1	0	92	76.4-108	1.022	0.898	20	
Chromium	0.971	0.010	1.1	0	88.3	73-104	0.9804	0.97	20	
Lead	0.9642	0.015	1.1	0	87.6	59.3-111	0.9753	1.15	20	
Selenium	0.9962	0.030	1.1	0	90.6	71.3-104	1.004	0.803	20	
Silver	1.093	0.050	1.1	0	99.4	74.6-98.9	1.103	0.911	20	S

The following samples were analyzed in this batch:

23100579-01D 23100579-02C 23100579-03C
23100579-04C

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group
Work Order: 23100579
Project: Hillson Nut; MS23-13; ODAS0003-19

QC BATCH REPORT

Batch ID: **e227392** Instrument ID **SUB** Method: **SW8011**

MBLK Sample ID: **MBLK-227392-227392-e227392** Units: **µg/L** Analysis Date: **10/17/2023 04:42 AM**
Client ID: Run ID: **SUB_231020D** SeqNo: **3205936** Prep Date: **10/16/2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dibromo-3-chloropropane	ND	0.050								
1,2-Dibromoethane	ND	0.050								

LCS Sample ID: **LCS-227392-227392-e227392** Units: **µg/L** Analysis Date: **10/17/2023 04:55 AM**
Client ID: Run ID: **SUB_231020D** SeqNo: **3205937** Prep Date: **10/16/2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dibromo-3-chloropropane	30.1	0.050	28.56	0	105	80-120	0			
1,2-Dibromoethane	28.85	0.050	28.56	0	101	80-120	0			

LCSD Sample ID: **LCSD-227392-227392-e227392** Units: **µg/L** Analysis Date: **10/17/2023 05:08 AM**
Client ID: Run ID: **SUB_231020D** SeqNo: **3205938** Prep Date: **10/16/2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dibromo-3-chloropropane	26.53	0.050	28.56	0	92.9	80-120	30.1	12.6	30	
1,2-Dibromoethane	27.58	0.050	28.56	0	96.6	80-120	28.85	4.5	30	

MS Sample ID: **23101322-03A MS** Units: **µg/L** Analysis Date: **10/17/2023 05:34 AM**
Client ID: Run ID: **SUB_231020D** SeqNo: **3205939** Prep Date: **10/16/2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dibromo-3-chloropropane	26.25	0.050	28.56	0	91.9	75-125	0			
1,2-Dibromoethane	27.09	0.050	28.56	0	94.9	75-125	0			

The following samples were analyzed in this batch: 23100579-01B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group
Work Order: 23100579
Project: Hillson Nut; MS23-13; ODAS0003-19

QC BATCH REPORT

Batch ID: **94453** Instrument ID **SVMS3** Method: **SW8270C**

MBLK	Sample ID: **MBLK-94453-94453**			Units: **µg/L**			Analysis Date: **10/16/2023 03:11 PM**			
Client ID:	Run ID: **SVMS3_231016A**			SeqNo: **3202156**		Prep Date: **10/16/2023**		DF: **1**		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzo(a)anthracene	ND	0.15								
Benzo(a)pyrene	ND	0.12								
Benzo(b)fluoranthene	ND	0.12								
Benzo(k)fluoranthene	ND	0.15								
Chrysene	ND	0.15								
Dibenzo(a,h)anthracene	ND	0.038								
Indeno(1,2,3-cd)pyrene	ND	0.12								
Naphthalene	ND	0.15								
Surr: 2-Fluorobiphenyl	*3.395*	0	*4.782*	0	*71*	*21.6-144*	0			

LCS	Sample ID: **LCS-94453-94453**			Units: **µg/L**			Analysis Date: **10/16/2023 03:28 PM**			
Client ID:	Run ID: **SVMS3_231016A**			SeqNo: **3202157**		Prep Date: **10/16/2023**		DF: **1**		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzo(a)anthracene	3.016	0.15	4.91	0	61.4	49.1-127	0			
Benzo(a)pyrene	3.487	0.11	4.91	0	71	42.2-156	0			
Benzo(b)fluoranthene	3.038	0.11	4.91	0	61.9	57.9-130	0			
Benzo(k)fluoranthene	3.028	0.15	4.91	0	61.7	53.6-154	0			
Chrysene	3.57	0.15	4.91	0	72.7	60.2-143	0			
Dibenzo(a,h)anthracene	2.527	0.038	4.91	0	51.5	46-155	0			
Indeno(1,2,3-cd)pyrene	2.821	0.11	4.91	0	57.5	46-147	0			
Naphthalene	2.762	0.15	4.91	0	56.3	55.7-124	0			
Surr: 2-Fluorobiphenyl	*3.132*	0	*4.91*	0	*63.8*	*21.6-144*	0			

