
PHASE II ENVIRONMENTAL INVESTIGATION REPORT

**PARCELS LOCATED AT
160-168 BEST STREET, 1145 MICHIGAN AVENUE, AND 81 EDNA PLACE
BUFFALO, NEW YORK**

February 2021

T0371-021-001

Prepared for:



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1.0 INTRODUCTION

1.1 Background and Site Description

TurnKey Environmental Restoration, LLC (TurnKey) performed a Phase II Environmental Investigation on behalf of Cedarland Development Group (CDG) at seven (7) parcels addressed as 160, 162, 164, 168 Best Street, 1145 Michigan Avenue and 81 Edna Place, in the City of Buffalo, New York (Site). The properties addressed as 166 and 168 Best, and 81 Edna Street are owned by CDG, or a related entity. The other four (4) properties are owned by the City of Buffalo.

The Site is in a highly developed commercial and residential area in the City of Buffalo in the vicinity of the Buffalo-Niagara Medical Campus (see Figure 1) and the parcels are currently vacant (see Figure 2).

1.2 Previous Study

TurnKey completed a Phase I Environmental Site Assessment for the Site in February 2016. We note that the Phase I ESA also included a parcel located at 1157 Michigan Avenue, which was not a part of the Phase II ESA.

TurnKey's investigation revealed the following RECs in connection with the Site:

- The historic on-Site automotive repair operations, which were located at 1139 Michigan Avenue (now addressed as the northern portion of 160 Best Street and the southern portion of 1145 Michigan Avenue) with the reasonably anticipated use of petroleum and/or solvents, is considered a REC as subsurface conditions are unknown.
- The potential for miscellaneous fill materials exists on-Site as fill materials may have been brought to the Site to bring former building areas to grade. The presence of fill material from unknown sources is considered a REC due to the potential for impacts.
- The historic adjacent automotive repair and gasoline station operations with gasoline underground storage tanks (USTs) along with the dry cleaner are considered RECs due to the potential for environmental impacts from these operations.

Due to the RECs identified for the Site, TurnKey recommended completion of a Phase II Environmental Investigation to assess subsurface soil/fill conditions.

2.0 SITE INVESTIGATION ACTIVITIES

2.1 Test Pit Investigation

TurnKey completed test pit investigations with a mini track-mounted excavator to assess subsurface conditions at the Site. Eighteen (18) test pits designated as TP-1 through TP-18 were completed at the Site (see Figure 3). The test pits were advanced to depths varying from approximately 5 to 8 feet below ground surface (fbgs) into the native soil underlying at the Site.

The soil/fill samples were retrieved from the test pit locations to allow for field characterization of the subsurface lithology and collection of soil/fill samples by TurnKey's geologist. The physical characteristics of the subsurface soil/fill at the test pit locations were classified using the ASTM D2488 Visual-Manual Procedure Description. Soil/fill from each test pit was field screened using a MiniRae 3000 Photoionization Detector (PID). Visual and/or olfactory observations were also noted, if observed. Field observations, including lithology, depths, PID field screen results, etc., at the test pit locations are summarized in the Summary of Subsurface Field Observations provided in Table 1. Photographs taken during the work are included in Appendix A.

At least one (1) test pit was completed at each of the seven (7) parcels that make up the Site. Twelve (12) soil/fill samples were selected for laboratory analysis and were transported under chain-of custody command to Alpha Analytical (Alpha) in Westborough, Massachusetts (see Table 2). Sample analysis included USEPA Target Compound List (TCL) volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs) using the TCL base-neutral list or CP-51 list, and Resource Conservation and Recovery Act (RCRA) 8 metals. Samples were collected in laboratory provided sample bottles, cooled to 4⁰ C in the field, and transported to the laboratory for analysis.

3.0 INVESTIGATION FINDINGS

3.1 Site Geology

The surface of the Site generally consisted of a mixed vegetative cover (grass, brush, and small trees). The parcels along Best Street (160, 162, 164, 166 and 168) had recently been used as a construction-material storage area (i.e., piping, stone backfill, topsoil, dumpsters) by the contractor performing sewer work along Michigan Avenue and Best Street. Portions of these parcels appear to have been recently regraded and hydro seeded.

The subsurface conditions of the Site consisted of varying types of fill materials ranging in depth from 0 to 7 fbgs. Fill materials were found at the test pit locations with the exception of TP-6 and TP-14, which are adjacent test pits at the southern end of 81 Edna Place and easter portion of 1145 Michigan Avenue, respectively (see Figure 3). Native soil was encountered at the test pit locations and consisted of reddish brown sandy lean clay, typical of this area, at depths ranging from 2 to 7 fbgs. Native soils were encountered at shallower depths in the north and western portion of 1145 Michigan Avenue parcel compared to other areas of the Site which averaged 4 to 5 fbgs.

Field observations, including lithology, depths, PID scan results, etc., at the test pit locations are summarized in the Summary of Subsurface Field Observations Table provided in Table 1.

Groundwater was not encountered during Phase II activities. Perched water was only observed in one (1) test pit (TP-3) at about 2 to 4 fbgs. However, groundwater flow is likely northerly, consistent with topography in the vicinity of the Site. Local groundwater flow, however, may be influenced by subsurface features, such as excavations, utilities, and localized fill-conditions.

3.2 Field Observations

Soil/fill samples from the test pit investigation were observed and field screened for total volatile organics using a PID. No visual or olfactory evidence of impacts were observed, nor were elevated PID readings identified at the test pit locations.

Fill materials were identified at 17 of the 18 test pit locations which contained various amounts of black fines, brick, concrete debris, cinders, ash, metal, glass, and plastic debris.

3.3 Soil Analytical Results

Table 2 is summary of the analytical samples collected for analysis and the analytical testing assigned. Table 3 presents a summary of the analytical results from the twelve (12) soil/fill samples that were analyzed. For comparative purposes, Table 3 includes the Part 375 Soil Cleanup Objectives (SCOs).

Part 375 SCOs are specific to the intended reuse of a site and are typically employed for comparison at other investigation or remediation sites with NYSDEC oversight, such as Brownfield sites. Based upon current zoning and the anticipated future use of the Site in a multi-story, multi-unit residential capacity, the Restricted Residential SCOs are considered applicable comparative criteria.

A copy of the laboratory analytical data report is included in Appendix B.

Volatile Organic Compounds

VOCs were not detected above method detection limits (MDLs) in the two (2) samples analyzed for VOCs during the Phase II.

Semi-Volatile Organic Compounds

SVOCs were detected above MDLs in the twelve (12) samples analyzed for SVOCs. SVOCs, specifically, polycyclic aromatic hydrocarbons (PAHs) were detected above their respective Part 375 RRSCOs, Commercial SCOs (CSCOs), and/or Industrial SCOs (ISCOs) at four (4) investigation locations, TP-5, TP-9, TP-11, and TP-17. These sample locations are shown in on Figure 3 and Figure 4 (which also contains the analytical results). PAHs were detected above their respective SCOs on the 160 Best Street, 1145 Michigan Avenue, and 81 Edna Place parcels.

- Benzo(a)anthracene and benzo(b)fluoranthene exceeded their RRSCOs at three (3) locations: TP-5, 1 to 4.5 ft, TP-11, 2 to 3 ft, and TP-17, 2 to 3 ft; and their CSCOs at one (1) location, TP-9, 0 to 0.5 ft.
- Benzo(a)pyrene exceeded its ISCO at three (3) locations: TP-9, 0 to 0.5 ft, TP-11, 2 to 3 ft, and TP-17, 2 to 3 ft.
- Chrysene exceeded its RRSCO at one (1) location: TP-9, 0 to 0.5 ft.
- Dibenzo(a,h)anthracene exceeded its CSCO at one (1) location: TP-9, 0 to 0.5 ft.
- Indeno(1,2,3-cd)pyrene exceeded its RRSCO at four (4) locations: TP-5, 1 to 4.5 ft, TP-9, 0 to 0.5 ft, TP-11, 2 to 3 ft, and TP-17, 2 to 3 ft.

Metal Analytes

Metal analytes were detected above MDLs in the twelve (12) samples analyzed for metals. Metal analytes were detected above their respective Part 375 RRSCOs, CSCOs, and/or ISCOs at seven (7) investigation locations, TP-2, TP-3, TP-5, TP-7, TP-11, and TP-18. These sample locations are shown in on Figure 3 and Figure 4 (which also contains the analytical results). Metals above their respective SCOs were detected on the 162, 164, 166, and 168 Best Street, 1145 Michigan Avenue, and 81 Edna Place parcels.

- Arsenic exceeded its ISCO at TP-18, 2 to 3 ft.
- Barium exceeded its CSCO at TP-18, 2 to 3 ft.
- Lead exceeded its RRSCO at TP-3, 1 to 4 on the 166 Best Street property; CSCOs at TP-5, 1 to 4.5 ft, TP-7, 0.5 to 2.5 ft, TP-11, 2 to 3 ft, TP-18, 2 to 3 ft; and its ISCO at TP-3, 2 to 4 ft.
- Mercury exceeded its RRSCO at TP-2, 2 to 5 ft, TP-3, 1 to 4 ft and TP-51 to 4.5 ft.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the results of the Phase II Environmental Investigation at the Site, TurnKey offers the following conclusions and recommendations:

- No visual/olfactory evidence of impacts or PID readings exceeding background (0 ppm) were observed during the investigation.
- Subsurface conditions of the Site consisted of varying types of fill materials ranging in depth from 0 to 7 fbgs which contained various amounts of black fines, brick, concrete debris, cinders, ash, metal, glass, and plastic debris.
- VOCs were not detected above MDLs in the two (2) samples analyzed for VOCs.
- SVOCs, specifically PAHs were detected above MDLs in the twelve (12) samples analyzed. PAHs were detected above their respective RRSCOs, CSCOs, and/or or ISCOs at four (4) locations (TP-5, TP-9, TP-11, and TP-17) on three (3) different parcels (160 Best Street, 1145 Michigan Avenue, and 81 Edna Place).
- Metals were detected above MDLs in the twelve (12) samples analyzed with detections above their respective RRSCOs, CSCOs, and/or or ISCOs at seven (7) investigation locations (TP-2, TP-3, TP-5, TP-7, TP-11, and TP-18) on six (6) parcels (162, 164, 166, and 168 Best Street, 1145 Michigan Avenue, and 81 Edna Place).

Environmental impacts have been identified at each of the seven (7) parcels that make up the Site and may be attributed historic Site usage and/or filling activities. SVOCs and metals were detected at concentrations above their respective RRSCOs, which are applicable for the intended reuse of the Site, with some samples exceeding the CSCOs and ISCOs. The detected concentrations exceeding the applicable RRSCOs were detected in the fill material present at the Site. Fill material is present across most of the Site and varies in depth up to 7 fbgs. The contaminated fill material and any other solid waste material generated during the redevelopment project will require proper management and landfill disposal.

Based on the existing data the Site is a candidate for the BCP. The Site meets the definition of a BCP site per the current BCP law which states a “brownfield site or site shall mean any real property where a contaminant is present at levels exceeding the soil cleanup objectives or other health-based or environmental standards, criteria, or guidance adopted by

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the department that are applicable based on the reasonably anticipated use of the property, in accordance with applicable regulations.”

5.0 LIMITATIONS

This report has been prepared for the exclusive use of CDG. The contents of this report are limited to information available at the time of the Phase II Environmental Investigation activities and to data referenced herein; and assume all referenced historic information sources to be true and accurate. The findings herein may be relied upon only at the discretion of CDG. Use of or reliance on this report or its findings by any other person or entity is prohibited without written permission of TurnKey Environmental Restoration, LLC.

TABLES



TABLE 1

SUMMARY OF SUBSURFACE FIELD OBSERVATIONS
PHASE II ENVIRONMENTAL INVESTIGATION REPORT
MICHIGAN & BEST STREETS
BUFFALO, NEW YORK

Location	Date	Parcel	Fill Present	Odors	Water Present	Depth of Test Pit (fbgs)	Thickness of Fill (ft)	Length of Test Pits (ft)	Test Pit Width (ft)	PID Measurements	Sample Depth (ft)	Depth (fbgs) and Soil Description
TP-1	01/15/21	168 Best	Yes	No	No	5	3.0	35	2.5	0	1 - 3 ft	0 to 3 ft: FILL - Dark brown/Black, mostly fines, with some fine sand, some fine sand, mixed with concrete, brick, metal debris, ash and partial burnt material.
										0		3 to 4 ft: RE-WORKED SAND - Brown, moist, mostly fine sand, with little silt, loose.
										0		4 to 5 ft: SANDY LEAN CLAY - Reddish brown, moist, mostly clay, with some fine sand, very stiff, rootlets.
TP-2	01/15/21	168 Best	Yes	No	No	6	5.0	30	3.5	0		0 to 5 ft: FILL - Brown Reddish/brown, mostly reworked clay, some fine sand, with orange brick, concrete and asphalt, overlying a concrete floor, larger concrete rubble debris towards the center of the test pit and ash pockets at the north end of test pit.
										0		5 to 6 ft: SANDY LEAN CLAY - Reddish brown, moist, mostly clay, with some fine sand, very stiff, rootlets.
TP-3	01/15/21	166 Best (west end) 168 Best (east end)	Yes	No	Yes	7	4.0	31	2.5	0		0 - 1 ft: TOPSOIL - Dark brown, moist, mostly silt, some fine sand, with little clay, trace fine gravel, roots with trace brick and concrete.
										0	1 - 4 ft	1 to 4 ft: FILL - Dark brown/black, mostly fines, with some fine sand, mixed with concrete and brick debris, overlying a concrete floor (west end), larger concrete rubble debris towards the center of the test pit with small amount of perched water and ash lens from 2.0 to 4.0 fbgs at the east end of the test pit.
										0		4 to 5 ft: RE-WORKED SAND - Brown, moist, mostly fine sand, with little silt, loose.
										0		5 to 6 ft: SANDY LEAN CLAY - Reddish brown, moist, mostly clay, with some fine sand, very stiff, rootlets.
TP-4	1/15/2021	166 Best	Yes	No	No	6	4	20	2.5	0		0 to 3 ft: FILL - Brown Reddish/brown, mostly reworked clay, some fine sand, with orange brick, concrete and asphalt and crushed stone, overlying concrete floor at 3.0 fbgs at the south end of test pit.
										0		3 to 4 ft. FILL - Black, mostly silt fines with some fine sand, orange brick, cinders and concrete. At north end of test pit.
										0		4 to 5 ft: RE-WORKED SAND - Brown, moist, mostly fine sand, with little silt, loose.
										0		5 to 6 ft: SANDY LEAN CLAY - Reddish brown, moist, mostly clay, with some fine sand, very stiff, rootlets.
TP-5	1/15/2021	81 Edna	Yes	No	No	5	4.5	15	4	0		0 - 1 ft: TOPSOIL - Dark brown, moist, mostly silt, some fine sand, with little clay, trace fine gravel.
										0	1 - 4.5 ft	3 to 4.5 ft. FILL - Black, mostly silt fines with some fine sand, orange brick, large concrete debris, metal debris and plastic debris.
										0		4.5 to 5 ft: SANDY LEAN CLAY - Reddish brown, moist, mostly clay, with some fine sand, very stiff, rootlets.



TABLE 1

SUMMARY OF SUBSURFACE FIELD OBSERVATIONS
PHASE II ENVIRONMENTAL INVESTIGATION REPORT
MICHIGAN & BEST STREETS
BUFFALO, NEW YORK

Location	Date	Parcel	Fill Present	Odors	Water Present	Depth of Test Pit (fbgs)	Thickness of Fill (ft)	Length of Test Pits (ft)	Test Pit Width (ft)	PID Measurements	Sample Depth (ft)	Depth (fbgs) and Soil Description
TP-6	01/15/21	81 Edna	No	No	No	5	0.0	15	2.5	0		0.0 - 1 ft: TOPSOIL - Dark brown/black, moist, mostly silt, some fine sand, with little clay, trace fine gravel and roots
										0		4 to 4.5 ft: RE-WORKED SAND - Brown, moist, mostly fine sand, with little silt, loose.
										0		4.5 to 5.0 ft: SANDY LEAN CLAY - Reddish brown, moist, mostly clay, with some fine sand, very stiff, rootlets.
TP-7	01/15/21	164 Best east end 162 Best west end	Yes	No	No	6	2.5	35	2.5	0		0 to 2.5 ft: FILL - Brown, mostly silt and clay, some fine sand, with orange brick, concrete and asphalt and crushed stone.
										0		2.5 to 4.5 ft: RE-WORKED SAND - Brown, moist, mostly fine sand, with little silt, loose.
										0		4.5 to 6 ft: SANDY LEAN CLAY - Reddish Brown, moist, mostly clay, Some fine sand, stiff.
TP-8	01/15/21	160 Best South end 1145 Michigan north end	Yes	No	No	6	4	35	2.5	0		0 - 1 ft: TOPSOIL - Dark brown, moist, mostly silt, some fine sand, with little clay, trace fine gravel, roots, with surface dedris (trace concrete and brick).
										0	3 to 4	1 to 4 ft: FILL - Brown/dark brown, mostly fines with some fine sand, with concrete, orange brick, carpeting and limestone block.
										0		4 to 5 ft: RE-WORKED SAND - Brown, moist, mostly fine sand, with little silt, loose.
										0		5 to 6 ft: SANDY LEAN CLAY - Reddish brown, moist, mostly clay, some fine sand, stiff.
TP-9	01/15/21	1145 Michigan	Yes	No	No	5	4	25	2.5	0	0 to 0.5	0 - 1 ft: TOPSOIL - Black, moist, mostly silt, some fine sand, cinders and brick, root, three 1 and a 1/2 inch steel pipes from from one to two feet at south end of test pit.
										0		1 to 4 ft FILL - Brown/dark brown, mostly silt and clay, with orange brick and concrete.
										0		4 - 5 ft: SANDY LEAN CLAY - reddish brown, moist, mostly clay, some fine sand, stiff.
TP-10	01/15/21	1145 Michigan	Yes	No	No	5	3.5	16	2.5	0		0 - 1.5 ft: TOPSOIL - Dark brown, moist, mostly silt, some fine sand, cinders and brick, roots.
										0		1.5 to 3.5 ft: FILL - Brown/dark brown, mostly silt and clay, with orange brick and concrete.
										0		3.5- 5 ft: SANDY LEAN CLAY - Reddish brown, moist, mostly clay, some fine sand, stiff.
TP-11	02/08/21	1145 Michigan	Yes	No	Yes	8	7.0	10	2.5	0	2 to 3	1.5 to 6 ft: FILL - Black/ brown, moist, mostly silty sand, some fill limestone, metal piping, brick, concrete, cinders, subangular gravel, plastic, glass, wood
										0	6 to 7	6- 7 ft: Ash Fill - Black/ white, wet, mostly ash, some cinders, coal, black fines
										0		7- 8 ft: SANDY LEAN CLAY - Reddish brown, moist, mostly clay, some fine sand, stiff.



TABLE 1
SUMMARY OF SUBSURFACE FIELD OBSERVATIONS
PHASE II ENVIRONMENTAL INVESTIGATION REPORT
MICHIGAN & BEST STREETS
BUFFALO, NEW YORK

Location	Date	Parcel	Fill Present	Odors	Water Present	Depth of Test Pit (fbgs)	Thickness of Fill (ft)	Length of Test Pits (ft)	Test Pit Width (ft)	PID Measurements	Sample Depth (ft)	Depth (fbgs) and Soil Description
TP-12	02/08/21	1145 Michigan	Yes	No	No	5	2	15	2.5	0		0 - 0.5 ft: TOPSOIL - Black, moist, mostly silt, some fine sand, cinders and brick, root.
										0	1 to 2	0.5 to 2 ft FILL - Brown/dark brown, mostly silt and clay, little fill brick, glass, wood
										0		2 - 5 ft: SANDY LEAN CLAY - Reddish brown, moist, mostly clay, some fine sand, stiff.
TP-13	02/08/21	1145 Michigan	Yes	No	No	5	n/a	15	2.5	0		0 to 0.5 ft: FILL- Black/ grey, moist, mostly silty sand, few fill brick, concrete, glass, wood
										0		0.5- 5 ft: SANDY LEAN CLAY - Reddish brown, moist, mostly clay, some fine sand, stiff.
TP-14	02/08/21	1145 Michigan	Yes	No	No	5	n/a	15	2.5	0		0 - 0.5 ft: TOPSOIL - Dark brown, moist, mostly silt, some fine sand, cinders and brick, roots.
										0		0.5- 5 ft: SANDY LEAN CLAY - Reddish brown, moist, mostly clay, some fine sand, stiff.
TP-15	02/08/21	1145 Michigan	Yes	No	No	5	1.5	20	2.5	0		0 - 0.5 ft: TOPSOIL - Dark brown, moist, mostly silt, some fine sand, cinders and brick, roots.
										0	0.5 to 1.5	0.5 to 1.5 ft: FILL- White, moist, mostly ash, some cinders, brick, coal
										0		1.5- 5 ft: SANDY LEAN CLAY - Reddish brown, moist, mostly clay, some fine sand, stiff.
TP-16	02/08/21	160 Best	Yes	No	No	6	1	15	2.5	0	0 to 1	0 to 1 ft FILL - Black, moist, mostly silty sand, little fill brick, glass, limestone, rubber hose
										0		1 - 6 ft: REWORKED SANDY LEAN CLAY - Reddish brown, moist, mostly clay, some fine sand, stiff.
TP-17	02/08/21	160 Best	Yes	No	No	6	4.0	15	2.5	0		0 - 2 ft: REWORKED SANDY LEAN CLAY - Reddish brown, moist, mostly clay, some fine sand, stiff.
										0	2 to 3	2 to 4 ft: FILL- White, mostly ash, some glass, brick, coal, cinders
										0		4- 6 ft: SANDY LEAN CLAY - Reddish brown, moist, mostly clay, some fine sand, stiff.
TP-18	02/08/21	162 Best	Yes	No	No	6	5.0	15	2.5	0	2 to 3	0 to 5 ft: FILL- Dark brown/ black, moist, mostly silty sand, some fill brick, glass, ash, cinders, wood, fire brick, metal, wiring
										0		5- 6 ft: SANDY LEAN CLAY - Reddish brown, moist, mostly clay, some fine sand, stiff.