The following samples were analyzed in this batch: 23100579-01C 23100579-02B 23100579-03B 23100579-04B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **R222449** Instrument ID **VMS6** Method: **SW8260B**

MBLK	Sample ID: **MBLK-R222449**				Units: **µg/L**		Analysis Date: **10/23/2023 02:53 PM**			
Client ID:		Run ID: **VMS6_231023A**			SeqNo: **3208462**		Prep Date:		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	ND	5.0								
1,1,1-Trichloroethane	ND	5.0								
1,1,2,2-Tetrachloroethane	ND	5.0								
1,1,2-Trichloroethane	ND	5.0								
1,1-Dichloroethane	ND	5.0								
1,1-Dichloroethene	ND	5.0								
1,1-Dichloropropene	ND	5.0								
1,2,3-Trichlorobenzene	ND	5.0								
1,2,3-Trichloropropane	ND	5.0								
1,2,4-Trichlorobenzene	ND	5.0								
1,2,4-Trimethylbenzene	ND	5.0								
1,2-Dibromo-3-chloropropane	ND	5.0								
1,2-Dibromoethane	ND	5.0								
1,2-Dichlorobenzene	ND	5.0								
1,2-Dichloroethane	ND	5.0								
1,2-Dichloropropane	ND	5.0								
1,3,5-Trimethylbenzene	ND	5.0								
1,3-Dichlorobenzene	ND	5.0								
1,3-Dichloropropane	ND	5.0								
1,4-Dichlorobenzene	ND	5.0								
2,2-Dichloropropane	ND	5.0								
2-Butanone	ND	50								
2-Chlorotoluene	ND	5.0								
2-Hexanone	ND	5.0								
4-Chlorotoluene	ND	5.0								
4-Methyl-2-pentanone	ND	5.0								
Acetone	ND	50								
Benzene	ND	5.0								
Bromobenzene	ND	5.0								
Bromochloromethane	ND	5.0								
Bromodichloromethane	ND	5.0								
Bromoform	ND	5.0								
Bromomethane	ND	5.0								
Carbon disulfide	ND	5.0								
Carbon tetrachloride	ND	5.0								
Chlorobenzene	ND	5.0								
Chloroethane	ND	5.0								
Chloroform	ND	5.0								
Chloromethane	ND	5.0								
cis-1,2-Dichloroethene	ND	5.0								
cis-1,3-Dichloropropene	ND	5.0								
Dibromochloromethane	ND	5.0								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **R222449** Instrument ID **VMS6** Method: **SW8260B**

Dibromomethane	ND	5.0					
Dichlorodifluoromethane	ND	5.0					
Ethylbenzene	ND	5.0					
Hexachlorobutadiene	ND	5.0					
Isopropylbenzene	ND	5.0					
m,p-Xylene	ND	10					
Methyl tert-butyl ether	ND	5.0					
Methylene chloride	ND	5.0					
Naphthalene	ND	5.0					
n-Butylbenzene	ND	5.0					
n-Propylbenzene	ND	5.0					
o-Xylene	ND	5.0					
p-Isopropyltoluene	ND	5.0					
sec-Butylbenzene	ND	5.0					
Styrene	ND	5.0					
tert-Butylbenzene	ND	5.0					
Tetrachloroethene	ND	5.0					
Toluene	ND	5.0					
trans-1,2-Dichloroethene	ND	5.0					
trans-1,3-Dichloropropene	ND	5.0					
Trichloroethene	ND	5.0					
Trichlorofluoromethane	ND	5.0					
Vinyl chloride	ND	2.0					
Xylenes, Total	ND	15					
Surr: 4-Bromofluorobenzene	*53.7*	0	*50*	0	*107*	*61-131*	0
Surr: Dibromofluoromethane	*59.13*	0	*50*	0	*118*	*72-137*	0
Surr: Toluene-d8	*55.24*	0	*50*	0	*110*	*80.4-119*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group
Work Order: 23100579
Project: Hillson Nut; MS23-13; ODAS0003-19

QC BATCH REPORT

Batch ID: **R222449** Instrument ID **VMS6** Method: **SW8260B**

LCS	Sample ID: **LCS-R222449**				Units: **µg/L**			Analysis Date: **10/23/2023 01:10 PM**		
Client ID:		Run ID: **VMS6_231023A**			SeqNo: **3208459**	Prep Date:		DF: **1**		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	46.93	5.0	50	0	93.9	48.4-140	0			
1,1-Dichloroethene	42.62	5.0	50	0	85.2	45.5-150	0			
1,2-Dichloroethane	46.64	5.0	50	0	93.3	46.5-141	0			
1,3-Dichlorobenzene	45.56	5.0	50	0	91.1	42.5-133	0			
1,4-Dichlorobenzene	44.9	5.0	50	0	89.8	38.9-136	0			
Benzene	47.92	5.0	50	0	95.8	50.7-134	0			
Carbon tetrachloride	49.2	5.0	50	0	98.4	45.5-143	0			
Chlorobenzene	42.57	5.0	50	0	85.1	45-133	0			
Chloroform	42.99	5.0	50	0	86	52.4-136	0			
cis-1,2-Dichloroethene	46.51	5.0	50	0	93	49.7-138	0			
Ethylbenzene	45.13	5.0	50	0	90.3	37.8-145	0			
m,p-Xylene	100.6	10	100	0	101	25.1-163	0			
Methyl tert-butyl ether	52.91	5.0	50	0	106	26.7-174	0			
Styrene	54	5.0	50	0	108	26.3-172	0			
Tetrachloroethene	29.6	5.0	50	0	59.2	37.3-139	0			
Toluene	44.6	5.0	50	0	89.2	44-135	0			
Trichloroethene	45.89	5.0	50	0	91.8	45.9-140	0			
Xylenes, Total	150.7	15	150	0	100	47.3-132	0			
Surr: 4-Bromofluorobenzene	*50.73*	0	*50*	0	*101*	*61-131*	0			
Surr: Dibromofluoromethane	*52.13*	0	*50*	0	*104*	*72-137*	0			
Surr: Toluene-d8	*51.17*	0	*50*	0	*102*	*80.4-119*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group
Work Order: 23100579
Project: Hillson Nut; MS23-13; ODAS0003-19

QC BATCH REPORT

Batch ID: **R222449** Instrument ID **VMS6** Method: **SW8260B**

MS	Sample ID: **23100791-06A MS**				Units: **µg/L**			Analysis Date: **10/23/2023 01:30 PM**		
Client ID:		Run ID: **VMS6_231023A**			SeqNo: **3208460**	Prep Date:		DF: **1**		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	52.17	5.0	50	0	104	40.4-134	0			
1,1-Dichloroethene	46.82	5.0	50	0	93.6	45.3-151	0			
1,2-Dichloroethane	48.31	5.0	50	0	96.6	37-139	0			
1,3-Dichlorobenzene	50.48	5.0	50	0	101	42.9-121	0			
1,4-Dichlorobenzene	49.05	5.0	50	0	98.1	53.4-129	0			
Benzene	53.94	5.0	50	0	108	37.4-144	0			
Carbon tetrachloride	55.72	5.0	50	0	111	33.8-150	0			
Chlorobenzene	47.23	5.0	50	0	94.5	52.4-132	0			
Chloroform	44.94	5.0	50	0	89.9	45.5-135	0			
cis-1,2-Dichloroethene	49.57	5.0	50	0	99.1	35.2-150	0			
Ethylbenzene	50.93	5.0	50	0	102	46.5-146	0			
m,p-Xylene	112	10	100	0	112	38.2-167	0			
Styrene	59.37	5.0	50	0	119	20.9-184	0			
Tetrachloroethene	33.81	5.0	50	0	67.6	55.2-134	0			
Toluene	49.8	5.0	50	0	99.6	32.7-140	0			
Trichloroethene	52.14	5.0	50	0	104	29.1-153	0			
Xylenes, Total	168.2	15	150	0	112	43.6-148	0			
Surr: 4-Bromofluorobenzene	*51.22*	0	*50*	0	*102*	*61-131*	0			
Surr: Dibromofluoromethane	*50.19*	0	*50*	0	*100*	*72-137*	0			
Surr: Toluene-d8	*50.69*	0	*50*	0	*101*	*80.4-119*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group
Work Order: 23100579
Project: Hillson Nut; MS23-13; ODAS0003-19