Definitions:
fbgs = feet below ground surface



TABLE 2

**SUMMARY OF SAMPLING AND ANALYSIS PROGRAM
PHASE II ENVIRONMENTAL INVESTIGATION REPORT
MICHIGAN & BEST, BUFFALO, NEW YORK**

Sample Location	Sample Depth (fbgs)	Soil Type	Parcel Address	Analysis			
				TCL VOCs	TCL list SVOCs base-neutrals only	CP-51 List SVOCs	RCRA 8 Metals
Subsurface Soil/Fill Samples							
TP-1	1 to 3 ft	Fill	168 Best	x	x		x
TP-2	2 to 5 ft	Fill	168 Best			x	x
TP-3	1 to 4 ft	Fill	166 Best		x		x
TP-3	2 to 4	Fill	168 Best			x	x
TP-5	1 to 4.5 ft	Fill	81 Edna	x	x		x
TP-7	0.5 to 2.5 ft	Fill	162 Best			x	x
TP-7	0.5 to 2.5 ft	Fill	164 Best			x	x
TP-8	3 to 4 ft	Fill	160 Best		x		x
TP-9	0 to 0.5 ft	Fill	1145 Michigan		x		x
TP-11	2 to 3 ft	Fill	1145 Michigan			x	x
TP-17	2 to 3 ft	Fill	160 Best			x	x
TP-18	2 to 3	Fill	162 Best			x	x

Notes:

fbgs - feet below ground surface.

TCL VOC - Total Compound List, Volatile Organic Compounds

TCL SVOCs - Target Compound List, Semivolatile Organic Compounds.

CP-51 - Commissioner's Policy 51 List.

RCRA - Resource Conservation & Recovery Act.



TABLE 3
SUMMARY OF SOIL/FILL SAMPLE ANALYTICAL RESULTS
PHASE II ENVIRONMENTAL INVESTIGATION
MICHIGAN & BEST (7 PARCELS)
BUFFALO, NEW YORK

PARAMETER ¹	Unrestricted Use SCOs ²	Restricted Residential Use SCOs ³	Commercial Use SCOs ³	Industrial Use SCOs ³	TP-1	TP-2	TP-3	TP-3	TP-5	TP-7	TP-7	TP-8	TP-9	TP-11	TP-17	TP-18
					1-3 FT	2-5 FT	1-4 FT	2-4 FT	1-4.5 FT	0.5-2.5 FT	0.5-2.5 FT	3-4 FT	0.0-0.5 FT	2-3 FT	2-3 FT	2-3 FT
					168 Best	168 Best	166 Best	168 Best	81 Edna	162 Best	164 Best	160 Best	1145 Michigan	1145 Michigan	160 Best	162 Best
Volatile Organic Compounds (SVOCs) - mg/Kg ⁴																
Total VOCs	--	--	--	--	ND	--	--	--	ND	--	--	--	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs) - mg/Kg ⁴																
2-Methylnaphthalene	--	--	--	--	0.12 J	--	0.11 J	--	0.092 J	--	--	0.051 J	0.6 J	--	--	--
Acenaphthene	20	100	500	1000	0.023 J	ND	0.051 J	ND	0.16 J	ND	ND	0.13 J	0.6 J	0.21	0.25	0.063 J
Acenaphthylene	100	100	500	1000	ND	ND	0.08 J	ND	0.15 J	ND	ND	ND	1.3	0.32	0.23	0.073 J
Anthracene	100	100	500	1000	0.064 J	0.038 J	0.22	ND	0.56	ND	0.04 J	0.28	2	0.73	0.92	0.2
Benzo(a)anthracene	1	1	5.6	11	0.26	0.18	0.61	0.09 J	1.1	0.14	0.17	0.38	7.4	1.9	2.8	0.64
Benzo(a)pyrene	1	1	1	1.1	0.31	0.17	0.65	0.082 J	0.9	0.11 J	0.14 J	0.33	7.4	1.8	2.6	0.52
Benzo(b)fluoranthene	1	1	5.6	11	0.38	0.24	0.77	0.12	1.2	0.17	0.19	0.37	9	2.2	3.3	0.73
Benzo(ghi)perylene	100	100	500	1000	0.23	0.11 J	0.44	0.066 J	0.5	0.075 J	0.091 J	0.17	4.4	1	1.6	0.3
Benzo(k)fluoranthene	0.8	3.9	56	110	0.11 J	0.058 J	0.31	ND	0.44	0.038 J	0.059 J	0.16	3.1	0.8	1.1	0.27
Bis(2-ethylhexyl) phthalate	--	--	--	--	ND	--	0.42	--	ND	--	--	ND	ND	--	--	--
Carbazole	--	--	--	--	0.028 J	--	0.11 J	--	0.31	--	--	0.096 J	1.4	--	--	--
Chrysene	1	3.9	56	110	0.27	0.15	0.62	0.088 J	1	0.11	0.14	0.31	7.1	2	2.8	0.56
Dibenzofuran	7	59	350	1000	0.046 J	--	0.085 J	--	0.19 J	--	--	0.12 J	1 J	--	--	--
Dibenzo (a,h)anthracene	0.33	0.33	0.56	1.1	0.052 J	0.028 J	0.097 J	ND	0.15	ND	0.024 J	0.046 J	0.99	0.26	0.43	0.071 J
Di-n-butyl phthalate	--	--	--	--	0.055 J	--	ND	--	ND	--	--	ND	ND	--	--	--
Fluoranthene	100	100	500	1000	0.37	0.32	1.2	0.16	2.4	0.24	0.3	0.84	17	4.2	6.2	1.2
Fluorene	30	100	500	1000	0.032 J	ND	0.066 J	ND	0.28	ND	0.023 J	0.14 J	1.2	0.31	0.28	0.068 J
Indeno(1,2,3-cd)pyrene	0.5	0.5	5.6	11	0.21	0.12 J	0.45	0.079 J	0.55	0.088 J	0.1 J	0.16 J	4.6	1.2	1.7	0.34
Naphthalene	12	100	500	1000	0.075 J	0.024 J	0.11 J	0.025 J	0.12 J	ND	ND	0.078 J	1.2	0.29	0.16 J	0.095 J
Phenanthrene	100	100	500	1000	0.38	0.18	0.99	0.1 J	2.2	0.12	0.18	1	14	3.4	4.1	0.79
Pyrene	100	100	500	1000	0.36	0.28	1	0.13	1.8	0.19	0.24	0.7	15	3.6	5.1	0.97
Total Metals - mg/Kg																
Arsenic	13	16	16	16	8.1	6.04	13.6	6.14	7.92	2.84	3.35	2.93	9.58	12.9	5.58	21.6
Barium	350	400	400	10000	179	127	281	166	188	63.4	186	53.7	132	185	144	433
Cadmium	2.5	4.3	9.3	60	0.704	0.755	1.31	1.26	1.48	0.506	0.992	0.447 J	1.17	ND	0.055 J	2.41
Chromium	30	180	1500	6800	7.83	15.2	11	9.43	10.8	6.2	16.1	5.67	16	21	8.13	22.8
Lead	63	400	1000	3900	323	384	847	53200	1040	264	2470	37.7	324	1210	182	3580
Mercury	0.18	0.81	2.8	5.7	0.435	0.813	1.48	0.255	1.17	0.347	0.402	ND	0.442	0.531	0.42	0.586
Selenium	30	180	1500	10000	0.426 J	0.298 J	0.835 J	1.3	0.514 J	0.35 J	0.3 J	0.383 J	0.756 J	1.13	0.169 J	0.89 J
Silver	2	180	1500	6800	0.369 J	ND	0.343 J	0.896	0.168 J	ND	ND	ND	ND	0.39	0.239 J	0.918

- Notes:
- Only those parameters detected at a minimum of one sample location are presented in this table; all other compounds were reported as non-detect.
 - Values per 6NYCRR Part 375 Unrestricted Soil Cleanup Objectives (SCOs), Table 375-6(a).
 - Values per 6NYCRR Part 375 Restricted Use Soil Cleanup Objectives (SCOs), Commercial SCOs (CSCOs), and Industrial SCOs (ISCOs), Table 375-6.8(b).
 - Sample results were reported by the laboratory in ug/kg and converted to mg/kg for comparisons to SCOs

Definitions:

ND = Parameter not detected above laboratory detection limit.

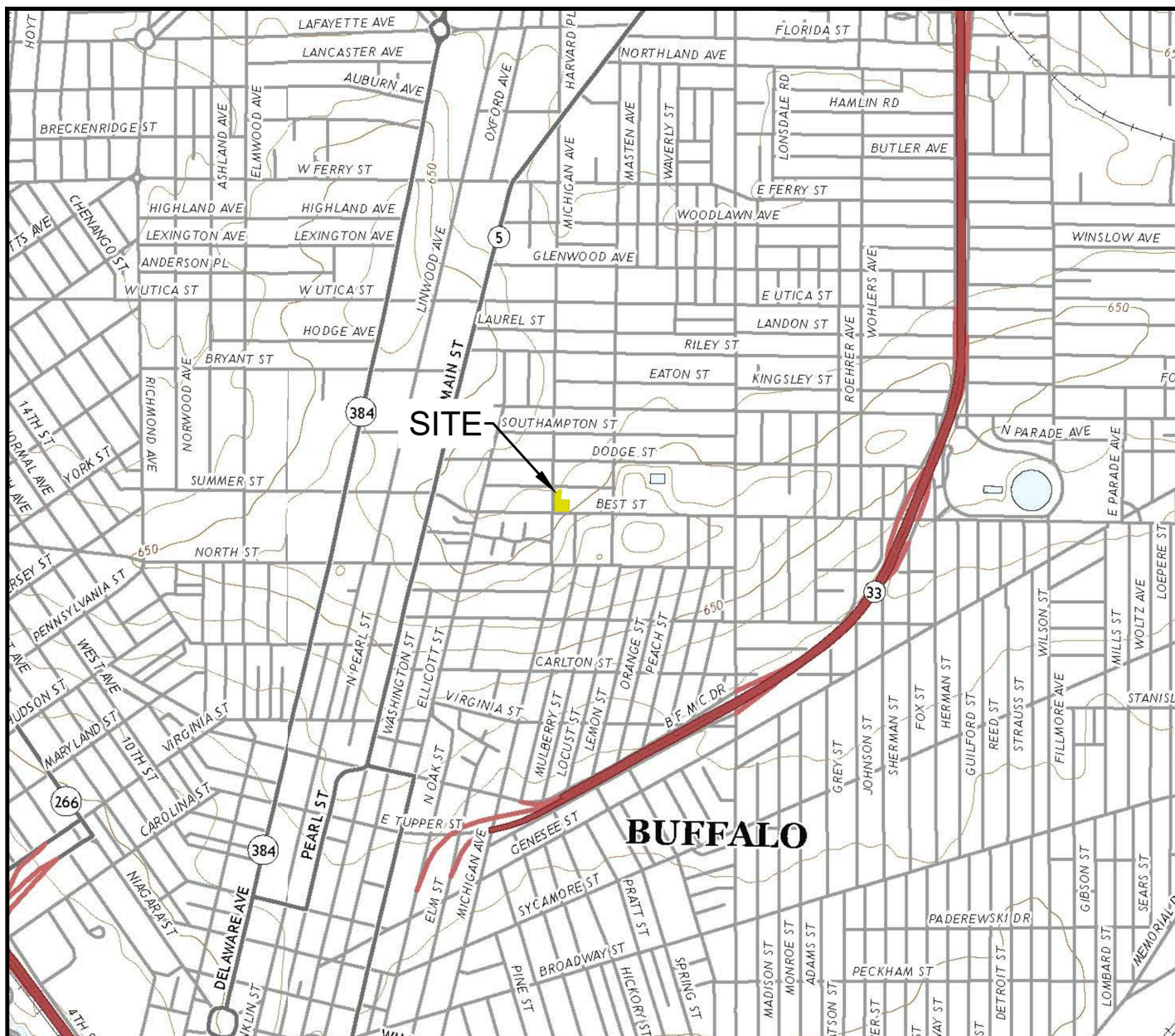
"--" = No value available for the parameter, or the parameter was not analyzed for.

J = Estimated value; result is less than the sample quantitation limit but greater than zero.

BOLD	= Exceeds Unrestricted SCOs
BOLD	= Exceeds Restricted Residential SCOs
BOLD	= Exceeds Commercial SCOs
BOLD	= Exceeds Industrial SCOs

FIGURES

FIGURE 1



2,000' 0' 2,000' 4,000'

SCALE: 1 INCH = 2,000 FEET
SCALE IN FEET
(approximate)



QUADRANGLE LOCATION



2558 HAMBURG TURNPIKE
SUITE 300
BUFFALO, NY 14218
(716) 858-0635

SITE LOCATION AND VICINITY MAP

PHASE II ENVIRONMENTAL INVESTIGATION
MICHIGAN AVENUE AND BEST STREET SITE

BUFFALO, NEW YORK

PREPARED FOR

CEDARLAND DEVELOPMENT GROUP

PROJECT NO.: 0371-021-001

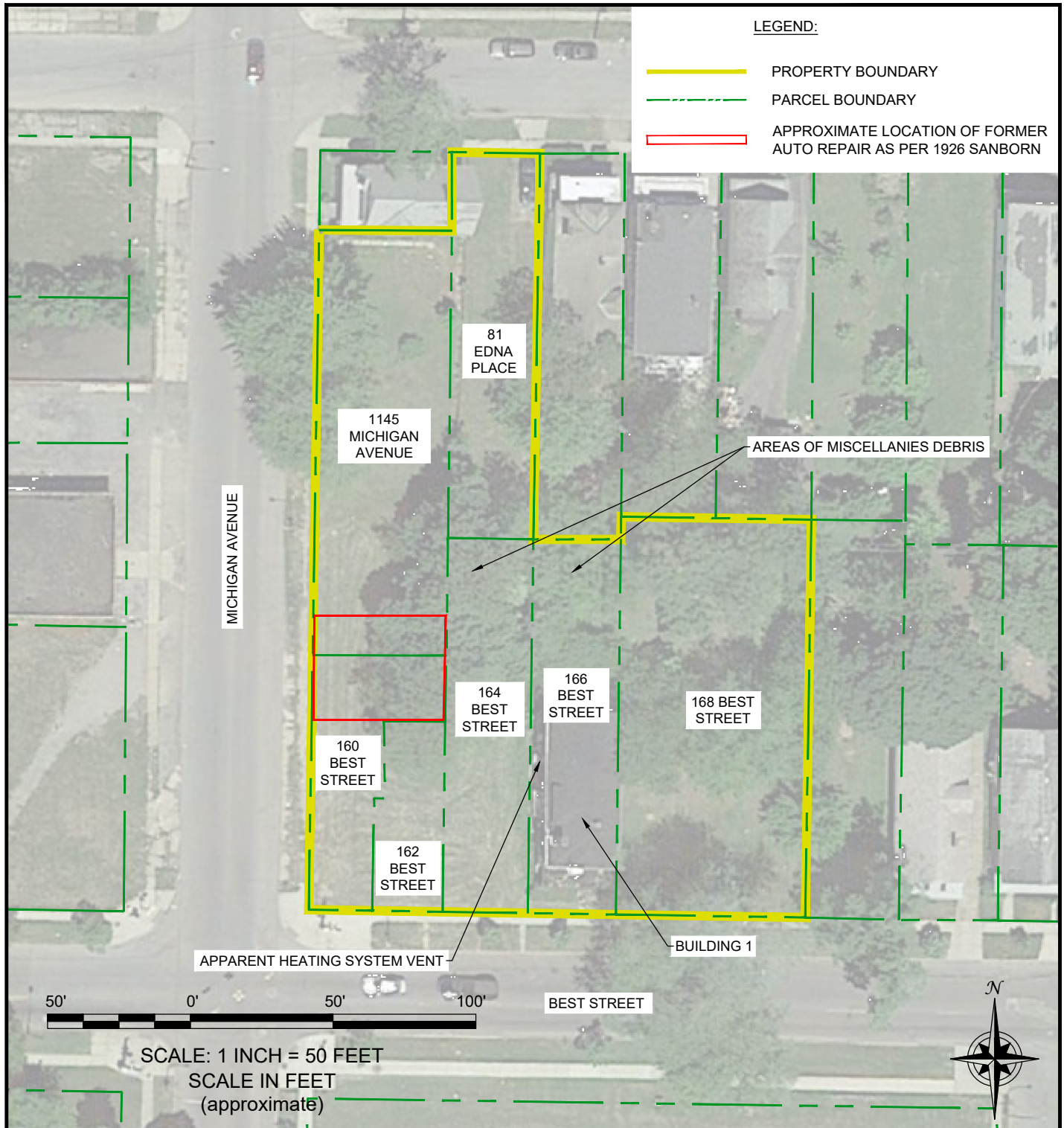
DATE: JANUARY 2021

DRAFTED BY: CNK

DISCLAIMER:

PROPERTY OF TURNKEY ENVIRONMENTAL RESTORATION, LLC. IMPORTANT: THIS DRAWING PRINT IS LOANED FOR MUTUAL ASSISTANCE AND AS SUCH IS SUBJECT TO RECALL AT ANY TIME. INFORMATION CONTAINED HEREON IS NOT TO BE DISCLOSED OR REPRODUCED IN ANY FORM FOR THE BENEFIT OF PARTIES OTHER THAN NECESSARY SUBCONTRACTORS & SUPPLIERS WITHOUT THE WRITTEN CONSENT OF TURNKEY ENVIRONMENTAL RESTORATION, LLC.