QC BATCH REPORT

Batch ID: **R222449** Instrument ID **VMS6** Method: **SW8260B**

MSD	Sample ID: **23100791-06A MSD**				Units: **µg/L**			Analysis Date: **10/23/2023 01:51 PM**		
Client ID:		Run ID: **VMS6_231023A**			SeqNo: **3208461**	Prep Date:		DF: **1**		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	51.52	5.0	50	0	103	40.4-134	52.17	1.25	20	
1,1-Dichloroethene	46.95	5.0	50	0	93.9	45.3-151	46.82	0.277	20	
1,2-Dichloroethane	47.85	5.0	50	0	95.7	37-139	48.31	0.957	20	
1,3-Dichlorobenzene	48.86	5.0	50	0	97.7	42.9-121	50.48	3.26	20	
1,4-Dichlorobenzene	48.45	5.0	50	0	96.9	53.4-129	49.05	1.23	20	
Benzene	52.42	5.0	50	0	105	37.4-144	53.94	2.86	20	
Carbon tetrachloride	53.95	5.0	50	0	108	33.8-150	55.72	3.23	20	
Chlorobenzene	46.22	5.0	50	0	92.4	52.4-132	47.23	2.16	20	
Chloroform	45.41	5.0	50	0	90.8	45.5-135	44.94	1.04	20	
cis-1,2-Dichloroethene	50.7	5.0	50	0	101	35.2-150	49.57	2.25	20	
Ethylbenzene	49.57	5.0	50	0	99.1	46.5-146	50.93	2.71	20	
m,p-Xylene	109.2	10	100	0	109	38.2-167	112	2.54	20	
Styrene	57.99	5.0	50	0	116	20.9-184	59.37	2.35	20	
Tetrachloroethene	32.09	5.0	50	0	64.2	55.2-134	33.81	5.22	20	
Toluene	49.09	5.0	50	0	98.2	32.7-140	49.8	1.44	20	
Trichloroethene	50.06	5.0	50	0	100	29.1-153	52.14	4.07	20	
Xylenes, Total	164.3	15	150	0	110	43.6-148	168.2	2.36	20	
Surr: 4-Bromofluorobenzene	*51.08*	0	*50*	0	*102*	*61-131*	51.22	*0.274*		
Surr: Dibromofluoromethane	*51.52*	0	*50*	0	*103*	*72-137*	50.19	*2.62*		
Surr: Toluene-d8	*51.41*	0	*50*	0	*103*	*80.4-119*	50.69	*1.41*		

The following samples were analyzed in this batch: 23100579-01A 23100579-02A 23100579-03A 23100579-04A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **R222485** Instrument ID **VMS6** Method: **SW8260B**

MBLK	Sample ID: **MBLK-R222485**				Units: **µg/L**		Analysis Date: **10/24/2023 12:51 PM**			
Client ID:		Run ID: **VMS6_231024A**			SeqNo: **3209601**		Prep Date:		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	ND	5.0								
1,1,1-Trichloroethane	ND	5.0								
1,1,2,2-Tetrachloroethane	ND	5.0								
1,1,2-Trichloroethane	ND	5.0								
1,1-Dichloroethane	ND	5.0								
1,1-Dichloroethene	ND	5.0								
1,1-Dichloropropene	ND	5.0								
1,2,3-Trichlorobenzene	ND	5.0								
1,2,3-Trichloropropane	ND	5.0								
1,2,4-Trichlorobenzene	ND	5.0								
1,2,4-Trimethylbenzene	ND	5.0								
1,2-Dibromo-3-chloropropane	ND	5.0								
1,2-Dibromoethane	ND	5.0								
1,2-Dichlorobenzene	ND	5.0								
1,2-Dichloroethane	ND	5.0								
1,2-Dichloropropane	ND	5.0								
1,3,5-Trimethylbenzene	ND	5.0								
1,3-Dichlorobenzene	ND	5.0								
1,3-Dichloropropane	ND	5.0								
1,4-Dichlorobenzene	ND	5.0								
2,2-Dichloropropane	ND	5.0								
2-Butanone	ND	50								
2-Chlorotoluene	ND	5.0								
2-Hexanone	ND	5.0								
4-Chlorotoluene	ND	5.0								
4-Methyl-2-pentanone	ND	5.0								
Acetone	ND	50								
Benzene	ND	5.0								
Bromobenzene	ND	5.0								
Bromochloromethane	ND	5.0								
Bromodichloromethane	ND	5.0								
Bromoform	ND	5.0								
Bromomethane	ND	5.0								
Carbon disulfide	ND	5.0								
Carbon tetrachloride	ND	5.0								
Chlorobenzene	ND	5.0								
Chloroethane	ND	5.0								
Chloroform	ND	5.0								
Chloromethane	ND	5.0								
cis-1,2-Dichloroethene	ND	5.0								
cis-1,3-Dichloropropene	ND	5.0								
Dibromochloromethane	ND	5.0								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **R222485** Instrument ID **VMS6** Method: **SW8260B**

Dibromomethane	ND	5.0					
Dichlorodifluoromethane	ND	5.0					
Ethylbenzene	ND	5.0					
Hexachlorobutadiene	ND	5.0					
Isopropylbenzene	ND	5.0					
m,p-Xylene	ND	10					
Methyl tert-butyl ether	ND	5.0					
Methylene chloride	ND	5.0					
Naphthalene	ND	5.0					
n-Butylbenzene	ND	5.0					
n-Propylbenzene	ND	5.0					
o-Xylene	ND	5.0					
p-Isopropyltoluene	ND	5.0					
sec-Butylbenzene	ND	5.0					
Styrene	ND	5.0					
tert-Butylbenzene	ND	5.0					
Tetrachloroethene	ND	5.0					
Toluene	ND	5.0					
trans-1,2-Dichloroethene	ND	5.0					
trans-1,3-Dichloropropene	ND	5.0					
Trichloroethene	ND	5.0					
Trichlorofluoromethane	ND	5.0					
Vinyl chloride	ND	2.0					
Xylenes, Total	ND	15					
Surr: 4-Bromofluorobenzene	*52.61*	0	*50*	0	*105*	*61-131*	0
Surr: Dibromofluoromethane	*62.94*	0	*50*	0	*126*	*72-137*	0
Surr: Toluene-d8	*57.8*	0	*50*	0	*116*	*94.5-128*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group
Work Order: 23100579
Project: Hillson Nut; MS23-13; ODAS0003-19

QC BATCH REPORT

Batch ID: **R222485** Instrument ID **VMS6** Method: **SW8260B**

LCS	Sample ID: **LCS-R222485**				Units: **µg/L**			Analysis Date: **10/24/2023 10:27 AM**		
Client ID:		Run ID: **VMS6_231024A**			SeqNo: **3209598**		Prep Date:		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	57.43	5.0	50	0	115	48.4-140	0			
1,1-Dichloroethene	49.77	5.0	50	0	99.5	45.5-150	0			
1,2-Dichloroethane	53.14	5.0	50	0	106	46.5-141	0			
1,3-Dichlorobenzene	51.74	5.0	50	0	103	42.5-133	0			
1,4-Dichlorobenzene	51.54	5.0	50	0	103	38.9-136	0			
Benzene	57.48	5.0	50	0	115	50.7-134	0			
Carbon tetrachloride	59.34	5.0	50	0	119	45.5-143	0			
Chlorobenzene	49.71	5.0	50	0	99.4	45-133	0			
Chloroform	49.88	5.0	50	0	99.8	52.4-136	0			
cis-1,2-Dichloroethene	54.04	5.0	50	0	108	49.7-138	0			
Ethylbenzene	53.66	5.0	50	0	107	37.8-145	0			
m,p-Xylene	118	10	100	0	118	25.1-163	0			
Methyl tert-butyl ether	55.09	5.0	50	0	110	26.7-174	0			
Styrene	61.25	5.0	50	0	122	26.3-172	0			
Tetrachloroethene	35.33	5.0	50	0	70.7	37.3-139	0			
Toluene	53.13	5.0	50	0	106	44-135	0			
Trichloroethene	54.95	5.0	50	0	110	45.9-140	0			
Xylenes, Total	177	15	150	0	118	47.3-132	0			
Surr: 4-Bromofluorobenzene	*48.62*	0	*50*	0	*97.2*	*61-131*	0			
Surr: Dibromofluoromethane	*52.25*	0	*50*	0	*104*	*72-137*	0			
Surr: Toluene-d8	*51.51*	0	*50*	0	*103*	*94.5-128*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group
Work Order: 23100579
Project: Hillson Nut; MS23-13; ODAS0003-19