FIGURE 2



2558 HAMBURG TURNPIKE
SUITE 300
BUFFALO, NY 14218
(716) 858-0635

PROJECT NO.: 0371-021-001

DATE: JANUARY 2021

DRAFTED BY: CNK

SITE PLAN (AERIAL)

PHASE II ENVIRONMENTAL INVESTIGATION
MICHIGAN AVENUE AND BEST STREET SITE

BUFFALO, NEW YORK

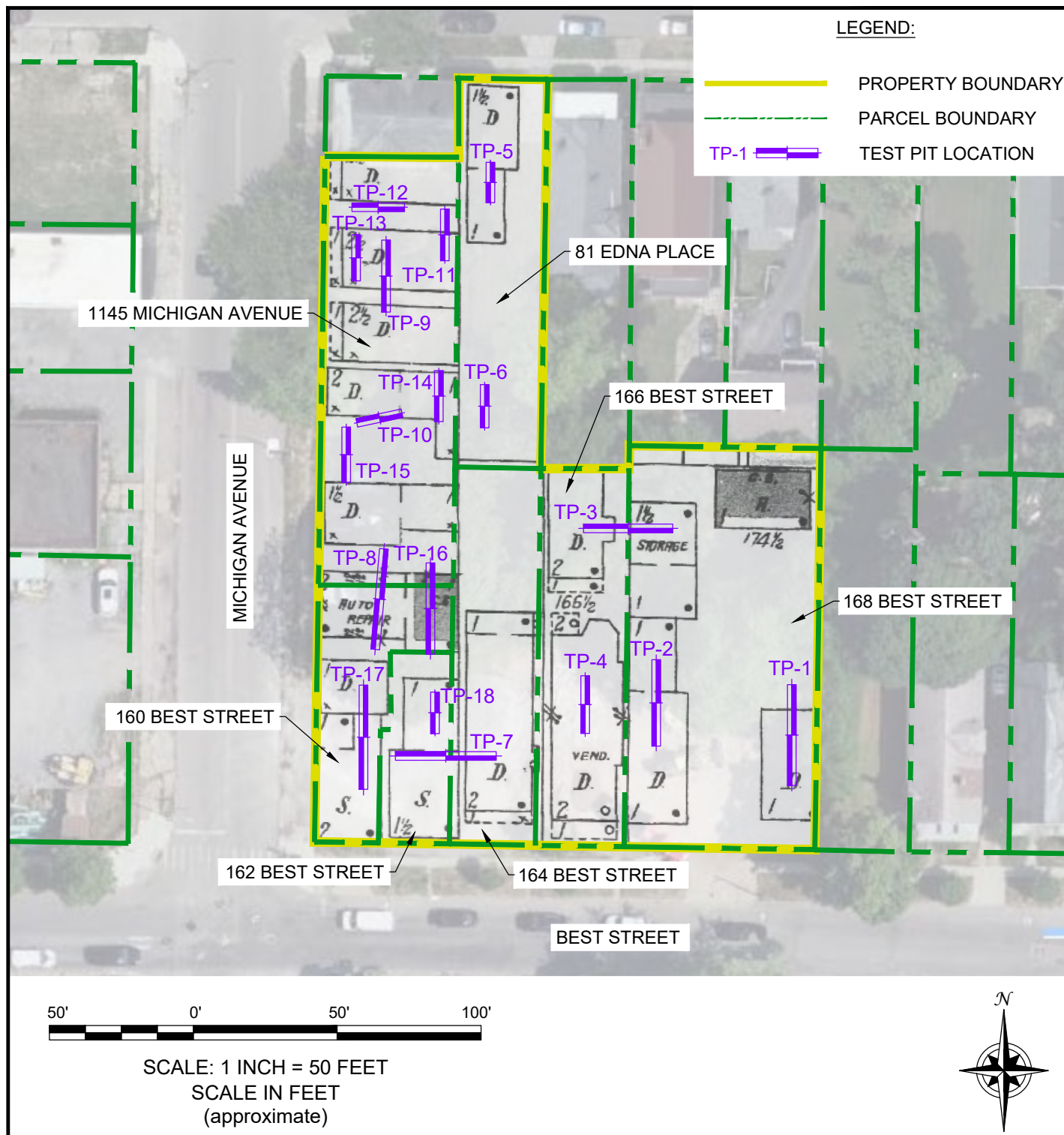
PREPARED FOR

CEDARLAND DEVELOPMENT GROUP

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FIGURE 3



2558 HAMBURG TURNPIKE
SUITE 300
BUFFALO, NY 14218
(716) 858-0635

SITE PLAN (AERIAL) WITH 1926 SANBORN MAP AND INVESTIGATION LOCATIONS

PHASE II ENVIRONMENTAL INVESTIGATION
MICHIGAN AVENUE AND BEST STREET SITE

BUFFALO, NEW YORK

PREPARED FOR

CEDARLAND DEVELOPMENT GROUP

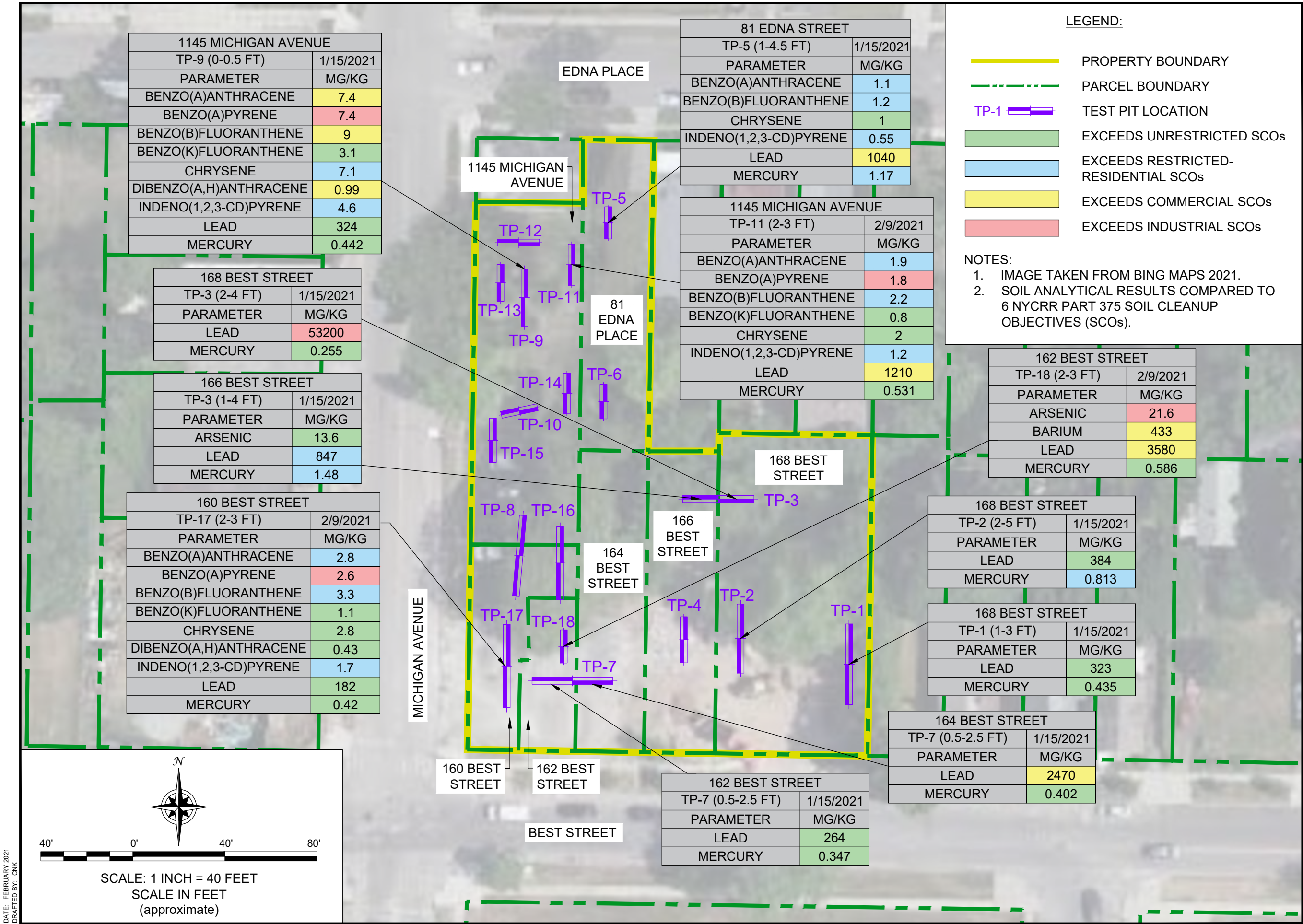
PROJECT NO.: 0371-021-001

DATE: JANUARY 2021

DRAFTED BY: CNK

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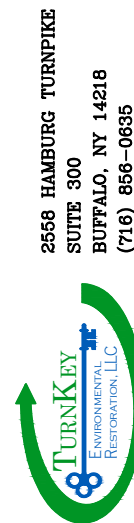


INVESTIGATION LOCATIONS AND SCO EXCEEDANCES

PHASE II ENVIRONMENTAL INVESTIGATION
MICHIGAN AVENUE AND BEST STREET SITE

BUFFALO, NEW YORK
PREPARED FOR

CEDARLAND DEVELOPMENT GROUP



JOB NO.: 0371-021-001

FIGURE 4

APPENDIX A

PHOTOGRAPHIC LOG

SITE PHOTOGRAPHS

Photo 1:



Photo 2:



Photo 3:



Photo 4:



Photo 1: View of TP-1 located on 168 Best Parcel (looking east).

Photo 2: View of TP-1 excavated soil fill. (looking north)

Photo 3: View of TP-3 excavated between 166 and 168 Best. (looking west)

Photo 4: View of TP-3 Excavated Ash fill located on the 168 Best Parcel. (looking west)

**Michigan and Best
Buffalo, NY**

Photo Date: January 15, 2021



SITE PHOTOGRAPHS

Photo 5:



Photo 6:



Photo 7:



Photo 8:



Photo 5: View of TP-5 located on 81 Edna (looking south).

Photo 6: View of TP-5 Excavated fill materials. (looking south).

Photo 7: View of TP-8 Excavated between 160 Best and 1145 Michigan. (looking South).

Photo 8: View of TP-8. Excavated Fill materials on 160 Best (looking east).

**Michigan and Best
Buffalo, NY**

Photo Date: January 15, 2021



SITE PHOTOGRAPHS

Photo 9:



Photo 10:



Photo 9: View of TP-9 located on 1145 Michigan (looking north).

Photo 10: View of TP-9 Black cindery topsoil. (looking south).

**Michigan and Best
Buffalo, NY**

Photo Date: January 15, 2021



APPENDIX B

LABORATORY ANALYTICAL DATA REPORTS



ANALYTICAL REPORT

Lab Number:	L2102689
Client:	Turnkey Environmental Restoration, LLC 2558 Hamburg Turnpike Suite 300 Buffalo, NY 14218
ATTN:	Chris Boron
Phone:	(716) 856-0599
Project Name:	MICHIGAN & BEST
Project Number:	T0371-021-001
Report Date:	01/25/21

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name: MICHIGAN & BEST
Project Number: T0371-021-001

Lab Number: L2102689
Report Date: 01/25/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2102689-01	TP-1 1-3FT 168 BEST	SOIL	BUFFALO, NY	01/15/21 08:20	01/18/21
L2102689-02	TP-3 1-4FT 166 BEST	SOIL	BUFFALO, NY	01/15/21 09:25	01/18/21
L2102689-03	TP-5 1-4.5FT 81 EDNA	SOIL	BUFFALO, NY	01/15/21 10:50	01/18/21
L2102689-04	TP-8 3-4FT 160 BEST	SOIL	BUFFALO, NY	01/15/21 14:15	01/18/21
L2102689-05	TP-9 0.0-0.5FT 1145 MICHIGAN	SOIL	BUFFALO, NY	01/15/21 15:00	01/18/21

Project Name: MICHIGAN & BEST
Project Number: T0371-021-001

Lab Number: L2102689
Report Date: 01/25/21

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: MICHIGAN & BEST
Project Number: T0371-021-001

Lab Number: L2102689
Report Date: 01/25/21

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Volatile Organics

Any reported concentrations that are below 200 ug/kg may be biased low due to the sample not being collected according to 5035-L/5035A-L low-level specifications.

Semivolatile Organics

L2102689-05: The sample has elevated detection limits due to the dilution required by the sample matrix.

Total Metals

The WG1456451-3 MS recoveries, performed on L2102689-01, are outside the acceptance criteria for arsenic (174%) and barium (65%). A post digestion spike was performed and was within acceptance criteria.

The WG1456451-3 MS recovery for lead (378%), performed on L2102689-01, does not apply because the sample concentration is greater than four times the spike amount added.

The WG1456452-3 MS recovery, performed on L2102689-01, is outside the acceptance criteria for mercury (74%). A post digestion spike was performed and was within acceptance criteria.

The WG1456451-4 Laboratory Duplicate RPDs for barium (24%) and chromium (31%), performed on L2102689-01, are outside the acceptance criteria. The elevated RPDs have been attributed to the non-homogeneous nature of the native sample.

The WG1456452-4 Laboratory Duplicate RPD for mercury (29%), performed on L2102689-01, is outside the acceptance criteria. The elevated RPD has been attributed to the non-homogeneous nature of the native sample.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Melissa Sturgis

Title: Technical Director/Representative

Date: 01/25/21

ORGANICS

VOLATILES

Project Name: MICHIGAN & BEST**Lab Number:** L2102689**Project Number:** T0371-021-001**Report Date:** 01/25/21**SAMPLE RESULTS**

Lab ID: L2102689-01
 Client ID: TP-1 1-3FT 168 BEST
 Sample Location: BUFFALO, NY

Date Collected: 01/15/21 08:20
 Date Received: 01/18/21
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260C
 Analytical Date: 01/21/21 09:53
 Analyst: MKS
 Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/kg	6.0	2.7	1
1,1-Dichloroethane	ND		ug/kg	1.2	0.17	1
Chloroform	ND		ug/kg	1.8	0.17	1
Carbon tetrachloride	ND		ug/kg	1.2	0.27	1
1,2-Dichloropropane	ND		ug/kg	1.2	0.15	1
Dibromochloromethane	ND		ug/kg	1.2	0.17	1
1,1,2-Trichloroethane	ND		ug/kg	1.2	0.32	1
Tetrachloroethene	ND		ug/kg	0.60	0.23	1
Chlorobenzene	ND		ug/kg	0.60	0.15	1
Trichlorofluoromethane	ND		ug/kg	4.8	0.83	1
1,2-Dichloroethane	ND		ug/kg	1.2	0.31	1
1,1,1-Trichloroethane	ND		ug/kg	0.60	0.20	1
Bromodichloromethane	ND		ug/kg	0.60	0.13	1
trans-1,3-Dichloropropene	ND		ug/kg	1.2	0.33	1
cis-1,3-Dichloropropene	ND		ug/kg	0.60	0.19	1
Bromoform	ND		ug/kg	4.8	0.29	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.60	0.20	1
Benzene	ND		ug/kg	0.60	0.20	1
Toluene	ND		ug/kg	1.2	0.65	1
Ethylbenzene	ND		ug/kg	1.2	0.17	1
Chloromethane	ND		ug/kg	4.8	1.1	1
Bromomethane	ND		ug/kg	2.4	0.69	1
Vinyl chloride	ND		ug/kg	1.2	0.40	1
Chloroethane	ND		ug/kg	2.4	0.54	1
1,1-Dichloroethene	ND		ug/kg	1.2	0.28	1
trans-1,2-Dichloroethene	ND		ug/kg	1.8	0.16	1
Trichloroethene	ND		ug/kg	0.60	0.16	1
1,2-Dichlorobenzene	ND		ug/kg	2.4	0.17	1

Project Name: MICHIGAN & BEST**Lab Number:** L2102689**Project Number:** T0371-021-001**Report Date:** 01/25/21**SAMPLE RESULTS**

Lab ID: L2102689-01
 Client ID: TP-1 1-3FT 168 BEST
 Sample Location: BUFFALO, NY

Date Collected: 01/15/21 08:20
 Date Received: 01/18/21
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	2.4	0.18	1
1,4-Dichlorobenzene	ND		ug/kg	2.4	0.20	1
Methyl tert butyl ether	ND		ug/kg	2.4	0.24	1
p/m-Xylene	ND		ug/kg	2.4	0.67	1
o-Xylene	ND		ug/kg	1.2	0.35	1
cis-1,2-Dichloroethene	ND		ug/kg	1.2	0.21	1
Styrene	ND		ug/kg	1.2	0.23	1
Dichlorodifluoromethane	ND		ug/kg	12	1.1	1
Acetone	ND		ug/kg	12	5.7	1
Carbon disulfide	ND		ug/kg	12	5.4	1
2-Butanone	ND		ug/kg	12	2.6	1
4-Methyl-2-pentanone	ND		ug/kg	12	1.5	1
2-Hexanone	ND		ug/kg	12	1.4	1
Bromochloromethane	ND		ug/kg	2.4	0.24	1
1,2-Dibromoethane	ND		ug/kg	1.2	0.33	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.6	1.2	1
Isopropylbenzene	ND		ug/kg	1.2	0.13	1
1,2,3-Trichlorobenzene	ND		ug/kg	2.4	0.38	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.4	0.32	1
Methyl Acetate	ND		ug/kg	4.8	1.1	1
Cyclohexane	ND		ug/kg	12	0.65	1
1,4-Dioxane	ND		ug/kg	96	42.	1
Freon-113	ND		ug/kg	4.8	0.83	1
Methyl cyclohexane	ND		ug/kg	4.8	0.72	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	107		70-130

Project Name: MICHIGAN & BEST**Lab Number:** L2102689**Project Number:** T0371-021-001**Report Date:** 01/25/21**SAMPLE RESULTS**

Lab ID: L2102689-03
 Client ID: TP-5 1-4.5FT 81 EDNA
 Sample Location: BUFFALO, NY

Date Collected: 01/15/21 10:50
 Date Received: 01/18/21
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Analytical Method: 1,8260C

Analytical Date: 01/21/21 10:18

Analyst: MKS

Percent Solids: 78%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/kg	5.8	2.6	1
1,1-Dichloroethane	ND		ug/kg	1.2	0.17	1
Chloroform	ND		ug/kg	1.7	0.16	1
Carbon tetrachloride	ND		ug/kg	1.2	0.26	1
1,2-Dichloropropane	ND		ug/kg	1.2	0.14	1
Dibromochloromethane	ND		ug/kg	1.2	0.16	1
1,1,2-Trichloroethane	ND		ug/kg	1.2	0.31	1
Tetrachloroethene	ND		ug/kg	0.58	0.23	1
Chlorobenzene	ND		ug/kg	0.58	0.15	1
Trichlorofluoromethane	ND		ug/kg	4.6	0.80	1
1,2-Dichloroethane	ND		ug/kg	1.2	0.30	1
1,1,1-Trichloroethane	ND		ug/kg	0.58	0.19	1
Bromodichloromethane	ND		ug/kg	0.58	0.12	1
trans-1,3-Dichloropropene	ND		ug/kg	1.2	0.32	1
cis-1,3-Dichloropropene	ND		ug/kg	0.58	0.18	1
Bromoform	ND		ug/kg	4.6	0.28	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.58	0.19	1
Benzene	ND		ug/kg	0.58	0.19	1
Toluene	ND		ug/kg	1.2	0.63	1
Ethylbenzene	ND		ug/kg	1.2	0.16	1
Chloromethane	ND		ug/kg	4.6	1.1	1
Bromomethane	ND		ug/kg	2.3	0.67	1
Vinyl chloride	ND		ug/kg	1.2	0.39	1
Chloroethane	ND		ug/kg	2.3	0.52	1
1,1-Dichloroethene	ND		ug/kg	1.2	0.27	1
trans-1,2-Dichloroethene	ND		ug/kg	1.7	0.16	1
Trichloroethene	ND		ug/kg	0.58	0.16	1
1,2-Dichlorobenzene	ND		ug/kg	2.3	0.17	1

Project Name: MICHIGAN & BEST**Lab Number:** L2102689**Project Number:** T0371-021-001**Report Date:** 01/25/21**SAMPLE RESULTS**

Lab ID: L2102689-03
 Client ID: TP-5 1-4.5FT 81 EDNA
 Sample Location: BUFFALO, NY

Date Collected: 01/15/21 10:50
 Date Received: 01/18/21
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	2.3	0.17	1
1,4-Dichlorobenzene	ND		ug/kg	2.3	0.20	1
Methyl tert butyl ether	ND		ug/kg	2.3	0.23	1
p/m-Xylene	ND		ug/kg	2.3	0.65	1
o-Xylene	ND		ug/kg	1.2	0.34	1
cis-1,2-Dichloroethene	ND		ug/kg	1.2	0.20	1
Styrene	ND		ug/kg	1.2	0.23	1
Dichlorodifluoromethane	ND		ug/kg	12	1.0	1
Acetone	ND		ug/kg	12	5.6	1
Carbon disulfide	ND		ug/kg	12	5.2	1
2-Butanone	ND		ug/kg	12	2.6	1
4-Methyl-2-pentanone	ND		ug/kg	12	1.5	1
2-Hexanone	ND		ug/kg	12	1.4	1
Bromochloromethane	ND		ug/kg	2.3	0.24	1
1,2-Dibromoethane	ND		ug/kg	1.2	0.32	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.5	1.2	1
Isopropylbenzene	ND		ug/kg	1.2	0.12	1
1,2,3-Trichlorobenzene	ND		ug/kg	2.3	0.37	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.3	0.31	1
Methyl Acetate	ND		ug/kg	4.6	1.1	1
Cyclohexane	ND		ug/kg	12	0.63	1
1,4-Dioxane	ND		ug/kg	92	40.	1
Freon-113	ND		ug/kg	4.6	0.80	1
Methyl cyclohexane	ND		ug/kg	4.6	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	105		70-130

Project Name: MICHIGAN & BEST
Project Number: T0371-021-001

Lab Number: L2102689
Report Date: 01/25/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 01/21/21 06:31
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01,03 Batch: WG1457485-5					
Methylene chloride	ND		ug/kg	5.0	2.3
1,1-Dichloroethane	ND		ug/kg	1.0	0.14
Chloroform	ND		ug/kg	1.5	0.14
Carbon tetrachloride	ND		ug/kg	1.0	0.23
1,2-Dichloropropane	ND		ug/kg	1.0	0.12
Dibromochloromethane	ND		ug/kg	1.0	0.14
1,1,2-Trichloroethane	ND		ug/kg	1.0	0.27
Tetrachloroethene	ND		ug/kg	0.50	0.20
Chlorobenzene	ND		ug/kg	0.50	0.13
Trichlorofluoromethane	ND		ug/kg	4.0	0.70
1,2-Dichloroethane	ND		ug/kg	1.0	0.26
1,1,1-Trichloroethane	ND		ug/kg	0.50	0.17
Bromodichloromethane	ND		ug/kg	0.50	0.11
trans-1,3-Dichloropropene	ND		ug/kg	1.0	0.27
cis-1,3-Dichloropropene	ND		ug/kg	0.50	0.16
Bromoform	ND		ug/kg	4.0	0.25
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	0.17
Benzene	ND		ug/kg	0.50	0.17
Toluene	ND		ug/kg	1.0	0.54
Ethylbenzene	ND		ug/kg	1.0	0.14
Chloromethane	ND		ug/kg	4.0	0.93
Bromomethane	1.0	J	ug/kg	2.0	0.58
Vinyl chloride	ND		ug/kg	1.0	0.34
Chloroethane	ND		ug/kg	2.0	0.45
1,1-Dichloroethene	ND		ug/kg	1.0	0.24
trans-1,2-Dichloroethene	ND		ug/kg	1.5	0.14
Trichloroethene	ND		ug/kg	0.50	0.14
1,2-Dichlorobenzene	ND		ug/kg	2.0	0.14
1,3-Dichlorobenzene	ND		ug/kg	2.0	0.15

Project Name: MICHIGAN & BEST
Project Number: T0371-021-001

Lab Number: L2102689
Report Date: 01/25/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 01/21/21 06:31
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01,03 Batch: WG1457485-5					
1,4-Dichlorobenzene	ND		ug/kg	2.0	0.17
Methyl tert butyl ether	ND		ug/kg	2.0	0.20
p/m-Xylene	ND		ug/kg	2.0	0.56
o-Xylene	ND		ug/kg	1.0	0.29
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.18
Styrene	ND		ug/kg	1.0	0.20
Dichlorodifluoromethane	ND		ug/kg	10	0.92
Acetone	ND		ug/kg	10	4.8
Carbon disulfide	ND		ug/kg	10	4.6
2-Butanone	ND		ug/kg	10	2.2
4-Methyl-2-pentanone	ND		ug/kg	10	1.3
2-Hexanone	ND		ug/kg	10	1.2
Bromochloromethane	ND		ug/kg	2.0	0.20
1,2-Dibromoethane	ND		ug/kg	1.0	0.28
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	1.0
Isopropylbenzene	ND		ug/kg	1.0	0.11
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	0.32
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	0.27
Methyl Acetate	ND		ug/kg	4.0	0.95
Cyclohexane	ND		ug/kg	10	0.54
1,4-Dioxane	ND		ug/kg	80	35.
Freon-113	ND		ug/kg	4.0	0.69
Methyl cyclohexane	ND		ug/kg	4.0	0.60

Project Name: MICHIGAN & BEST
Project Number: T0371-021-001

Lab Number: L2102689
Report Date: 01/25/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 01/21/21 06:31
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01,03 Batch: WG1457485-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	98		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: MICHIGAN & BEST

Project Number: T0371-021-001

Lab Number: L2102689

Report Date: 01/25/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01,03 Batch: WG1457485-3 WG1457485-4								
Methylene chloride	92		90		70-130	2		30
1,1-Dichloroethane	94		92		70-130	2		30
Chloroform	95		92		70-130	3		30
Carbon tetrachloride	95		94		70-130	1		30
1,2-Dichloropropane	92		92		70-130	0		30
Dibromochloromethane	96		93		70-130	3		30
1,1,2-Trichloroethane	95		91		70-130	4		30
Tetrachloroethene	84		84		70-130	0		30
Chlorobenzene	86		83		70-130	4		30
Trichlorofluoromethane	95		98		70-139	3		30
1,2-Dichloroethane	99		97		70-130	2		30
1,1,1-Trichloroethane	89		91		70-130	2		30
Bromodichloromethane	93		94		70-130	1		30
trans-1,3-Dichloropropene	93		95		70-130	2		30
cis-1,3-Dichloropropene	87		90		70-130	3		30
Bromoform	100		98		70-130	2		30
1,1,2,2-Tetrachloroethane	82		87		70-130	6		30
Benzene	86		85		70-130	1		30
Toluene	88		86		70-130	2		30
Ethylbenzene	93		89		70-130	4		30
Chloromethane	91		88		52-130	3		30
Bromomethane	101		100		57-147	1		30
Vinyl chloride	94		95		67-130	1		30

Lab Control Sample Analysis **Batch Quality Control**

Project Name: MICHIGAN & BEST

Lab Number: L2102689

Project Number: T0371-021-001

Report Date: 01/25/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01,03 Batch: WG1457485-3 WG1457485-4								
Chloroethane	102		102		50-151	0		30
1,1-Dichloroethene	91		90		65-135	1		30
trans-1,2-Dichloroethene	92		92		70-130	0		30
Trichloroethene	91		87		70-130	4		30
1,2-Dichlorobenzene	88		87		70-130	1		30
1,3-Dichlorobenzene	84		86		70-130	2		30
1,4-Dichlorobenzene	83		86		70-130	4		30
Methyl tert butyl ether	102		99		66-130	3		30
p/m-Xylene	85		83		70-130	2		30
o-Xylene	86		83		70-130	4		30
cis-1,2-Dichloroethene	93		90		70-130	3		30
Styrene	92		89		70-130	3		30
Dichlorodifluoromethane	86		87		30-146	1		30
Acetone	100		94		54-140	6		30
Carbon disulfide	83		82		59-130	1		30
2-Butanone	87		83		70-130	5		30
4-Methyl-2-pentanone	92		89		70-130	3		30
2-Hexanone	93		90		70-130	3		30
Bromochloromethane	93		91		70-130	2		30
1,2-Dibromoethane	91		86		70-130	6		30
1,2-Dibromo-3-chloropropane	97		96		68-130	1		30
Isopropylbenzene	87		88		70-130	1		30
1,2,3-Trichlorobenzene	87		88		70-130	1		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: MICHIGAN & BEST

Project Number: T0371-021-001

Lab Number: L2102689

Report Date: 01/25/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01,03 Batch: WG1457485-3 WG1457485-4								
1,2,4-Trichlorobenzene	83		88		70-130	6		30
Methyl Acetate	94		92		51-146	2		30
Cyclohexane	88		89		59-142	1		30
1,4-Dioxane	79		96		65-136	19		30
Freon-113	91		94		50-139	3		30
Methyl cyclohexane	86		89		70-130	3		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	101		103		70-130
Toluene-d8	100		100		70-130
4-Bromofluorobenzene	98		100		70-130
Dibromofluoromethane	101		102		70-130

SEMIVOLATILES

Project Name: MICHIGAN & BEST**Lab Number:** L2102689**Project Number:** T0371-021-001**Report Date:** 01/25/21**SAMPLE RESULTS**

Lab ID: L2102689-01
 Client ID: TP-1 1-3FT 168 BEST
 Sample Location: BUFFALO, NY

Date Collected: 01/15/21 08:20
 Date Received: 01/18/21
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270D
 Analytical Date: 01/20/21 12:06
 Analyst: IM
 Percent Solids: 80%

Extraction Method: EPA 3546
 Extraction Date: 01/19/21 11:45

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	23	J	ug/kg	160	21.	1
1,2,4-Trichlorobenzene	ND		ug/kg	200	24.	1
Hexachlorobenzene	ND		ug/kg	120	23.	1
Bis(2-chloroethyl)ether	ND		ug/kg	180	28.	1
2-Chloronaphthalene	ND		ug/kg	200	20.	1
1,2-Dichlorobenzene	ND		ug/kg	200	37.	1
1,3-Dichlorobenzene	ND		ug/kg	200	35.	1
1,4-Dichlorobenzene	ND		ug/kg	200	36.	1
3,3'-Dichlorobenzidine	ND		ug/kg	200	55.	1
2,4-Dinitrotoluene	ND		ug/kg	200	41.	1
2,6-Dinitrotoluene	ND		ug/kg	200	35.	1
Fluoranthene	370		ug/kg	120	24.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	200	22.	1
4-Bromophenyl phenyl ether	ND		ug/kg	200	31.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	250	35.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	220	21.	1
Hexachlorobutadiene	ND		ug/kg	200	30.	1
Hexachlorocyclopentadiene	ND		ug/kg	590	190	1
Hexachloroethane	ND		ug/kg	160	33.	1
Isophorone	ND		ug/kg	180	27.	1
Naphthalene	75	J	ug/kg	200	25.	1
Nitrobenzene	ND		ug/kg	180	30.	1
NDPA/DPA	ND		ug/kg	160	23.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	200	32.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	200	71.	1
Butyl benzyl phthalate	ND		ug/kg	200	52.	1
Di-n-butylphthalate	55	J	ug/kg	200	39.	1
Di-n-octylphthalate	ND		ug/kg	200	70.	1

Project Name: MICHIGAN & BEST**Lab Number:** L2102689**Project Number:** T0371-021-001**Report Date:** 01/25/21**SAMPLE RESULTS**

Lab ID: L2102689-01
 Client ID: TP-1 1-3FT 168 BEST
 Sample Location: BUFFALO, NY

Date Collected: 01/15/21 08:20
 Date Received: 01/18/21
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Diethyl phthalate	ND		ug/kg	200	19.	1
Dimethyl phthalate	ND		ug/kg	200	43.	1
Benzo(a)anthracene	260		ug/kg	120	23.	1
Benzo(a)pyrene	310		ug/kg	160	50.	1
Benzo(b)fluoranthene	380		ug/kg	120	35.	1
Benzo(k)fluoranthene	110	J	ug/kg	120	33.	1
Chrysene	270		ug/kg	120	21.	1
Acenaphthylene	ND		ug/kg	160	32.	1
Anthracene	64	J	ug/kg	120	40.	1
Benzo(ghi)perylene	230		ug/kg	160	24.	1
Fluorene	32	J	ug/kg	200	20.	1
Phenanthrene	380		ug/kg	120	25.	1
Dibenzo(a,h)anthracene	52	J	ug/kg	120	24.	1
Indeno(1,2,3-cd)pyrene	210		ug/kg	160	29.	1
Pyrene	360		ug/kg	120	20.	1
Biphenyl	ND		ug/kg	470	48.	1
4-Chloroaniline	ND		ug/kg	200	37.	1
2-Nitroaniline	ND		ug/kg	200	40.	1
3-Nitroaniline	ND		ug/kg	200	39.	1
4-Nitroaniline	ND		ug/kg	200	85.	1
Dibenzofuran	46	J	ug/kg	200	19.	1
2-Methylnaphthalene	120	J	ug/kg	250	25.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	200	21.	1
Acetophenone	ND		ug/kg	200	25.	1
Benzyl Alcohol	ND		ug/kg	200	63.	1
Carbazole	28	J	ug/kg	200	20.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	56		25-120
Phenol-d6	55		10-120
Nitrobenzene-d5	63		23-120
2-Fluorobiphenyl	71		30-120
2,4,6-Tribromophenol	82		10-136
4-Terphenyl-d14	61		18-120

Project Name: MICHIGAN & BEST**Lab Number:** L2102689**Project Number:** T0371-021-001**Report Date:** 01/25/21**SAMPLE RESULTS**

Lab ID: L2102689-02
 Client ID: TP-3 1-4FT 166 BEST
 Sample Location: BUFFALO, NY

Date Collected: 01/15/21 09:25
 Date Received: 01/18/21
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270D
 Analytical Date: 01/20/21 12:29
 Analyst: IM
 Percent Solids: 84%

Extraction Method: EPA 3546
 Extraction Date: 01/19/21 11:45

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	51	J	ug/kg	160	20.	1
1,2,4-Trichlorobenzene	ND		ug/kg	190	22.	1
Hexachlorobenzene	ND		ug/kg	120	22.	1
Bis(2-chloroethyl)ether	ND		ug/kg	180	26.	1
2-Chloronaphthalene	ND		ug/kg	190	19.	1
1,2-Dichlorobenzene	ND		ug/kg	190	35.	1
1,3-Dichlorobenzene	ND		ug/kg	190	33.	1
1,4-Dichlorobenzene	ND		ug/kg	190	34.	1
3,3'-Dichlorobenzidine	ND		ug/kg	190	52.	1
2,4-Dinitrotoluene	ND		ug/kg	190	39.	1
2,6-Dinitrotoluene	ND		ug/kg	190	33.	1
Fluoranthene	1200		ug/kg	120	22.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	190	21.	1
4-Bromophenyl phenyl ether	ND		ug/kg	190	30.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	230	33.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	210	19.	1
Hexachlorobutadiene	ND		ug/kg	190	28.	1
Hexachlorocyclopentadiene	ND		ug/kg	560	180	1
Hexachloroethane	ND		ug/kg	160	31.	1
Isophorone	ND		ug/kg	180	25.	1
Naphthalene	110	J	ug/kg	190	24.	1
Nitrobenzene	ND		ug/kg	180	29.	1
NDPA/DPA	ND		ug/kg	160	22.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	190	30.	1
Bis(2-ethylhexyl)phthalate	420		ug/kg	190	67.	1
Butyl benzyl phthalate	ND		ug/kg	190	49.	1
Di-n-butylphthalate	ND		ug/kg	190	37.	1
Di-n-octylphthalate	ND		ug/kg	190	66.	1

Project Name: MICHIGAN & BEST**Lab Number:** L2102689**Project Number:** T0371-021-001**Report Date:** 01/25/21**SAMPLE RESULTS**

Lab ID: L2102689-02
 Client ID: TP-3 1-4FT 166 BEST
 Sample Location: BUFFALO, NY

Date Collected: 01/15/21 09:25
 Date Received: 01/18/21
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Diethyl phthalate	ND		ug/kg	190	18.	1
Dimethyl phthalate	ND		ug/kg	190	41.	1
Benzo(a)anthracene	610		ug/kg	120	22.	1
Benzo(a)pyrene	650		ug/kg	160	47.	1
Benzo(b)fluoranthene	770		ug/kg	120	33.	1
Benzo(k)fluoranthene	310		ug/kg	120	31.	1
Chrysene	620		ug/kg	120	20.	1
Acenaphthylene	80	J	ug/kg	160	30.	1
Anthracene	220		ug/kg	120	38.	1
Benzo(ghi)perylene	440		ug/kg	160	23.	1
Fluorene	66	J	ug/kg	190	19.	1
Phenanthrene	990		ug/kg	120	24.	1
Dibenzo(a,h)anthracene	97	J	ug/kg	120	22.	1
Indeno(1,2,3-cd)pyrene	450		ug/kg	160	27.	1
Pyrene	1000		ug/kg	120	19.	1
Biphenyl	ND		ug/kg	440	45.	1
4-Chloroaniline	ND		ug/kg	190	35.	1
2-Nitroaniline	ND		ug/kg	190	38.	1
3-Nitroaniline	ND		ug/kg	190	37.	1
4-Nitroaniline	ND		ug/kg	190	80.	1
Dibenzofuran	85	J	ug/kg	190	18.	1
2-Methylnaphthalene	110	J	ug/kg	230	24.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	190	20.	1
Acetophenone	ND		ug/kg	190	24.	1
Benzyl Alcohol	ND		ug/kg	190	60.	1
Carbazole	110	J	ug/kg	190	19.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	65		25-120
Phenol-d6	63		10-120
Nitrobenzene-d5	67		23-120
2-Fluorobiphenyl	72		30-120
2,4,6-Tribromophenol	88		10-136
4-Terphenyl-d14	63		18-120

Project Name: MICHIGAN & BEST**Lab Number:** L2102689**Project Number:** T0371-021-001**Report Date:** 01/25/21**SAMPLE RESULTS**

Lab ID: L2102689-03
 Client ID: TP-5 1-4.5FT 81 EDNA
 Sample Location: BUFFALO, NY

Date Collected: 01/15/21 10:50
 Date Received: 01/18/21
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270D
 Analytical Date: 01/20/21 13:13
 Analyst: IM
 Percent Solids: 78%

Extraction Method: EPA 3546
 Extraction Date: 01/19/21 11:45

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	160	J	ug/kg	170	22.	1
1,2,4-Trichlorobenzene	ND		ug/kg	210	24.	1
Hexachlorobenzene	ND		ug/kg	130	24.	1
Bis(2-chloroethyl)ether	ND		ug/kg	190	29.	1
2-Chloronaphthalene	ND		ug/kg	210	21.	1
1,2-Dichlorobenzene	ND		ug/kg	210	38.	1
1,3-Dichlorobenzene	ND		ug/kg	210	37.	1
1,4-Dichlorobenzene	ND		ug/kg	210	37.	1
3,3'-Dichlorobenzidine	ND		ug/kg	210	57.	1
2,4-Dinitrotoluene	ND		ug/kg	210	43.	1
2,6-Dinitrotoluene	ND		ug/kg	210	37.	1
Fluoranthene	2400		ug/kg	130	24.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	210	23.	1
4-Bromophenyl phenyl ether	ND		ug/kg	210	32.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	260	36.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	230	21.	1
Hexachlorobutadiene	ND		ug/kg	210	31.	1
Hexachlorocyclopentadiene	ND		ug/kg	610	190	1
Hexachloroethane	ND		ug/kg	170	34.	1
Isophorone	ND		ug/kg	190	28.	1
Naphthalene	120	J	ug/kg	210	26.	1
Nitrobenzene	ND		ug/kg	190	32.	1
NDPA/DPA	ND		ug/kg	170	24.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	210	33.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	210	74.	1
Butyl benzyl phthalate	ND		ug/kg	210	54.	1
Di-n-butylphthalate	ND		ug/kg	210	40.	1
Di-n-octylphthalate	ND		ug/kg	210	72.	1

Project Name: MICHIGAN & BEST**Lab Number:** L2102689**Project Number:** T0371-021-001**Report Date:** 01/25/21**SAMPLE RESULTS**

Lab ID: L2102689-03
 Client ID: TP-5 1-4.5FT 81 EDNA
 Sample Location: BUFFALO, NY

Date Collected: 01/15/21 10:50
 Date Received: 01/18/21
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Diethyl phthalate	ND		ug/kg	210	20.	1
Dimethyl phthalate	ND		ug/kg	210	45.	1
Benzo(a)anthracene	1100		ug/kg	130	24.	1
Benzo(a)pyrene	900		ug/kg	170	52.	1
Benzo(b)fluoranthene	1200		ug/kg	130	36.	1
Benzo(k)fluoranthene	440		ug/kg	130	34.	1
Chrysene	1000		ug/kg	130	22.	1
Acenaphthylene	150	J	ug/kg	170	33.	1
Anthracene	560		ug/kg	130	42.	1
Benzo(ghi)perylene	500		ug/kg	170	25.	1
Fluorene	280		ug/kg	210	21.	1
Phenanthrene	2200		ug/kg	130	26.	1
Dibenzo(a,h)anthracene	150		ug/kg	130	25.	1
Indeno(1,2,3-cd)pyrene	550		ug/kg	170	30.	1
Pyrene	1800		ug/kg	130	21.	1
Biphenyl	ND		ug/kg	490	49.	1
4-Chloroaniline	ND		ug/kg	210	39.	1
2-Nitroaniline	ND		ug/kg	210	41.	1
3-Nitroaniline	ND		ug/kg	210	40.	1
4-Nitroaniline	ND		ug/kg	210	88.	1
Dibenzofuran	190	J	ug/kg	210	20.	1
2-Methylnaphthalene	92	J	ug/kg	260	26.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	210	22.	1
Acetophenone	ND		ug/kg	210	26.	1
Benzyl Alcohol	ND		ug/kg	210	65.	1
Carbazole	310		ug/kg	210	21.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	71		25-120
Phenol-d6	69		10-120
Nitrobenzene-d5	71		23-120
2-Fluorobiphenyl	73		30-120
2,4,6-Tribromophenol	95		10-136
4-Terphenyl-d14	64		18-120

Project Name: MICHIGAN & BEST**Lab Number:** L2102689**Project Number:** T0371-021-001**Report Date:** 01/25/21**SAMPLE RESULTS**

Lab ID: L2102689-04
 Client ID: TP-8 3-4FT 160 BEST
 Sample Location: BUFFALO, NY

Date Collected: 01/15/21 14:15
 Date Received: 01/18/21
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270D
 Analytical Date: 01/20/21 11:44
 Analyst: IM
 Percent Solids: 78%

Extraction Method: EPA 3546
 Extraction Date: 01/19/21 11:45

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	130	J	ug/kg	170	22.	1
1,2,4-Trichlorobenzene	ND		ug/kg	210	24.	1
Hexachlorobenzene	ND		ug/kg	120	23.	1
Bis(2-chloroethyl)ether	ND		ug/kg	190	28.	1
2-Chloronaphthalene	ND		ug/kg	210	21.	1
1,2-Dichlorobenzene	ND		ug/kg	210	38.	1
1,3-Dichlorobenzene	ND		ug/kg	210	36.	1
1,4-Dichlorobenzene	ND		ug/kg	210	37.	1
3,3'-Dichlorobenzidine	ND		ug/kg	210	56.	1
2,4-Dinitrotoluene	ND		ug/kg	210	42.	1
2,6-Dinitrotoluene	ND		ug/kg	210	36.	1
Fluoranthene	840		ug/kg	120	24.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	210	22.	1
4-Bromophenyl phenyl ether	ND		ug/kg	210	32.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	250	36.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	230	21.	1
Hexachlorobutadiene	ND		ug/kg	210	31.	1
Hexachlorocyclopentadiene	ND		ug/kg	600	190	1
Hexachloroethane	ND		ug/kg	170	34.	1
Isophorone	ND		ug/kg	190	27.	1
Naphthalene	78	J	ug/kg	210	26.	1
Nitrobenzene	ND		ug/kg	190	31.	1
NDPA/DPA	ND		ug/kg	170	24.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	210	32.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	210	72.	1
Butyl benzyl phthalate	ND		ug/kg	210	53.	1
Di-n-butylphthalate	ND		ug/kg	210	40.	1
Di-n-octylphthalate	ND		ug/kg	210	71.	1

Project Name: MICHIGAN & BEST**Lab Number:** L2102689**Project Number:** T0371-021-001**Report Date:** 01/25/21**SAMPLE RESULTS**

Lab ID: L2102689-04
 Client ID: TP-8 3-4FT 160 BEST
 Sample Location: BUFFALO, NY

Date Collected: 01/15/21 14:15
 Date Received: 01/18/21
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Diethyl phthalate	ND		ug/kg	210	19.	1
Dimethyl phthalate	ND		ug/kg	210	44.	1
Benzo(a)anthracene	380		ug/kg	120	24.	1
Benzo(a)pyrene	330		ug/kg	170	51.	1
Benzo(b)fluoranthene	370		ug/kg	120	35.	1
Benzo(k)fluoranthene	160		ug/kg	120	34.	1
Chrysene	310		ug/kg	120	22.	1
Acenaphthylene	ND		ug/kg	170	32.	1
Anthracene	280		ug/kg	120	41.	1
Benzo(ghi)perylene	170		ug/kg	170	25.	1
Fluorene	140	J	ug/kg	210	20.	1
Phenanthrene	1000		ug/kg	120	26.	1
Dibenzo(a,h)anthracene	46	J	ug/kg	120	24.	1
Indeno(1,2,3-cd)pyrene	160	J	ug/kg	170	29.	1
Pyrene	700		ug/kg	120	21.	1
Biphenyl	ND		ug/kg	480	49.	1
4-Chloroaniline	ND		ug/kg	210	38.	1
2-Nitroaniline	ND		ug/kg	210	40.	1
3-Nitroaniline	ND		ug/kg	210	40.	1
4-Nitroaniline	ND		ug/kg	210	87.	1
Dibenzofuran	120	J	ug/kg	210	20.	1
2-Methylnaphthalene	51	J	ug/kg	250	25.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	210	22.	1
Acetophenone	ND		ug/kg	210	26.	1
Benzyl Alcohol	ND		ug/kg	210	64.	1
Carbazole	96	J	ug/kg	210	20.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	58		25-120
Phenol-d6	59		10-120
Nitrobenzene-d5	59		23-120
2-Fluorobiphenyl	66		30-120
2,4,6-Tribromophenol	81		10-136
4-Terphenyl-d14	61		18-120

Project Name: MICHIGAN & BEST**Lab Number:** L2102689**Project Number:** T0371-021-001**Report Date:** 01/25/21**SAMPLE RESULTS**

Lab ID: L2102689-05 D
 Client ID: TP-9 0.0-0.5FT 1145 MICHIGAN
 Sample Location: BUFFALO, NY

Date Collected: 01/15/21 15:00
 Date Received: 01/18/21
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270D
 Analytical Date: 01/22/21 21:23
 Analyst: SZ
 Percent Solids: 77%

Extraction Method: EPA 3546
 Extraction Date: 01/19/21 11:45

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	600	J	ug/kg	860	110	5
1,2,4-Trichlorobenzene	ND		ug/kg	1100	120	5
Hexachlorobenzene	ND		ug/kg	650	120	5
Bis(2-chloroethyl)ether	ND		ug/kg	970	150	5
2-Chloronaphthalene	ND		ug/kg	1100	110	5
1,2-Dichlorobenzene	ND		ug/kg	1100	190	5
1,3-Dichlorobenzene	ND		ug/kg	1100	180	5
1,4-Dichlorobenzene	ND		ug/kg	1100	190	5
3,3'-Dichlorobenzidine	ND		ug/kg	1100	290	5
2,4-Dinitrotoluene	ND		ug/kg	1100	220	5
2,6-Dinitrotoluene	ND		ug/kg	1100	180	5
Fluoranthene	17000		ug/kg	650	120	5
4-Chlorophenyl phenyl ether	ND		ug/kg	1100	120	5
4-Bromophenyl phenyl ether	ND		ug/kg	1100	160	5
Bis(2-chloroisopropyl)ether	ND		ug/kg	1300	180	5
Bis(2-chloroethoxy)methane	ND		ug/kg	1200	110	5
Hexachlorobutadiene	ND		ug/kg	1100	160	5
Hexachlorocyclopentadiene	ND		ug/kg	3100	980	5
Hexachloroethane	ND		ug/kg	860	170	5
Isophorone	ND		ug/kg	970	140	5
Naphthalene	1200		ug/kg	1100	130	5
Nitrobenzene	ND		ug/kg	970	160	5
NDPA/DPA	ND		ug/kg	860	120	5
n-Nitrosodi-n-propylamine	ND		ug/kg	1100	170	5
Bis(2-ethylhexyl)phthalate	ND		ug/kg	1100	370	5
Butyl benzyl phthalate	ND		ug/kg	1100	270	5
Di-n-butylphthalate	ND		ug/kg	1100	200	5
Di-n-octylphthalate	ND		ug/kg	1100	370	5

Project Name: MICHIGAN & BEST**Lab Number:** L2102689**Project Number:** T0371-021-001**Report Date:** 01/25/21**SAMPLE RESULTS**

Lab ID: L2102689-05 D
 Client ID: TP-9 0.0-0.5FT 1145 MICHIGAN
 Sample Location: BUFFALO, NY

Date Collected: 01/15/21 15:00
 Date Received: 01/18/21
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Diethyl phthalate	ND		ug/kg	1100	100	5
Dimethyl phthalate	ND		ug/kg	1100	230	5
Benzo(a)anthracene	7400		ug/kg	650	120	5
Benzo(a)pyrene	7400		ug/kg	860	260	5
Benzo(b)fluoranthene	9000		ug/kg	650	180	5
Benzo(k)fluoranthene	3100		ug/kg	650	170	5
Chrysene	7100		ug/kg	650	110	5
Acenaphthylene	1300		ug/kg	860	170	5
Anthracene	2000		ug/kg	650	210	5
Benzo(ghi)perylene	4400		ug/kg	860	130	5
Fluorene	1200		ug/kg	1100	100	5
Phenanthrene	14000		ug/kg	650	130	5
Dibenzo(a,h)anthracene	990		ug/kg	650	120	5
Indeno(1,2,3-cd)pyrene	4600		ug/kg	860	150	5
Pyrene	15000		ug/kg	650	110	5
Biphenyl	ND		ug/kg	2400	250	5
4-Chloroaniline	ND		ug/kg	1100	200	5
2-Nitroaniline	ND		ug/kg	1100	210	5
3-Nitroaniline	ND		ug/kg	1100	200	5
4-Nitroaniline	ND		ug/kg	1100	440	5
Dibenzofuran	1000	J	ug/kg	1100	100	5
2-Methylnaphthalene	600	J	ug/kg	1300	130	5
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	1100	110	5
Acetophenone	ND		ug/kg	1100	130	5
Benzyl Alcohol	ND		ug/kg	1100	330	5
Carbazole	1400		ug/kg	1100	100	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	55		25-120
Phenol-d6	65		10-120
Nitrobenzene-d5	71		23-120
2-Fluorobiphenyl	75		30-120
2,4,6-Tribromophenol	79		10-136
4-Terphenyl-d14	63		18-120

Project Name: MICHIGAN & BEST
Project Number: T0371-021-001

Lab Number: L2102689
Report Date: 01/25/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 01/20/21 07:40
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 01/19/21 05:04

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-05 Batch: WG1456224-1					
Acenaphthene	ND		ug/kg	130	17.
1,2,4-Trichlorobenzene	ND		ug/kg	160	19.
Hexachlorobenzene	ND		ug/kg	99	18.
Bis(2-chloroethyl)ether	ND		ug/kg	150	22.
2-Chloronaphthalene	ND		ug/kg	160	16.
1,2-Dichlorobenzene	ND		ug/kg	160	30.
1,3-Dichlorobenzene	ND		ug/kg	160	28.
1,4-Dichlorobenzene	ND		ug/kg	160	29.
3,3'-Dichlorobenzidine	ND		ug/kg	160	44.
2,4-Dinitrotoluene	ND		ug/kg	160	33.
2,6-Dinitrotoluene	ND		ug/kg	160	28.
Fluoranthene	ND		ug/kg	99	19.
4-Chlorophenyl phenyl ether	ND		ug/kg	160	18.
4-Bromophenyl phenyl ether	ND		ug/kg	160	25.
Bis(2-chloroisopropyl)ether	ND		ug/kg	200	28.
Bis(2-chloroethoxy)methane	ND		ug/kg	180	16.
Hexachlorobutadiene	ND		ug/kg	160	24.
Hexachlorocyclopentadiene	ND		ug/kg	470	150
Hexachloroethane	ND		ug/kg	130	27.
Isophorone	ND		ug/kg	150	21.
Naphthalene	ND		ug/kg	160	20.
Nitrobenzene	ND		ug/kg	150	24.
NDPA/DPA	ND		ug/kg	130	19.
n-Nitrosodi-n-propylamine	ND		ug/kg	160	26.
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	57.
Butyl benzyl phthalate	ND		ug/kg	160	42.
Di-n-butylphthalate	ND		ug/kg	160	31.
Di-n-octylphthalate	ND		ug/kg	160	56.
Diethyl phthalate	ND		ug/kg	160	15.

Project Name: MICHIGAN & BEST
Project Number: T0371-021-001

Lab Number: L2102689
Report Date: 01/25/21

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 01/20/21 07:40
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 01/19/21 05:04

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-05 Batch: WG1456224-1					
Dimethyl phthalate	ND		ug/kg	160	35.
Benzo(a)anthracene	ND		ug/kg	99	19.
Benzo(a)pyrene	ND		ug/kg	130	40.
Benzo(b)fluoranthene	ND		ug/kg	99	28.
Benzo(k)fluoranthene	ND		ug/kg	99	26.
Chrysene	ND		ug/kg	99	17.
Acenaphthylene	ND		ug/kg	130	26.
Anthracene	ND		ug/kg	99	32.
Benzo(ghi)perylene	ND		ug/kg	130	19.
Fluorene	ND		ug/kg	160	16.
Phenanthrene	ND		ug/kg	99	20.
Dibenzo(a,h)anthracene	ND		ug/kg	99	19.
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	23.
Pyrene	ND		ug/kg	99	16.
Biphenyl	ND		ug/kg	380	38.
4-Chloroaniline	ND		ug/kg	160	30.
2-Nitroaniline	ND		ug/kg	160	32.
3-Nitroaniline	ND		ug/kg	160	31.
4-Nitroaniline	ND		ug/kg	160	68.
Dibenzofuran	ND		ug/kg	160	16.
2-Methylnaphthalene	ND		ug/kg	200	20.
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	160	17.
Acetophenone	ND		ug/kg	160	20.
Benzyl Alcohol	ND		ug/kg	160	51.
Carbazole	ND		ug/kg	160	16.

Project Name: MICHIGAN & BEST
Project Number: T0371-021-001

Lab Number: L2102689
Report Date: 01/25/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
 Analytical Date: 01/20/21 07:40
 Analyst: IM

Extraction Method: EPA 3546
 Extraction Date: 01/19/21 05:04

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-05 Batch: WG1456224-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	89		25-120
Phenol-d6	85		10-120
Nitrobenzene-d5	76		23-120
2-Fluorobiphenyl	97		30-120
2,4,6-Tribromophenol	110		10-136
4-Terphenyl-d14	108		18-120

Lab Control Sample Analysis **Batch Quality Control**

Project Name: MICHIGAN & BEST

Lab Number: L2102689

Project Number: T0371-021-001

Report Date: 01/25/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-05 Batch: WG1456224-2 WG1456224-3								
Acenaphthene	76		80		31-137	5		50
1,2,4-Trichlorobenzene	72		76		38-107	5		50
Hexachlorobenzene	99		103		40-140	4		50
Bis(2-chloroethyl)ether	69		72		40-140	4		50
2-Chloronaphthalene	75		78		40-140	4		50
1,2-Dichlorobenzene	69		75		40-140	8		50
1,3-Dichlorobenzene	71		77		40-140	8		50
1,4-Dichlorobenzene	69		74		28-104	7		50
3,3'-Dichlorobenzidine	68		71		40-140	4		50
2,4-Dinitrotoluene	79		84		40-132	6		50
2,6-Dinitrotoluene	81		83		40-140	2		50
Fluoranthene	80		82		40-140	2		50
4-Chlorophenyl phenyl ether	80		85		40-140	6		50
4-Bromophenyl phenyl ether	91		91		40-140	0		50
Bis(2-chloroisopropyl)ether	53		58		40-140	9		50
Bis(2-chloroethoxy)methane	70		75		40-117	7		50
Hexachlorobutadiene	81		88		40-140	8		50
Hexachlorocyclopentadiene	56		59		40-140	5		50
Hexachloroethane	66		72		40-140	9		50
Isophorone	66		71		40-140	7		50
Naphthalene	74		79		40-140	7		50
Nitrobenzene	64		70		40-140	9		50
NDPA/DPA	78		81		36-157	4		50

Lab Control Sample Analysis **Batch Quality Control**

Project Name: MICHIGAN & BEST

Lab Number: L2102689

Project Number: T0371-021-001

Report Date: 01/25/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-05 Batch: WG1456224-2 WG1456224-3								
n-Nitrosodi-n-propylamine	69		72		32-121	4		50
Bis(2-ethylhexyl)phthalate	82		82		40-140	0		50
Butyl benzyl phthalate	80		80		40-140	0		50
Di-n-butylphthalate	84		83		40-140	1		50
Di-n-octylphthalate	78		78		40-140	0		50
Diethyl phthalate	79		79		40-140	0		50
Dimethyl phthalate	78		78		40-140	0		50
Benzo(a)anthracene	79		81		40-140	3		50
Benzo(a)pyrene	82		86		40-140	5		50
Benzo(b)fluoranthene	86		88		40-140	2		50
Benzo(k)fluoranthene	76		83		40-140	9		50
Chrysene	78		81		40-140	4		50
Acenaphthylene	82		84		40-140	2		50
Anthracene	82		86		40-140	5		50
Benzo(ghi)perylene	82		90		40-140	9		50
Fluorene	77		81		40-140	5		50
Phenanthrene	77		79		40-140	3		50
Dibenzo(a,h)anthracene	84		90		40-140	7		50
Indeno(1,2,3-cd)pyrene	81		87		40-140	7		50
Pyrene	81		84		35-142	4		50
Biphenyl	81		85		37-127	5		50
4-Chloroaniline	56		63		40-140	12		50
2-Nitroaniline	78		79		47-134	1		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: MICHIGAN & BEST

Project Number: T0371-021-001

Lab Number: L2102689

Report Date: 01/25/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-05 Batch: WG1456224-2 WG1456224-3								
3-Nitroaniline	56		63		26-129	12		50
4-Nitroaniline	70		71		41-125	1		50
Dibenzofuran	78		81		40-140	4		50
2-Methylnaphthalene	73		78		40-140	7		50
1,2,4,5-Tetrachlorobenzene	92		97		40-117	5		50
Acetophenone	70		75		14-144	7		50
Benzyl Alcohol	70		73		40-140	4		50
Carbazole	80		82		54-128	2		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	79		81		25-120
Phenol-d6	75		80		10-120
Nitrobenzene-d5	68		74		23-120
2-Fluorobiphenyl	84		88		30-120
2,4,6-Tribromophenol	110		111		10-136
4-Terphenyl-d14	96		98		18-120

METALS

Project Name: MICHIGAN & BEST**Lab Number:** L2102689**Project Number:** T0371-021-001**Report Date:** 01/25/21**SAMPLE RESULTS**

Lab ID: L2102689-01

Date Collected: 01/15/21 08:20

Client ID: TP-1 1-3FT 168 BEST

Date Received: 01/18/21

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	8.10		mg/kg	0.479	0.100	1	01/20/21 02:47	01/25/21 12:41	EPA 3050B	1,6010D	GD
Barium, Total	179		mg/kg	0.479	0.083	1	01/20/21 02:47	01/25/21 12:41	EPA 3050B	1,6010D	GD
Cadmium, Total	0.704		mg/kg	0.479	0.047	1	01/20/21 02:47	01/25/21 12:41	EPA 3050B	1,6010D	GD
Chromium, Total	7.83		mg/kg	0.479	0.046	1	01/20/21 02:47	01/25/21 12:41	EPA 3050B	1,6010D	GD
Lead, Total	323		mg/kg	2.40	0.128	1	01/20/21 02:47	01/25/21 12:41	EPA 3050B	1,6010D	GD
Mercury, Total	0.435		mg/kg	0.101	0.066	1	01/20/21 02:52	01/22/21 19:52	EPA 7471B	1,7471B	BV
Selenium, Total	0.426	J	mg/kg	0.958	0.124	1	01/20/21 02:47	01/25/21 12:41	EPA 3050B	1,6010D	GD
Silver, Total	0.369	J	mg/kg	0.479	0.136	1	01/20/21 02:47	01/25/21 12:41	EPA 3050B	1,6010D	GD



Project Name: MICHIGAN & BEST**Lab Number:** L2102689**Project Number:** T0371-021-001**Report Date:** 01/25/21**SAMPLE RESULTS**

Lab ID: L2102689-02

Date Collected: 01/15/21 09:25

Client ID: TP-3 1-4FT 166 BEST

Date Received: 01/18/21

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	13.6		mg/kg	0.464	0.097	1	01/20/21 02:47	01/25/21 13:14	EPA 3050B	1,6010D	GD
Barium, Total	281		mg/kg	0.464	0.081	1	01/20/21 02:47	01/25/21 13:14	EPA 3050B	1,6010D	GD
Cadmium, Total	1.31		mg/kg	0.464	0.046	1	01/20/21 02:47	01/25/21 13:14	EPA 3050B	1,6010D	GD
Chromium, Total	11.0		mg/kg	0.464	0.045	1	01/20/21 02:47	01/25/21 13:14	EPA 3050B	1,6010D	GD
Lead, Total	847		mg/kg	2.32	0.124	1	01/20/21 02:47	01/25/21 13:14	EPA 3050B	1,6010D	GD
Mercury, Total	1.48		mg/kg	0.079	0.052	1	01/20/21 02:52	01/22/21 20:32	EPA 7471B	1,7471B	BV
Selenium, Total	0.835	J	mg/kg	0.928	0.120	1	01/20/21 02:47	01/25/21 13:14	EPA 3050B	1,6010D	GD
Silver, Total	0.343	J	mg/kg	0.464	0.131	1	01/20/21 02:47	01/25/21 13:14	EPA 3050B	1,6010D	GD



Project Name: MICHIGAN & BEST**Lab Number:** L2102689**Project Number:** T0371-021-001**Report Date:** 01/25/21**SAMPLE RESULTS**

Lab ID: L2102689-03

Date Collected: 01/15/21 10:50

Client ID: TP-5 1-4.5FT 81 EDNA

Date Received: 01/18/21

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 78%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	7.92		mg/kg	0.494	0.103	1	01/20/21 02:47	01/25/21 13:19	EPA 3050B	1,6010D	GD
Barium, Total	188		mg/kg	0.494	0.086	1	01/20/21 02:47	01/25/21 13:19	EPA 3050B	1,6010D	GD
Cadmium, Total	1.48		mg/kg	0.494	0.048	1	01/20/21 02:47	01/25/21 13:19	EPA 3050B	1,6010D	GD
Chromium, Total	10.8		mg/kg	0.494	0.047	1	01/20/21 02:47	01/25/21 13:19	EPA 3050B	1,6010D	GD
Lead, Total	1040		mg/kg	2.47	0.132	1	01/20/21 02:47	01/25/21 13:19	EPA 3050B	1,6010D	GD
Mercury, Total	1.17		mg/kg	0.097	0.063	1	01/20/21 02:52	01/22/21 20:35	EPA 7471B	1,7471B	BV
Selenium, Total	0.514	J	mg/kg	0.988	0.128	1	01/20/21 02:47	01/25/21 13:19	EPA 3050B	1,6010D	GD
Silver, Total	0.168	J	mg/kg	0.494	0.140	1	01/20/21 02:47	01/25/21 13:19	EPA 3050B	1,6010D	GD



Project Name: MICHIGAN & BEST**Lab Number:** L2102689**Project Number:** T0371-021-001**Report Date:** 01/25/21**SAMPLE RESULTS**

Lab ID: L2102689-04

Date Collected: 01/15/21 14:15

Client ID: TP-8 3-4FT 160 BEST

Date Received: 01/18/21

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 78%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	2.93		mg/kg	0.497	0.103	1	01/20/21 02:47	01/25/21 13:24	EPA 3050B	1,6010D	GD
Barium, Total	53.7		mg/kg	0.497	0.087	1	01/20/21 02:47	01/25/21 13:24	EPA 3050B	1,6010D	GD
Cadmium, Total	0.447	J	mg/kg	0.497	0.049	1	01/20/21 02:47	01/25/21 13:24	EPA 3050B	1,6010D	GD
Chromium, Total	5.67		mg/kg	0.497	0.048	1	01/20/21 02:47	01/25/21 13:24	EPA 3050B	1,6010D	GD
Lead, Total	37.7		mg/kg	2.48	0.133	1	01/20/21 02:47	01/25/21 13:24	EPA 3050B	1,6010D	GD
Mercury, Total	ND		mg/kg	0.085	0.056	1	01/20/21 02:52	01/22/21 21:22	EPA 7471B	1,7471B	BV
Selenium, Total	0.383	J	mg/kg	0.994	0.128	1	01/20/21 02:47	01/25/21 13:24	EPA 3050B	1,6010D	GD
Silver, Total	ND		mg/kg	0.497	0.141	1	01/20/21 02:47	01/25/21 13:24	EPA 3050B	1,6010D	GD



Project Name: MICHIGAN & BEST**Lab Number:** L2102689**Project Number:** T0371-021-001**Report Date:** 01/25/21**SAMPLE RESULTS**

Lab ID: L2102689-05

Date Collected: 01/15/21 15:00

Client ID: TP-9 0.0-0.5FT 1145 MICHIGAN

Date Received: 01/18/21

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 77%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	9.58		mg/kg	0.504	0.105	1	01/20/21 02:47	01/25/21 13:29	EPA 3050B	1,6010D	GD
Barium, Total	132		mg/kg	0.504	0.088	1	01/20/21 02:47	01/25/21 13:29	EPA 3050B	1,6010D	GD
Cadmium, Total	1.17		mg/kg	0.504	0.049	1	01/20/21 02:47	01/25/21 13:29	EPA 3050B	1,6010D	GD
Chromium, Total	16.0		mg/kg	0.504	0.048	1	01/20/21 02:47	01/25/21 13:29	EPA 3050B	1,6010D	GD
Lead, Total	324		mg/kg	2.52	0.135	1	01/20/21 02:47	01/25/21 13:29	EPA 3050B	1,6010D	GD
Mercury, Total	0.442		mg/kg	0.095	0.062	1	01/20/21 02:52	01/22/21 21:25	EPA 7471B	1,7471B	BV
Selenium, Total	0.756	J	mg/kg	1.01	0.130	1	01/20/21 02:47	01/25/21 13:29	EPA 3050B	1,6010D	GD
Silver, Total	ND		mg/kg	0.504	0.143	1	01/20/21 02:47	01/25/21 13:29	EPA 3050B	1,6010D	GD



Project Name: MICHIGAN & BEST

Lab Number: L2102689

Project Number: T0371-021-001

Report Date: 01/25/21

Method Blank Analysis Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-05 Batch: WG1456451-1										
Arsenic, Total	0.092	J	mg/kg	0.400	0.083	1	01/20/21 02:47	01/25/21 11:20	1,6010D	GD
Barium, Total	ND		mg/kg	0.400	0.070	1	01/20/21 02:47	01/25/21 11:20	1,6010D	GD
Cadmium, Total	ND		mg/kg	0.400	0.039	1	01/20/21 02:47	01/25/21 11:20	1,6010D	GD
Chromium, Total	0.124	J	mg/kg	0.400	0.038	1	01/20/21 02:47	01/25/21 11:20	1,6010D	GD
Lead, Total	ND		mg/kg	2.00	0.107	1	01/20/21 02:47	01/25/21 11:20	1,6010D	GD
Selenium, Total	ND		mg/kg	0.800	0.103	1	01/20/21 02:47	01/25/21 11:20	1,6010D	GD
Silver, Total	ND		mg/kg	0.400	0.113	1	01/20/21 02:47	01/25/21 11:20	1,6010D	GD

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-05 Batch: WG1456452-1										
Mercury, Total	ND		mg/kg	0.083	0.054	1	01/20/21 02:52	01/22/21 19:45	1,7471B	BV

Prep Information

Digestion Method: EPA 7471B

Lab Control Sample Analysis

Batch Quality Control

Project Name: MICHIGAN & BEST

Project Number: T0371-021-001

Lab Number: L2102689

Report Date: 01/25/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-05 Batch: WG1456451-2 SRM Lot Number: D109-540								
Arsenic, Total	106		-		70-130	-		
Barium, Total	98		-		75-125	-		
Cadmium, Total	98		-		75-125	-		
Chromium, Total	103		-		70-130	-		
Lead, Total	97		-		72-128	-		
Selenium, Total	100		-		68-132	-		
Silver, Total	99		-		68-131	-		
Total Metals - Mansfield Lab Associated sample(s): 01-05 Batch: WG1456452-2 SRM Lot Number: D109-540								
Mercury, Total	98		-		60-140	-		

Matrix Spike Analysis Batch Quality Control

Project Name: MICHIGAN & BEST

Lab Number: L2102689

Project Number: T0371-021-001

Report Date: 01/25/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-05 QC Batch ID: WG1456451-3 QC Sample: L2102689-01 Client ID: TP-1 1-3FT 168 BEST												
Arsenic, Total	8.10	11.6	28.4	174	Q	-	-		75-125	-		20
Barium, Total	179	194	306	65	Q	-	-		75-125	-		20
Cadmium, Total	0.704	4.95	4.99	86		-	-		75-125	-		20
Chromium, Total	7.83	19.4	24.5	86		-	-		75-125	-		20
Lead, Total	323	49.5	510	378	Q	-	-		75-125	-		20
Selenium, Total	0.426J	11.6	9.28	80		-	-		75-125	-		20
Silver, Total	0.369J	29.1	31.4	108		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01-05 QC Batch ID: WG1456452-3 QC Sample: L2102689-01 Client ID: TP-1 1-3FT 168 BEST												
Mercury, Total	0.435	0.157	0.551	74	Q	-	-		80-120	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: MICHIGAN & BEST

Project Number: T0371-021-001

Lab Number: L2102689

Report Date: 01/25/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-05 QC Batch ID: WG1456451-4 QC Sample: L2102689-01 Client ID: TP-1 1-3FT 168 BEST						
Arsenic, Total	8.10	8.01	mg/kg	1		20
Barium, Total	179	140	mg/kg	24	Q	20
Cadmium, Total	0.704	0.810	mg/kg	14		20
Chromium, Total	7.83	10.7	mg/kg	31	Q	20
Lead, Total	323	313	mg/kg	3		20
Selenium, Total	0.426J	0.467J	mg/kg	NC		20
Silver, Total	0.369J	0.236J	mg/kg	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01-05 QC Batch ID: WG1456452-4 QC Sample: L2102689-01 Client ID: TP-1 1-3FT 168 BEST						
Mercury, Total	0.435	0.583	mg/kg	29	Q	20

INORGANICS & MISCELLANEOUS

Project Name: MICHIGAN & BEST**Project Number:** T0371-021-001**Lab Number:** L2102689**Report Date:** 01/25/21**SAMPLE RESULTS****Lab ID:** L2102689-01**Client ID:** TP-1 1-3FT 168 BEST**Sample Location:** BUFFALO, NY**Date Collected:** 01/15/21 08:20**Date Received:** 01/18/21**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	80.0		%	0.100	NA	1	-	01/19/21 10:28	121,2540G	RI



Project Name: MICHIGAN & BEST**Lab Number:** L2102689**Project Number:** T0371-021-001**Report Date:** 01/25/21**SAMPLE RESULTS****Lab ID:** L2102689-02**Date Collected:** 01/15/21 09:25**Client ID:** TP-3 1-4FT 166 BEST**Date Received:** 01/18/21**Sample Location:** BUFFALO, NY**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.1		%	0.100	NA	1	-	01/19/21 10:28	121,2540G	RI



Project Name: MICHIGAN & BEST**Project Number:** T0371-021-001**Lab Number:** L2102689**Report Date:** 01/25/21**SAMPLE RESULTS****Lab ID:** L2102689-03**Client ID:** TP-5 1-4.5FT 81 EDNA**Sample Location:** BUFFALO, NY**Date Collected:** 01/15/21 10:50**Date Received:** 01/18/21**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	77.7		%	0.100	NA	1	-	01/19/21 10:28	121,2540G	RI



Project Name: MICHIGAN & BEST**Project Number:** T0371-021-001**Lab Number:** L2102689**Report Date:** 01/25/21**SAMPLE RESULTS****Lab ID:** L2102689-04**Client ID:** TP-8 3-4FT 160 BEST**Sample Location:** BUFFALO, NY**Date Collected:** 01/15/21 14:15**Date Received:** 01/18/21**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	78.2		%	0.100	NA	1	-	01/19/21 10:28	121,2540G	RI



Project Name: MICHIGAN & BEST**Project Number:** T0371-021-001**Lab Number:** L2102689**Report Date:** 01/25/21**SAMPLE RESULTS****Lab ID:** L2102689-05**Client ID:** TP-9 0.0-0.5FT 1145 MICHIGAN**Sample Location:** BUFFALO, NY**Date Collected:** 01/15/21 15:00**Date Received:** 01/18/21**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	77.0		%	0.100	NA	1	-	01/19/21 10:28	121,2540G	RI



Lab Duplicate Analysis

Batch Quality Control

Project Name: MICHIGAN & BEST

Project Number: T0371-021-001

Lab Number: L2102689

Report Date: 01/25/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-05 QC Batch ID: WG1456283-1 QC Sample: L2102687-01 Client ID: DUP Sample						
Solids, Total	87.5	88.2	%	1		20

Project Name: MICHIGAN & BEST**Lab Number:** L2102689**Project Number:** T0371-021-001**Report Date:** 01/25/21**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2102689-01A	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.2	Y	Absent		AS-TI(180),BA-TI(180),AG-TI(180),CR-TI(180),PB-TI(180),SE-TI(180),HG-T(28),CD-TI(180)
L2102689-01B	Vial Large Septa unpreserved (4oz)	A	NA		2.2	Y	Absent		NYTCL-8260-R2(14)
L2102689-01C	Glass 120ml/4oz unpreserved	A	NA		2.2	Y	Absent		NYTCL-8270(14),TS(7)
L2102689-01X	Vial MeOH preserved split	A	NA		2.2	Y	Absent		NYTCL-8260-R2(14)
L2102689-01Y	Vial Water preserved split	A	NA		2.2	Y	Absent	20-JAN-21 06:02	NYTCL-8260-R2(14)
L2102689-01Z	Vial Water preserved split	A	NA		2.2	Y	Absent	20-JAN-21 06:02	NYTCL-8260-R2(14)
L2102689-02A	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.2	Y	Absent		AS-TI(180),BA-TI(180),AG-TI(180),CR-TI(180),SE-TI(180),PB-TI(180),HG-T(28),CD-TI(180)
L2102689-02B	Glass 120ml/4oz unpreserved	A	NA		2.2	Y	Absent		NYTCL-8270(14),TS(7)
L2102689-03A	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.2	Y	Absent		AS-TI(180),BA-TI(180),AG-TI(180),CR-TI(180),SE-TI(180),PB-TI(180),HG-T(28),CD-TI(180)
L2102689-03B	Vial Large Septa unpreserved (4oz)	A	NA		2.2	Y	Absent		NYTCL-8260-R2(14)
L2102689-03C	Glass 120ml/4oz unpreserved	A	NA		2.2	Y	Absent		NYTCL-8270(14),TS(7)
L2102689-03X	Vial MeOH preserved split	A	NA		2.2	Y	Absent		NYTCL-8260-R2(14)
L2102689-03Y	Vial Water preserved split	A	NA		2.2	Y	Absent	20-JAN-21 06:02	NYTCL-8260-R2(14)
L2102689-03Z	Vial Water preserved split	A	NA		2.2	Y	Absent	20-JAN-21 06:02	NYTCL-8260-R2(14)
L2102689-04A	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.2	Y	Absent		BA-TI(180),AS-TI(180),AG-TI(180),CR-TI(180),SE-TI(180),PB-TI(180),HG-T(28),CD-TI(180)
L2102689-04B	Glass 120ml/4oz unpreserved	A	NA		2.2	Y	Absent		NYTCL-8270(14),TS(7)
L2102689-05A	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.2	Y	Absent		AS-TI(180),BA-TI(180),AG-TI(180),CR-TI(180),PB-TI(180),SE-TI(180),HG-T(28),CD-TI(180)
L2102689-05B	Glass 120ml/4oz unpreserved	A	NA		2.2	Y	Absent		NYTCL-8270(14),TS(7)

Project Name: MICHIGAN & BEST
Project Number: T0371-021-001

Lab Number: L2102689
Report Date: 01/25/21

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
	Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers



Project Name: MICHIGAN & BEST
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Lab Number: L2102689
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Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. (Note: 'PFAS, Total (6)' is applicable to MassDEP DW compliance analysis only.). If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers



Project Name: MICHIGAN & BEST**Lab Number:** L2102689**Project Number:** T0371-021-001**Report Date:** 01/25/21**Data Qualifiers**

- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.

Report Format: DU Report with 'J' Qualifiers



Project Name: MICHIGAN & BEST
Project Number: T0371-021-001

Lab Number: L2102689
Report Date: 01/25/21

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.
- 121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Alpha Analytical, Inc.Facility: **Company-wide**Department: **Quality Assurance**Title: **Certificate/Approval Program Summary**ID No.: **17873**

Revision 17

Published Date: 4/28/2020 9:42:21 AM

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Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility**EPA 624/624.1:** m/p-xylene, o-xylene, Naphthalene**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.**Mansfield Facility****SM 2540D:** TSS**EPA 8082A:** NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.**EPA TO-12** Non-methane organics**EPA 3C** Fixed gases**Biological Tissue Matrix:** EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:**Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.****Mansfield Facility:****Drinking Water****EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg. **EPA 522.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.**EPA 245.1** Hg.**SM2340B**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

[illegible]



ANALYTICAL REPORT

Lab Number:	L2102692
Client:	Turnkey Environmental Restoration, LLC 2558 Hamburg Turnpike Suite 300 Buffalo, NY 14218
ATTN:	Chris Boron
Phone:	(716) 856-0599
Project Name:	MICHIGAN & BEST
Project Number:	T0371-021-001
Report Date:	02/02/21

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Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name: MICHIGAN & BEST
Project Number: T0371-021-001

Lab Number: L2102692
Report Date: 02/02/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2102692-01	TP-2 2-5FT 168 BEST	SOIL	BUFFALO, NY	01/15/21 09:50	01/18/21
L2102692-02	TP-3 2-4FT 168 BEST	SOIL	BUFFALO, NY	01/15/21 09:30	01/18/21
L2102692-03	TP-4 3-4FT 166 BEST	SOIL	BUFFALO, NY	01/15/21 10:15	01/18/21
L2102692-04	TP-6 0.0-0.5FT 81 EDNA	SOIL	BUFFALO, NY	01/15/21 11:50	01/18/21
L2102692-05	TP-7 0.5-2.5FT 162 BEST	SOIL	BUFFALO, NY	01/15/21 13:20	01/18/21
L2102692-06	TP-7 0.5-2.5FT 164 BEST	SOIL	BUFFALO, NY	01/15/21 13:40	01/18/21
L2102692-07	TP-8 0.0-0.5FT 160 BEST	SOIL	BUFFALO, NY	01/15/21 14:20	01/18/21
L2102692-08	TP-10 0.0-0.5FT 1145 MICHIGAN	SOIL	BUFFALO, NY	01/15/21 15:20	01/18/21

Project Name: MICHIGAN & BEST
Project Number: T0371-021-001

Lab Number: L2102692
Report Date: 02/02/21

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: MICHIGAN & BEST
Project Number: T0371-021-001

Lab Number: L2102692
Report Date: 02/02/21

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

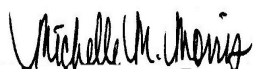
Sample Receipt

The Client IDs and analyses performed were specified by the client.

L2102692-08: The collection date and time on the chain of custody was 15-JAN-21 15:20; however, the collection date/time on the container label was 15-JAN-21 15:10. At the client's request, the collection date/time is reported as 15-JAN-21 15:20.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:



Michelle M. Morris

Title: Technical Director/Representative

Date: 02/02/21

ORGANICS

SEMIVOLATILES

Project Name: MICHIGAN & BEST**Lab Number:** L2102692**Project Number:** T0371-021-001**Report Date:** 02/02/21**SAMPLE RESULTS**

Lab ID: L2102692-01
 Client ID: TP-2 2-5FT 168 BEST
 Sample Location: BUFFALO, NY

Date Collected: 01/15/21 09:50
 Date Received: 01/18/21
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270D
 Analytical Date: 01/31/21 04:46
 Analyst: SLR
 Percent Solids: 85%

Extraction Method: EPA 3546
 Extraction Date: 01/27/21 18:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	150	20.	1
Fluoranthene	320		ug/kg	120	22.	1
Naphthalene	24	J	ug/kg	190	23.	1
Benzo(a)anthracene	180		ug/kg	120	22.	1
Benzo(a)pyrene	170		ug/kg	150	47.	1
Benzo(b)fluoranthene	240		ug/kg	120	32.	1
Benzo(k)fluoranthene	58	J	ug/kg	120	31.	1
Chrysene	150		ug/kg	120	20.	1
Acenaphthylene	ND		ug/kg	150	30.	1
Anthracene	38	J	ug/kg	120	38.	1
Benzo(ghi)perylene	110	J	ug/kg	150	23.	1
Fluorene	ND		ug/kg	190	19.	1
Phenanthrene	180		ug/kg	120	23.	1
Dibenzo(a,h)anthracene	28	J	ug/kg	120	22.	1
Indeno(1,2,3-cd)pyrene	120	J	ug/kg	150	27.	1
Pyrene	280		ug/kg	120	19.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	71		23-120
2-Fluorobiphenyl	67		30-120
4-Terphenyl-d14	50		18-120

Project Name: MICHIGAN & BEST**Lab Number:** L2102692**Project Number:** T0371-021-001**Report Date:** 02/02/21**SAMPLE RESULTS**

Lab ID: L2102692-02
 Client ID: TP-3 2-4FT 168 BEST
 Sample Location: BUFFALO, NY

Date Collected: 01/15/21 09:30
 Date Received: 01/18/21
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270D
 Analytical Date: 01/31/21 05:12
 Analyst: SLR
 Percent Solids: 81%

Extraction Method: EPA 3546
 Extraction Date: 01/27/21 18:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	160	21.	1
Fluoranthene	160		ug/kg	120	23.	1
Naphthalene	25	J	ug/kg	200	25.	1
Benzo(a)anthracene	90	J	ug/kg	120	23.	1
Benzo(a)pyrene	82	J	ug/kg	160	50.	1
Benzo(b)fluoranthene	120		ug/kg	120	34.	1
Benzo(k)fluoranthene	ND		ug/kg	120	32.	1
Chrysene	88	J	ug/kg	120	21.	1
Acenaphthylene	ND		ug/kg	160	31.	1
Anthracene	ND		ug/kg	120	40.	1
Benzo(ghi)perylene	66	J	ug/kg	160	24.	1
Fluorene	ND		ug/kg	200	20.	1
Phenanthrene	100	J	ug/kg	120	25.	1
Dibenzo(a,h)anthracene	ND		ug/kg	120	24.	1
Indeno(1,2,3-cd)pyrene	79	J	ug/kg	160	28.	1
Pyrene	130		ug/kg	120	20.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	63		23-120
2-Fluorobiphenyl	67		30-120
4-Terphenyl-d14	56		18-120

Project Name: MICHIGAN & BEST**Lab Number:** L2102692**Project Number:** T0371-021-001**Report Date:** 02/02/21**SAMPLE RESULTS**

Lab ID: L2102692-05
 Client ID: TP-7 0.5-2.5FT 162 BEST
 Sample Location: BUFFALO, NY

Date Collected: 01/15/21 13:20
 Date Received: 01/18/21
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270D
 Analytical Date: 01/31/21 05:37
 Analyst: SLR
 Percent Solids: 86%

Extraction Method: EPA 3546
 Extraction Date: 01/27/21 18:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	150	20.	1
Fluoranthene	240		ug/kg	110	22.	1
Naphthalene	ND		ug/kg	190	23.	1
Benzo(a)anthracene	140		ug/kg	110	21.	1
Benzo(a)pyrene	110	J	ug/kg	150	46.	1
Benzo(b)fluoranthene	170		ug/kg	110	32.	1
Benzo(k)fluoranthene	38	J	ug/kg	110	30.	1
Chrysene	110		ug/kg	110	20.	1
Acenaphthylene	ND		ug/kg	150	29.	1
Anthracene	ND		ug/kg	110	37.	1
Benzo(ghi)perylene	75	J	ug/kg	150	22.	1
Fluorene	ND		ug/kg	190	18.	1
Phenanthrene	120		ug/kg	110	23.	1
Dibenzo(a,h)anthracene	ND		ug/kg	110	22.	1
Indeno(1,2,3-cd)pyrene	88	J	ug/kg	150	26.	1
Pyrene	190		ug/kg	110	19.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	83		23-120
2-Fluorobiphenyl	74		30-120
4-Terphenyl-d14	57		18-120

Project Name: MICHIGAN & BEST**Lab Number:** L2102692**Project Number:** T0371-021-001**Report Date:** 02/02/21**SAMPLE RESULTS**

Lab ID: L2102692-06
 Client ID: TP-7 0.5-2.5FT 164 BEST
 Sample Location: BUFFALO, NY

Date Collected: 01/15/21 13:40
 Date Received: 01/18/21
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270D
 Analytical Date: 01/31/21 06:03
 Analyst: SLR
 Percent Solids: 84%

Extraction Method: EPA 3546
 Extraction Date: 01/27/21 18:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	160	20.	1
Fluoranthene	300		ug/kg	120	23.	1
Naphthalene	ND		ug/kg	200	24.	1
Benzo(a)anthracene	170		ug/kg	120	22.	1
Benzo(a)pyrene	140	J	ug/kg	160	48.	1
Benzo(b)fluoranthene	190		ug/kg	120	33.	1
Benzo(k)fluoranthene	59	J	ug/kg	120	32.	1
Chrysene	140		ug/kg	120	20.	1
Acenaphthylene	ND		ug/kg	160	30.	1
Anthracene	40	J	ug/kg	120	38.	1
Benzo(ghi)perylene	91	J	ug/kg	160	23.	1
Fluorene	23	J	ug/kg	200	19.	1
Phenanthrene	180		ug/kg	120	24.	1
Dibenzo(a,h)anthracene	24	J	ug/kg	120	23.	1
Indeno(1,2,3-cd)pyrene	100	J	ug/kg	160	27.	1
Pyrene	240		ug/kg	120	20.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	80		23-120
2-Fluorobiphenyl	77		30-120
4-Terphenyl-d14	60		18-120

Project Name: MICHIGAN & BEST
Project Number: T0371-021-001

Lab Number: L2102692
Report Date: 02/02/21

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 01/27/21 16:55
Analyst: WR

Extraction Method: EPA 3546
Extraction Date: 01/27/21 12:34

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-02,05-06 Batch: WG1459221-1					
Acenaphthene	ND		ug/kg	130	17.
Fluoranthene	ND		ug/kg	99	19.
Naphthalene	ND		ug/kg	160	20.
Benzo(a)anthracene	ND		ug/kg	99	19.
Benzo(a)pyrene	ND		ug/kg	130	40.
Benzo(b)fluoranthene	ND		ug/kg	99	28.
Benzo(k)fluoranthene	ND		ug/kg	99	26.
Chrysene	ND		ug/kg	99	17.
Acenaphthylene	ND		ug/kg	130	26.
Anthracene	ND		ug/kg	99	32.
Benzo(ghi)perylene	ND		ug/kg	130	19.
Fluorene	ND		ug/kg	160	16.
Phenanthrene	ND		ug/kg	99	20.
Dibenzo(a,h)anthracene	ND		ug/kg	99	19.
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	23.
Pyrene	ND		ug/kg	99	16.

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	71		25-120
Phenol-d6	79		10-120
Nitrobenzene-d5	77		23-120
2-Fluorobiphenyl	72		30-120
2,4,6-Tribromophenol	83		10-136
4-Terphenyl-d14	70		18-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: MICHIGAN & BEST

Project Number: T0371-021-001

Lab Number: L2102692

Report Date: 02/02/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02,05-06 Batch: WG1459221-2 WG1459221-3								
Acenaphthene	75		55		31-137	31		50
Fluoranthene	81		60		40-140	30		50
Naphthalene	69		54		40-140	24		50
Benzo(a)anthracene	84		61		40-140	32		50
Benzo(a)pyrene	81		61		40-140	28		50
Benzo(b)fluoranthene	88		63		40-140	33		50
Benzo(k)fluoranthene	64		54		40-140	17		50
Chrysene	74		53		40-140	33		50
Acenaphthylene	78		59		40-140	28		50
Anthracene	76		55		40-140	32		50
Benzo(ghi)perylene	73		53		40-140	32		50
Fluorene	80		60		40-140	29		50
Phenanthrene	78		57		40-140	31		50
Dibenzo(a,h)anthracene	74		54		40-140	31		50
Indeno(1,2,3-cd)pyrene	83		59		40-140	34		50
Pyrene	79		60		35-142	27		50

Lab Control Sample Analysis**Batch Quality Control****Project Name:** MICHIGAN & BEST**Lab Number:** L2102692**Project Number:** T0371-021-001**Report Date:** 02/02/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
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Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02,05-06 Batch: WG1459221-2 WG1459221-3

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	71		57		25-120
Phenol-d6	78		63		10-120
Nitrobenzene-d5	78		62		23-120
2-Fluorobiphenyl	73		56		30-120
2,4,6-Tribromophenol	91		68		10-136
4-Terphenyl-d14	76		57		18-120

METALS

Project Name: MICHIGAN & BEST**Lab Number:** L2102692**Project Number:** T0371-021-001**Report Date:** 02/02/21**SAMPLE RESULTS**

Lab ID: L2102692-01

Date Collected: 01/15/21 09:50

Client ID: TP-2 2-5FT 168 BEST

Date Received: 01/18/21

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	6.04		mg/kg	0.444	0.092	1	01/27/21 06:55	01/28/21 14:15	EPA 3050B	1,6010D	GD
Barium, Total	127		mg/kg	0.444	0.077	1	01/27/21 06:55	01/28/21 14:15	EPA 3050B	1,6010D	GD
Cadmium, Total	0.755		mg/kg	0.444	0.044	1	01/27/21 06:55	01/28/21 14:15	EPA 3050B	1,6010D	GD
Chromium, Total	15.2		mg/kg	0.444	0.043	1	01/27/21 06:55	01/28/21 14:15	EPA 3050B	1,6010D	GD
Lead, Total	384		mg/kg	2.22	0.119	1	01/27/21 06:55	01/28/21 14:15	EPA 3050B	1,6010D	GD
Mercury, Total	0.813		mg/kg	0.073	0.048	1	01/27/21 08:05	01/27/21 18:27	EPA 7471B	1,7471B	VW
Selenium, Total	0.298	J	mg/kg	0.888	0.115	1	01/27/21 06:55	01/28/21 14:15	EPA 3050B	1,6010D	GD
Silver, Total	ND		mg/kg	0.444	0.126	1	01/27/21 06:55	01/28/21 14:15	EPA 3050B	1,6010D	GD



Project Name: MICHIGAN & BEST**Lab Number:** L2102692**Project Number:** T0371-021-001**Report Date:** 02/02/21**SAMPLE RESULTS**

Lab ID: L2102692-02

Date Collected: 01/15/21 09:30

Client ID: TP-3 2-4FT 168 BEST

Date Received: 01/18/21

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	6.14		mg/kg	0.462	0.096	1	01/27/21 06:55	01/28/21 14:20	EPA 3050B	1,6010D	GD
Barium, Total	166		mg/kg	0.462	0.080	1	01/27/21 06:55	01/28/21 14:20	EPA 3050B	1,6010D	GD
Cadmium, Total	1.26		mg/kg	0.462	0.045	1	01/27/21 06:55	01/28/21 14:20	EPA 3050B	1,6010D	GD
Chromium, Total	9.43		mg/kg	0.462	0.044	1	01/27/21 06:55	01/28/21 14:20	EPA 3050B	1,6010D	GD
Lead, Total	53200		mg/kg	46.2	2.48	20	01/27/21 06:55	01/28/21 23:44	EPA 3050B	1,6010D	BV
Mercury, Total	0.255		mg/kg	0.077	0.050	1	01/27/21 08:05	01/27/21 18:30	EPA 7471B	1,7471B	VW
Selenium, Total	1.30		mg/kg	0.924	0.119	1	01/27/21 06:55	01/28/21 14:20	EPA 3050B	1,6010D	GD
Silver, Total	0.896		mg/kg	0.462	0.131	1	01/27/21 06:55	01/28/21 14:20	EPA 3050B	1,6010D	GD



Project Name: MICHIGAN & BEST**Lab Number:** L2102692**Project Number:** T0371-021-001**Report Date:** 02/02/21**SAMPLE RESULTS**

Lab ID: L2102692-05

Date Collected: 01/15/21 13:20

Client ID: TP-7 0.5-2.5FT 162 BEST

Date Received: 01/18/21

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	2.84		mg/kg	0.448	0.093	1	01/27/21 06:55	01/29/21 01:08	EPA 3050B	1,6010D	BV
Barium, Total	63.4		mg/kg	0.448	0.078	1	01/27/21 06:55	01/29/21 01:08	EPA 3050B	1,6010D	BV
Cadmium, Total	0.506		mg/kg	0.448	0.044	1	01/27/21 06:55	01/29/21 01:08	EPA 3050B	1,6010D	BV
Chromium, Total	6.20		mg/kg	0.448	0.043	1	01/27/21 06:55	01/29/21 01:08	EPA 3050B	1,6010D	BV
Lead, Total	264		mg/kg	2.24	0.120	1	01/27/21 06:55	01/29/21 01:08	EPA 3050B	1,6010D	BV
Mercury, Total	0.347		mg/kg	0.074	0.049	1	01/27/21 08:05	01/27/21 18:33	EPA 7471B	1,7471B	VW
Selenium, Total	0.350	J	mg/kg	0.896	0.116	1	01/27/21 06:55	01/29/21 01:08	EPA 3050B	1,6010D	BV
Silver, Total	ND		mg/kg	0.448	0.127	1	01/27/21 06:55	01/29/21 01:08	EPA 3050B	1,6010D	BV



Project Name: MICHIGAN & BEST**Lab Number:** L2102692**Project Number:** T0371-021-001**Report Date:** 02/02/21**SAMPLE RESULTS**

Lab ID: L2102692-06

Date Collected: 01/15/21 13:40

Client ID: TP-7 0.5-2.5FT 164 BEST

Date Received: 01/18/21

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	3.35		mg/kg	0.455	0.095	1	01/27/21 06:55	01/29/21 01:13	EPA 3050B	1,6010D	BV
Barium, Total	186		mg/kg	0.455	0.079	1	01/27/21 06:55	01/29/21 01:13	EPA 3050B	1,6010D	BV
Cadmium, Total	0.992		mg/kg	0.455	0.045	1	01/27/21 06:55	01/29/21 01:13	EPA 3050B	1,6010D	BV
Chromium, Total	16.1		mg/kg	0.455	0.044	1	01/27/21 06:55	01/29/21 01:13	EPA 3050B	1,6010D	BV
Lead, Total	2470		mg/kg	2.28	0.122	1	01/27/21 06:55	01/29/21 01:13	EPA 3050B	1,6010D	BV
Mercury, Total	0.402		mg/kg	0.075	0.049	1	01/27/21 08:05	01/27/21 18:37	EPA 7471B	1,7471B	VW
Selenium, Total	0.300	J	mg/kg	0.910	0.117	1	01/27/21 06:55	01/29/21 01:13	EPA 3050B	1,6010D	BV
Silver, Total	ND		mg/kg	0.455	0.129	1	01/27/21 06:55	01/29/21 01:13	EPA 3050B	1,6010D	BV



Project Name: MICHIGAN & BEST

Lab Number: L2102692

Project Number: T0371-021-001

Report Date: 02/02/21

Method Blank Analysis Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-02,05-06 Batch: WG1458809-1										
Arsenic, Total	ND		mg/kg	0.400	0.083	1	01/27/21 06:55	01/28/21 13:24	1,6010D	GD
Barium, Total	ND		mg/kg	0.400	0.070	1	01/27/21 06:55	01/28/21 13:24	1,6010D	GD
Cadmium, Total	ND		mg/kg	0.400	0.039	1	01/27/21 06:55	01/28/21 13:24	1,6010D	GD
Chromium, Total	ND		mg/kg	0.400	0.038	1	01/27/21 06:55	01/28/21 13:24	1,6010D	GD
Lead, Total	ND		mg/kg	2.00	0.107	1	01/27/21 06:55	01/28/21 13:24	1,6010D	GD
Selenium, Total	ND		mg/kg	0.800	0.103	1	01/27/21 06:55	01/28/21 13:24	1,6010D	GD
Silver, Total	ND		mg/kg	0.400	0.113	1	01/27/21 06:55	01/28/21 13:24	1,6010D	GD

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-02,05-06 Batch: WG1458810-1										
Mercury, Total	ND		mg/kg	0.083	0.054	1	01/27/21 08:05	01/27/21 18:00	1,7471B	VW

Prep Information

Digestion Method: EPA 7471B

Lab Control Sample Analysis

Batch Quality Control

Project Name: MICHIGAN & BEST

Project Number: T0371-021-001

Lab Number: L2102692

Report Date: 02/02/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02,05-06 Batch: WG1458809-2 SRM Lot Number: D109-540								
Arsenic, Total	110		-		70-130	-		
Barium, Total	103		-		75-125	-		
Cadmium, Total	96		-		75-125	-		
Chromium, Total	99		-		70-130	-		
Lead, Total	103		-		72-128	-		
Selenium, Total	111		-		68-132	-		
Silver, Total	105		-		68-131	-		
Total Metals - Mansfield Lab Associated sample(s): 01-02,05-06 Batch: WG1458810-2 SRM Lot Number: D109-540								
Mercury, Total	89		-		60-140	-		

Matrix Spike Analysis

Batch Quality Control

Project Name: MICHIGAN & BEST
Project Number: T0371-021-001

Lab Number: L2102692
Report Date: 02/02/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02,05-06 QC Batch ID: WG1458809-3 QC Sample: L2104084-01 Client ID: MS Sample												
Arsenic, Total	1.65	11.4	12.4	94		-	-		75-125	-		20
Barium, Total	94.7	190	273	94		-	-		75-125	-		20
Cadmium, Total	0.295J	4.84	4.46	92		-	-		75-125	-		20
Chromium, Total	8.27	19	24.3	84		-	-		75-125	-		20
Lead, Total	4.40J	48.4	44.6	92		-	-		75-125	-		20
Selenium, Total	ND	11.4	10.9	96		-	-		75-125	-		20
Silver, Total	ND	28.5	25.7	90		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01-02,05-06 QC Batch ID: WG1458810-3 QC Sample: L2103814-01 Client ID: MS Sample												
Mercury, Total	4.43	0.255	3.98	0	Q	-	-		80-120	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: MICHIGAN & BEST
Project Number: T0371-021-001

Lab Number: L2102692
Report Date: 02/02/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02,05-06 QC Batch ID: WG1458809-4 QC Sample: L2104084-01 Client ID: DUP Sample						
Arsenic, Total	1.65	1.30	mg/kg	24	Q	20
Barium, Total	94.7	64.8	mg/kg	37	Q	20
Cadmium, Total	0.295J	0.209J	mg/kg	NC		20
Chromium, Total	8.27	6.70	mg/kg	21	Q	20
Lead, Total	4.40J	4.46J	mg/kg	NC		20
Selenium, Total	ND	ND	mg/kg	NC		20
Silver, Total	ND	ND	mg/kg	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01-02,05-06 QC Batch ID: WG1458810-4 QC Sample: L2103814-01 Client ID: DUP Sample						
Mercury, Total	4.43	5.38	mg/kg	19		20

INORGANICS & MISCELLANEOUS

Project Name: MICHIGAN & BEST**Project Number:** T0371-021-001**Lab Number:** L2102692**Report Date:** 02/02/21**SAMPLE RESULTS****Lab ID:** L2102692-01**Client ID:** TP-2 2-5FT 168 BEST**Sample Location:** BUFFALO, NY**Date Collected:** 01/15/21 09:50**Date Received:** 01/18/21**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.4		%	0.100	NA	1	-	01/27/21 10:04	121,2540G	RI



Project Name: MICHIGAN & BEST**Project Number:** T0371-021-001**Lab Number:** L2102692**Report Date:** 02/02/21**SAMPLE RESULTS****Lab ID:** L2102692-02**Client ID:** TP-3 2-4FT 168 BEST**Sample Location:** BUFFALO, NY**Date Collected:** 01/15/21 09:30**Date Received:** 01/18/21**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.4		%	0.100	NA	1	-	01/27/21 10:04	121,2540G	RI



Project Name: MICHIGAN & BEST**Project Number:** T0371-021-001**Lab Number:** L2102692**Report Date:** 02/02/21**SAMPLE RESULTS****Lab ID:** L2102692-05**Client ID:** TP-7 0.5-2.5FT 162 BEST**Sample Location:** BUFFALO, NY**Date Collected:** 01/15/21 13:20**Date Received:** 01/18/21**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.8		%	0.100	NA	1	-	01/27/21 10:04	121,2540G	RI



Project Name: MICHIGAN & BEST**Project Number:** T0371-021-001**Lab Number:** L2102692**Report Date:** 02/02/21**SAMPLE RESULTS****Lab ID:** L2102692-06**Client ID:** TP-7 0.5-2.5FT 164 BEST**Sample Location:** BUFFALO, NY**Date Collected:** 01/15/21 13:40**Date Received:** 01/18/21**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.0		%	0.100	NA	1	-	01/27/21 10:04	121,2540G	RI



Project Name: MICHIGAN & BEST
Project Number: T0371-021-001

Lab Duplicate Analysis
Batch Quality Control

Lab Number: L2102692
Report Date: 02/02/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-02,05-06 QC Batch ID: WG1459036-1 QC Sample: L2102692-01 Client ID: TP-2 2-5FT 168 BEST						
Solids, Total	85.4	84.6	%	1		20

Project Name: MICHIGAN & BEST**Lab Number:** L2102692**Project Number:** T0371-021-001**Report Date:** 02/02/21**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2102692-01A	Glass 60mL/2oz unpreserved	A	NA		2.2	Y	Absent		BA-TI(180),AS-TI(180),AG-TI(180),CR-TI(180),PB-TI(180),SE-TI(180),HG-T(28),CD-TI(180)
L2102692-01B	Glass 120ml/4oz unpreserved	A	NA		2.2	Y	Absent		NYCP51-PAH(14),TS(7)
L2102692-02A	Glass 60mL/2oz unpreserved	A	NA		2.2	Y	Absent		AS-TI(180),BA-TI(180),AG-TI(180),CR-TI(180),SE-TI(180),PB-TI(180),HG-T(28),CD-TI(180)
L2102692-02B	Glass 120ml/4oz unpreserved	A	NA		2.2	Y	Absent		NYCP51-PAH(14),TS(7)
L2102692-03A	Glass 60mL/2oz unpreserved	A	NA		2.2	Y	Absent		HOLD-METAL(180)
L2102692-03B	Glass 120ml/4oz unpreserved	A	NA		2.2	Y	Absent		HOLD-WETCHEM(),HOLD-8270(14)
L2102692-04A	Glass 60mL/2oz unpreserved	A	NA		2.2	Y	Absent		HOLD-METAL(180)
L2102692-04B	Glass 120ml/4oz unpreserved	A	NA		2.2	Y	Absent		HOLD-WETCHEM(),HOLD-8270(14)
L2102692-05A	Glass 60mL/2oz unpreserved	A	NA		2.2	Y	Absent		AS-TI(180),BA-TI(180),AG-TI(180),CR-TI(180),PB-TI(180),SE-TI(180),HG-T(28),CD-TI(180)
L2102692-05B	Glass 120ml/4oz unpreserved	A	NA		2.2	Y	Absent		NYCP51-PAH(14),TS(7)
L2102692-06A	Glass 60mL/2oz unpreserved	A	NA		2.2	Y	Absent		BA-TI(180),AS-TI(180),AG-TI(180),CR-TI(180),SE-TI(180),PB-TI(180),HG-T(28),CD-TI(180)
L2102692-06B	Glass 120ml/4oz unpreserved	A	NA		2.2	Y	Absent		NYCP51-PAH(14),TS(7)
L2102692-07A	Glass 60mL/2oz unpreserved	A	NA		2.2	Y	Absent		HOLD-METAL(180)
L2102692-07B	Glass 120ml/4oz unpreserved	A	NA		2.2	Y	Absent		HOLD-WETCHEM(),HOLD-8270(14)
L2102692-08A	Glass 60mL/2oz unpreserved	A	NA		2.2	Y	Absent		HOLD-METAL(180)
L2102692-08B	Glass 120ml/4oz unpreserved	A	NA		2.2	Y	Absent		HOLD-WETCHEM(),HOLD-8270(14)

Project Name: MICHIGAN & BEST
Project Number: T0371-021-001

Lab Number: L2102692
Report Date: 02/02/21

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers



Project Name: MICHIGAN & BEST
Project Number: T0371-021-001

Lab Number: L2102692
Report Date: 02/02/21

Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. (Note: 'PFAS, Total (6)' is applicable to MassDEP DW compliance analysis only.). If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers



Project Name: MICHIGAN & BEST**Lab Number:** L2102692**Project Number:** T0371-021-001**Report Date:** 02/02/21**Data Qualifiers**

- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.

Report Format: DU Report with 'J' Qualifiers



Project Name: MICHIGAN & BEST**Lab Number:** L2102692**Project Number:** T0371-021-001**Report Date:** 02/02/21

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.
- 121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Alpha Analytical, Inc.

ID No.:17873

Facility: **Company-wide**

Revision 17

Department: **Quality Assurance**

Published Date: 4/28/2020 9:42:21 AM

Title: **Certificate/Approval Program Summary**

Page 1 of 1

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility**EPA 624/624.1:** m/p-xylene, o-xylene, Naphthalene**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.**Mansfield Facility****SM 2540D:** TSS**EPA 8082A:** NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

EPA TO-12 Non-methane organics**EPA 3C** Fixed gases**Biological Tissue Matrix:** EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:**Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.****Mansfield Facility:****Drinking Water****EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.**EPA 522.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.**EPA 245.1** Hg.**SM2340B**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

[illegible]



ANALYTICAL REPORT

Lab Number:	L2106250
Client:	Turnkey Environmental Restoration, LLC 2558 Hamburg Turnpike Suite 300 Buffalo, NY 14218
ATTN:	Chris Boron
Phone:	(716) 856-0599
Project Name:	MICHIGAN & BEST
Project Number:	T0371-021-001
Report Date:	02/12/21

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name: MICHIGAN & BEST
Project Number: T0371-021-001

Lab Number: L2106250
Report Date: 02/12/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2106250-01	TP-11 2-3FT	SOIL	T0371-021-001	02/09/21 08:30	02/09/21
L2106250-02	TP-17 2-3FT	SOIL	T0371-021-001	02/09/21 11:00	02/09/21
L2106250-03	TP-18 2-3FT	SOIL	T0371-021-001	02/09/21 12:00	02/09/21
L2106250-04	TP-11 6-7FT	SOIL	T0371-021-001	02/09/21 09:00	02/09/21
L2106250-05	TP-12 1-2FT	SOIL	T0371-021-001	02/09/21 09:30	02/09/21
L2106250-06	TP-16 0-1FT	SOIL	T0371-021-001	02/09/21 10:30	02/09/21
L2106250-07	TP-15 0.5-1.5FT	SOIL	T0371-021-001	02/09/21 10:00	02/09/21

Project Name: MICHIGAN & BEST
Project Number: T0371-021-001

Lab Number: L2106250
Report Date: 02/12/21

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: MICHIGAN & BEST
Project Number: T0371-021-001

Lab Number: L2106250
Report Date: 02/12/21

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:

Melissa Sturgis Melissa Sturgis

Title: Technical Director/Representative

Date: 02/12/21

ORGANICS

SEMIVOLATILES

Project Name: MICHIGAN & BEST
Project Number: T0371-021-001

Lab Number: L2106250
Report Date: 02/12/21

SAMPLE RESULTS

Lab ID: L2106250-01
Client ID: TP-11 2-3FT
Sample Location: T0371-021-001

Date Collected: 02/09/21 08:30
Date Received: 02/09/21
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 02/11/21 09:25
Analyst: JG
Percent Solids: 79%

Extraction Method: EPA 3546
Extraction Date: 02/10/21 17:38

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	210		ug/kg	160	21.	1
Fluoranthene	4200		ug/kg	120	24.	1
Naphthalene	290		ug/kg	210	25.	1
Benzo(a)anthracene	1900		ug/kg	120	23.	1
Benzo(a)pyrene	1800		ug/kg	160	50.	1
Benzo(b)fluoranthene	2200		ug/kg	120	35.	1
Benzo(k)fluoranthene	800		ug/kg	120	33.	1
Chrysene	2000		ug/kg	120	22.	1
Acenaphthylene	320		ug/kg	160	32.	1
Anthracene	730		ug/kg	120	40.	1
Benzo(ghi)perylene	1000		ug/kg	160	24.	1
Fluorene	310		ug/kg	210	20.	1
Phenanthrene	3400		ug/kg	120	25.	1
Dibenzo(a,h)anthracene	260		ug/kg	120	24.	1
Indeno(1,2,3-cd)pyrene	1200		ug/kg	160	29.	1
Pyrene	3600		ug/kg	120	20.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	51		23-120
2-Fluorobiphenyl	46		30-120
4-Terphenyl-d14	38		18-120

Project Name: MICHIGAN & BEST
Project Number: T0371-021-001

Lab Number: L2106250
Report Date: 02/12/21

SAMPLE RESULTS

Lab ID: L2106250-02
Client ID: TP-17 2-3FT
Sample Location: T0371-021-001

Date Collected: 02/09/21 11:00
Date Received: 02/09/21
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 02/11/21 08:12
Analyst: JG
Percent Solids: 80%

Extraction Method: EPA 3546
Extraction Date: 02/10/21 17:38

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	250		ug/kg	160	21.	1
Fluoranthene	6200		ug/kg	120	24.	1
Naphthalene	160	J	ug/kg	200	25.	1
Benzo(a)anthracene	2800		ug/kg	120	23.	1
Benzo(a)pyrene	2600		ug/kg	160	50.	1
Benzo(b)fluoranthene	3300		ug/kg	120	34.	1
Benzo(k)fluoranthene	1100		ug/kg	120	33.	1
Chrysene	2800		ug/kg	120	21.	1
Acenaphthylene	230		ug/kg	160	32.	1
Anthracene	920		ug/kg	120	40.	1
Benzo(ghi)perylene	1600		ug/kg	160	24.	1
Fluorene	280		ug/kg	200	20.	1
Phenanthrene	4100		ug/kg	120	25.	1
Dibenzo(a,h)anthracene	430		ug/kg	120	24.	1
Indeno(1,2,3-cd)pyrene	1700		ug/kg	160	28.	1
Pyrene	5100		ug/kg	120	20.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	64		23-120
2-Fluorobiphenyl	58		30-120
4-Terphenyl-d14	55		18-120

Project Name: MICHIGAN & BEST
Project Number: T0371-021-001

Lab Number: L2106250
Report Date: 02/12/21

SAMPLE RESULTS

Lab ID: L2106250-03
Client ID: TP-18 2-3FT
Sample Location: T0371-021-001

Date Collected: 02/09/21 12:00
Date Received: 02/09/21
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 02/11/21 16:36
Analyst: SZ
Percent Solids: 81%

Extraction Method: EPA 3546
Extraction Date: 02/10/21 17:38

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	63	J	ug/kg	160	21.	1
Fluoranthene	1200		ug/kg	120	23.	1
Naphthalene	95	J	ug/kg	200	25.	1
Benzo(a)anthracene	640		ug/kg	120	23.	1
Benzo(a)pyrene	520		ug/kg	160	50.	1
Benzo(b)fluoranthene	730		ug/kg	120	34.	1
Benzo(k)fluoranthene	270		ug/kg	120	32.	1
Chrysene	560		ug/kg	120	21.	1
Acenaphthylene	73	J	ug/kg	160	31.	1
Anthracene	200		ug/kg	120	40.	1
Benzo(ghi)perylene	300		ug/kg	160	24.	1
Fluorene	68	J	ug/kg	200	20.	1
Phenanthrene	790		ug/kg	120	25.	1
Dibenzo(a,h)anthracene	71	J	ug/kg	120	24.	1
Indeno(1,2,3-cd)pyrene	340		ug/kg	160	28.	1
Pyrene	970		ug/kg	120	20.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	71		23-120
2-Fluorobiphenyl	64		30-120
4-Terphenyl-d14	58		18-120

Project Name: MICHIGAN & BEST
Project Number: T0371-021-001

Lab Number: L2106250
Report Date: 02/12/21

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 02/10/21 08:52
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 02/10/21 02:24

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-03 Batch: WG1463259-1					
Acenaphthene	ND		ug/kg	130	17.
Fluoranthene	ND		ug/kg	97	18.
Naphthalene	ND		ug/kg	160	20.
Benzo(a)anthracene	ND		ug/kg	97	18.
Benzo(a)pyrene	ND		ug/kg	130	39.
Benzo(b)fluoranthene	ND		ug/kg	97	27.
Benzo(k)fluoranthene	ND		ug/kg	97	26.
Chrysene	ND		ug/kg	97	17.
Acenaphthylene	ND		ug/kg	130	25.
Anthracene	ND		ug/kg	97	32.
Benzo(ghi)perylene	ND		ug/kg	130	19.
Fluorene	ND		ug/kg	160	16.
Phenanthrene	ND		ug/kg	97	20.
Dibenzo(a,h)anthracene	ND		ug/kg	97	19.
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	22.
Pyrene	ND		ug/kg	97	16.

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	83		25-120
Phenol-d6	88		10-120
Nitrobenzene-d5	81		23-120
2-Fluorobiphenyl	96		30-120
2,4,6-Tribromophenol	98		10-136
4-Terphenyl-d14	105		18-120

Lab Control Sample Analysis **Batch Quality Control**

Project Name: MICHIGAN & BEST

Project Number: T0371-021-001

Lab Number: L2106250

Report Date: 02/12/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG1463259-2 WG1463259-3								
Acenaphthene	106		94		31-137	12		50
Fluoranthene	109		99		40-140	10		50
Naphthalene	95		87		40-140	9		50
Benzo(a)anthracene	113		103		40-140	9		50
Benzo(a)pyrene	115		102		40-140	12		50
Benzo(b)fluoranthene	119		102		40-140	15		50
Benzo(k)fluoranthene	111		100		40-140	10		50
Chrysene	113		102		40-140	10		50
Acenaphthylene	105		95		40-140	10		50
Anthracene	112		101		40-140	10		50
Benzo(ghi)perylene	113		101		40-140	11		50
Fluorene	105		94		40-140	11		50
Phenanthrene	109		98		40-140	11		50
Dibenzo(a,h)anthracene	116		104		40-140	11		50
Indeno(1,2,3-cd)pyrene	113		103		40-140	9		50
Pyrene	106		96		35-142	10		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: MICHIGAN & BEST

Project Number: T0371-021-001

Lab Number: L2106250

Report Date: 02/12/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
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Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG1463259-2 WG1463259-3

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	89		81		25-120
Phenol-d6	94		85		10-120
Nitrobenzene-d5	92		86		23-120
2-Fluorobiphenyl	107		98		30-120
2,4,6-Tribromophenol	121		109		10-136
4-Terphenyl-d14	116		104		18-120

METALS

Project Name: MICHIGAN & BEST**Lab Number:** L2106250**Project Number:** T0371-021-001**Report Date:** 02/12/21**SAMPLE RESULTS**

Lab ID: L2106250-01

Date Collected: 02/09/21 08:30

Client ID: TP-11 2-3FT

Date Received: 02/09/21

Sample Location: T0371-021-001

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 79%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	12.9		mg/kg	0.500	0.104	1	02/11/21 01:55	02/11/21 11:17	EPA 3050B	1,6010D	GD
Barium, Total	185		mg/kg	0.500	0.087	1	02/11/21 01:55	02/11/21 11:17	EPA 3050B	1,6010D	GD
Cadmium, Total	ND		mg/kg	0.500	0.049	1	02/11/21 01:55	02/11/21 11:17	EPA 3050B	1,6010D	GD
Chromium, Total	21.0		mg/kg	0.500	0.048	1	02/11/21 01:55	02/11/21 11:17	EPA 3050B	1,6010D	GD
Lead, Total	1210		mg/kg	2.50	0.134	1	02/11/21 01:55	02/11/21 11:17	EPA 3050B	1,6010D	GD
Mercury, Total	0.531		mg/kg	0.087	0.057	1	02/11/21 01:47	02/11/21 12:54	EPA 7471B	1,7471B	EW
Selenium, Total	1.13		mg/kg	1.00	0.129	1	02/11/21 01:55	02/11/21 11:17	EPA 3050B	1,6010D	GD
Silver, Total	0.390	J	mg/kg	0.500	0.142	1	02/11/21 01:55	02/11/21 11:17	EPA 3050B	1,6010D	GD



Project Name: MICHIGAN & BEST**Lab Number:** L2106250**Project Number:** T0371-021-001**Report Date:** 02/12/21**SAMPLE RESULTS**

Lab ID: L2106250-02

Date Collected: 02/09/21 11:00

Client ID: TP-17 2-3FT

Date Received: 02/09/21

Sample Location: T0371-021-001

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	5.58		mg/kg	0.498	0.104	1	02/11/21 01:55	02/11/21 11:22	EPA 3050B	1,6010D	GD
Barium, Total	144		mg/kg	0.498	0.087	1	02/11/21 01:55	02/11/21 11:22	EPA 3050B	1,6010D	GD
Cadmium, Total	0.055	J	mg/kg	0.498	0.049	1	02/11/21 01:55	02/11/21 11:22	EPA 3050B	1,6010D	GD
Chromium, Total	8.13		mg/kg	0.498	0.048	1	02/11/21 01:55	02/11/21 11:22	EPA 3050B	1,6010D	GD
Lead, Total	182		mg/kg	2.49	0.134	1	02/11/21 01:55	02/11/21 11:22	EPA 3050B	1,6010D	GD
Mercury, Total	0.420		mg/kg	0.091	0.060	1	02/11/21 01:47	02/11/21 12:57	EPA 7471B	1,7471B	EW
Selenium, Total	0.169	J	mg/kg	0.997	0.128	1	02/11/21 01:55	02/11/21 11:22	EPA 3050B	1,6010D	GD
Silver, Total	0.239	J	mg/kg	0.498	0.141	1	02/11/21 01:55	02/11/21 11:22	EPA 3050B	1,6010D	GD



Project Name: MICHIGAN & BEST**Lab Number:** L2106250**Project Number:** T0371-021-001**Report Date:** 02/12/21**SAMPLE RESULTS**

Lab ID: L2106250-03

Date Collected: 02/09/21 12:00

Client ID: TP-18 2-3FT

Date Received: 02/09/21

Sample Location: T0371-021-001

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	21.6		mg/kg	0.471	0.098	1	02/11/21 01:55	02/11/21 11:26	EPA 3050B	1,6010D	GD
Barium, Total	433		mg/kg	0.471	0.082	1	02/11/21 01:55	02/11/21 11:26	EPA 3050B	1,6010D	GD
Cadmium, Total	2.41		mg/kg	0.471	0.046	1	02/11/21 01:55	02/11/21 11:26	EPA 3050B	1,6010D	GD
Chromium, Total	22.8		mg/kg	0.471	0.045	1	02/11/21 01:55	02/11/21 11:26	EPA 3050B	1,6010D	GD
Lead, Total	3580		mg/kg	2.35	0.126	1	02/11/21 01:55	02/11/21 11:26	EPA 3050B	1,6010D	GD
Mercury, Total	0.586		mg/kg	0.084	0.055	1	02/11/21 01:47	02/11/21 13:00	EPA 7471B	1,7471B	EW
Selenium, Total	0.890	J	mg/kg	0.942	0.121	1	02/11/21 01:55	02/11/21 11:26	EPA 3050B	1,6010D	GD
Silver, Total	0.918		mg/kg	0.471	0.133	1	02/11/21 01:55	02/11/21 11:26	EPA 3050B	1,6010D	GD



Project Name: MICHIGAN & BEST

Lab Number: L2106250

Project Number: T0371-021-001

Report Date: 02/12/21

Method Blank Analysis Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-03 Batch: WG1463494-1										
Arsenic, Total	ND		mg/kg	0.400	0.083	1	02/11/21 01:55	02/11/21 08:32	1,6010D	GD
Barium, Total	ND		mg/kg	0.400	0.070	1	02/11/21 01:55	02/11/21 08:32	1,6010D	GD
Cadmium, Total	ND		mg/kg	0.400	0.039	1	02/11/21 01:55	02/11/21 08:32	1,6010D	GD
Chromium, Total	ND		mg/kg	0.400	0.038	1	02/11/21 01:55	02/11/21 08:32	1,6010D	GD
Lead, Total	ND		mg/kg	2.00	0.107	1	02/11/21 01:55	02/11/21 08:32	1,6010D	GD
Selenium, Total	ND		mg/kg	0.800	0.103	1	02/11/21 01:55	02/11/21 08:32	1,6010D	GD
Silver, Total	ND		mg/kg	0.400	0.113	1	02/11/21 01:55	02/11/21 08:32	1,6010D	GD

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-03 Batch: WG1463495-1										
Mercury, Total	ND		mg/kg	0.083	0.054	1	02/11/21 01:47	02/11/21 11:51	1,7471B	EW

Prep Information

Digestion Method: EPA 7471B

Lab Control Sample Analysis

Batch Quality Control

Project Name: MICHIGAN & BEST

Project Number: T0371-021-001

Lab Number: L2106250

Report Date: 02/12/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-03 Batch: WG1463494-2 SRM Lot Number: D109-540								
Arsenic, Total	117		-		70-130	-		
Barium, Total	106		-		75-125	-		
Cadmium, Total	111		-		75-125	-		
Chromium, Total	110		-		70-130	-		
Lead, Total	113		-		72-128	-		
Selenium, Total	115		-		68-132	-		
Silver, Total	112		-		68-131	-		
Total Metals - Mansfield Lab Associated sample(s): 01-03 Batch: WG1463495-2 SRM Lot Number: D109-540								
Mercury, Total	100		-		60-140	-		

Matrix Spike Analysis

Batch Quality Control

Project Name: MICHIGAN & BEST
Project Number: T0371-021-001

Lab Number: L2106250
Report Date: 02/12/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1463494-3 QC Sample: L2106227-01 Client ID: MS Sample												
Arsenic, Total	467	14.3	703	1650	Q	-	-		75-125	-		20
Barium, Total	167	238	411	102		-	-		75-125	-		20
Cadmium, Total	ND	6.08	5.95	98		-	-		75-125	-		20
Chromium, Total	76.6	23.8	102	106		-	-		75-125	-		20
Lead, Total	278	60.8	407	212	Q	-	-		75-125	-		20
Selenium, Total	0.911J	14.3	15.6	109		-	-		75-125	-		20
Silver, Total	0.364J	35.8	36.2	101		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1463495-3 QC Sample: L2106227-01 Client ID: MS Sample												
Mercury, Total	0.863	0.197	1.43	288	Q	-	-		80-120	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: MICHIGAN & BEST
Project Number: T0371-021-001

Lab Number: L2106250
Report Date: 02/12/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1463494-4 QC Sample: L2106227-01 Client ID: DUP Sample						
Arsenic, Total	467	242	mg/kg	63	Q	20
Barium, Total	167	130	mg/kg	25	Q	20
Cadmium, Total	ND	ND	mg/kg	NC		20
Chromium, Total	76.6	35.1	mg/kg	74	Q	20
Lead, Total	278	183	mg/kg	41	Q	20
Selenium, Total	0.911J	0.380J	mg/kg	NC		20
Silver, Total	0.364J	ND	mg/kg	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1463495-4 QC Sample: L2106227-01 Client ID: DUP Sample						
Mercury, Total	0.863	1.60	mg/kg	60	Q	20

INORGANICS & MISCELLANEOUS

Project Name: MICHIGAN & BEST**Project Number:** T0371-021-001**Lab Number:** L2106250**Report Date:** 02/12/21**SAMPLE RESULTS****Lab ID:** L2106250-01**Client ID:** TP-11 2-3FT**Sample Location:** T0371-021-001**Date Collected:** 02/09/21 08:30**Date Received:** 02/09/21**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	79.0		%	0.100	NA	1	-	02/11/21 06:52	121,2540G	RI



Project Name: MICHIGAN & BEST**Project Number:** T0371-021-001**Lab Number:** L2106250**Report Date:** 02/12/21**SAMPLE RESULTS****Lab ID:** L2106250-02**Client ID:** TP-17 2-3FT**Sample Location:** T0371-021-001**Date Collected:** 02/09/21 11:00**Date Received:** 02/09/21**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	80.3		%	0.100	NA	1	-	02/11/21 06:52	121,2540G	RI



Project Name: MICHIGAN & BEST

Project Number: T0371-021-001

Lab Number: L2106250

Report Date: 02/12/21

SAMPLE RESULTS

Lab ID: L2106250-03

Client ID: TP-18 2-3FT

Sample Location: T0371-021-001

Date Collected: 02/09/21 12:00

Date Received: 02/09/21

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.4		%	0.100	NA	1	-	02/11/21 06:52	121,2540G	RI



Project Name: MICHIGAN & BEST
Project Number: T0371-021-001

Lab Duplicate Analysis
Batch Quality Control

Lab Number: L2106250
Report Date: 02/12/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG1463684-1 QC Sample: L2106234-01 Client ID: DUP Sample						
Solids, Total	85.9	84.8	%	1		20

Project Name: MICHIGAN & BEST**Lab Number:** L2106250**Project Number:** T0371-021-001**Report Date:** 02/12/21**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2106250-01A	Glass 120ml/4oz unpreserved	A	NA		2.9	Y	Absent		BA-TI(180),AS-TI(180),AG-TI(180),CR-TI(180),SE-TI(180),PB-TI(180),HG-T(28),CD-TI(180)
L2106250-01B	Glass 120ml/4oz unpreserved	A	NA		2.9	Y	Absent		NYCP51-PAH(14),TS(7)
L2106250-02A	Vial Large Septa unpreserved (4oz)	A	NA		2.9	Y	Absent		AS-TI(180),BA-TI(180),AG-TI(180),CR-TI(180),PB-TI(180),SE-TI(180),HG-T(28),CD-TI(180)
L2106250-02B	Vial Large Septa unpreserved (4oz)	A	NA		2.9	Y	Absent		NYCP51-PAH(14),TS(7)
L2106250-03A	Vial Large Septa unpreserved (4