QC BATCH REPORT

Batch ID: **R222485** Instrument ID **VMS6** Method: **SW8260B**

MS	Sample ID: **23100724-01A MS**				Units: **µg/L**			Analysis Date: **10/24/2023 11:08 AM**		
Client ID:		Run ID: **VMS6_231024A**			SeqNo: **3209599**	Prep Date:		DF: **1**		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	54.24	5.0	50	0	108	40.4-134	0			
1,1-Dichloroethene	48.23	5.0	50	0	96.5	45.3-151	0			
1,2-Dichloroethane	49.05	5.0	50	0	98.1	37-139	0			
1,3-Dichlorobenzene	52.74	5.0	50	0	105	42.9-121	0			
1,4-Dichlorobenzene	51.42	5.0	50	0	103	53.4-129	0			
Benzene	54.97	5.0	50	0	110	37.4-144	0			
Carbon tetrachloride	57.96	5.0	50	0	116	33.8-150	0			
Chlorobenzene	48.89	5.0	50	0	97.8	52.4-132	0			
Chloroform	46.74	5.0	50	0	93.5	45.5-135	0			
cis-1,2-Dichloroethene	51.08	5.0	50	0	102	35.2-150	0			
Ethylbenzene	53.3	5.0	50	0	107	46.5-146	0			
m,p-Xylene	116.5	10	100	0	117	38.2-167	0			
Styrene	60.99	5.0	50	0	122	20.9-184	0			
Tetrachloroethene	35.14	5.0	50	0	70.3	55.2-134	0			
Toluene	51.68	5.0	50	0	103	32.7-140	0			
Trichloroethene	52.97	5.0	50	0	106	29.1-153	0			
Xylenes, Total	174.3	15	150	0	116	43.6-148	0			
Surr: 4-Bromofluorobenzene	*50.49*	0	*50*	0	*101*	*61-131*	0			
Surr: Dibromofluoromethane	*49.83*	0	*50*	0	*99.7*	*72-137*	0			
Surr: Toluene-d8	*50.73*	0	*50*	0	*101*	*94.5-128*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group
Work Order: 23100579
Project: Hillson Nut; MS23-13; ODAS0003-19

QC BATCH REPORT

Batch ID: **R222485** Instrument ID **VMS6** Method: **SW8260B**

MSD Sample ID: **23100724-01A MSD** Units: **µg/L** Analysis Date: **10/24/2023 11:29 AM**
Client ID: Run ID: **VMS6_231024A** SeqNo: **3209600** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	53.45	5.0	50	0	107	40.4-134	54.24	1.47	20	
1,1-Dichloroethene	46.29	5.0	50	0	92.6	45.3-151	48.23	4.1	20	
1,2-Dichloroethane	50.1	5.0	50	0	100	37-139	49.05	2.12	20	
1,3-Dichlorobenzene	50.42	5.0	50	0	101	42.9-121	52.74	4.5	20	
1,4-Dichlorobenzene	49.51	5.0	50	0	99	53.4-129	51.42	3.78	20	
Benzene	54	5.0	50	0	108	37.4-144	54.97	1.78	20	
Carbon tetrachloride	56.19	5.0	50	0	112	33.8-150	57.96	3.1	20	
Chlorobenzene	47.23	5.0	50	0	94.5	52.4-132	48.89	3.45	20	
Chloroform	46.27	5.0	50	0	92.5	45.5-135	46.74	1.01	20	
cis-1,2-Dichloroethene	50.42	5.0	50	0	101	35.2-150	51.08	1.3	20	
Ethylbenzene	51.22	5.0	50	0	102	46.5-146	53.3	3.98	20	
m,p-Xylene	111.6	10	100	0	112	38.2-167	116.5	4.34	20	
Styrene	59.28	5.0	50	0	119	20.9-184	60.99	2.84	20	
Tetrachloroethene	33.58	5.0	50	0	67.2	55.2-134	35.14	4.54	20	
Toluene	50.23	5.0	50	0	100	32.7-140	51.68	2.85	20	
Trichloroethene	51.94	5.0	50	0	104	29.1-153	52.97	1.96	20	
Xylenes, Total	167.6	15	150	0	112	43.6-148	174.3	3.94	20	
Surr: 4-Bromofluorobenzene	*50.09*	0	*50*	0	*100*	*61-131*	50.49	*0.795*		
Surr: Dibromofluoromethane	*50.12*	0	*50*	0	*100*	*72-137*	49.83	*0.58*		
Surr: Toluene-d8	*51.05*	0	*50*	0	*102*	*94.5-128*	50.73	*0.629*		

The following samples were analyzed in this batch: 23100579-02A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

ALS Environmental

Date: 27-Oct-23

Client: The Mannik & Smith Group
Project: Hillson Nut; MS23-13; ODAS0003-19
WorkOrder: **23100579**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not 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 detected below quantitation limit
n	Not offered for accreditation
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

Acronym	Description
DUP	Method Duplicate
E	EPA Method
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SDL	Sample Detection Limit
SW	SW-846 Method

Units Reported	Description
µg/L	
mg/L	

ALS Environmental

Sample Receipt Checklist

Client Name: **MANNIK-MAUMEE** Date/Time Received: **13-Oct-23 10:12**

Work Order: **23100579** Received by: **AB1**

Checklist completed by Alec Bolender (eSignature) 13-Oct-23 (Date) Reviewed by: Rob Nieman (eSignature) 19-Oct-23 (Date)

Matrices: water

Carrier name: FedEx

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 ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody 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 ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	5.2	120258	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:			
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

Field Chain-of-Custody Record

Page 1 of 1

75784

REV 10/2017

ALS | Environmental
4388 Glendale Milford Rd.
Cincinnati, Ohio 45242
Phone: (513) 733-5336
Fax: (513) 733-5347

Ship To:

23100579

REGULAR Status ☒ RUSH Status ☐ RESULTS REQUIRED BY: (Date) _____
CONTACT ALS ENVIRONMENTAL PRIOR TO SENDING SAMPLES

OH VAP: ☒ YES ☐ NO BUSTR: ☒ YES ☐ NO NELAC: ☐ YES ☐ NO

Date: 10/12/23
Purchase Order No.:
Company Name: The MANNIK & SMITH GRP.
Project No.: ODAS0003-19
Address: 1800 INDIAN WOOD CIRCLE
Sampling Site: HILLSON NUT
MAUMEE (City) OH (State) 43537 (Zip)
MS23-13
Person to Contact: MATT PESCI
Billing Address (if different): OHIO EPA
Email Address: MPESCI@MANNIKSMITHGROUP.COM
DERR
Telephone (419): 891-2222 x2088
LAZARUS GOVERNMENT CENTER
Alternate Contact:
P.O. 1049 COLUMBUS, OH 43216

ALS Lab ID	Sample ID / Description	Date	Time	Preservation Key #	Sample Type / Matrix Key Abbr.	# of Sample Containers	ANALYSIS REQUESTED: BUSTR VOCs 8260	EDB 8011	BUSTR PAHs (MSD) 8021 8270	Total Lead		VOCs 8260	PAHs 8270	RCRA Metals		
1	MW-23	10/12/23	10:00	1,4,9	W	4	X	X	X	X						
2	MW-24	10/12/23	10:50	1,4,9	W	4						X	X	X		
3	MW-29	10/12/23	11:00	1,4,9	W	4						X	X	X		
4	MW-30	10/12/23	11:15	1,4,9	W	4						X	X	X		

Notes:

Preservation Key: 1 - HCl 2 - HNO_3 3 - H_2SO_4 4 - NaOH 5 - $Na_2S_2O_3$ 6 - $NaHSO_4$ 7 - NaOH/ZnAcetate 8 - Other 9 - 4°C

Matrix Key: A - Air B - Bulk S - Soil W - Water

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.

Relinquished By: (Signature) A. Langer	Time / Date 16:30 / 10/12	Received By: (Signature)	Time / Date 10/13/23 1047
Relinquished By: (Signature)	Time / Date	Received By: (Signature)	Time / Date
Relinquished By: (Signature)	Time / Date	Received By: (Signature)	Time / Date

ALS LAB USE ONLY 120258

COOLER TEMP: 5.2 °C TAKEN WITH IR#: 119063 119059

COOLING METHOD: NONE COOLER WET ICE DRY ICE ICE PACK

DELIVERY METHOD: CLIENT DROP BOX FEDEX UPS
STD MAIL PRTY MAIL ALS COURIER OTHER:

CUSTODY SEALS: NOT REQUIRED COOLER PACKAGE SAMPLES

pH ADJUSTMENTS: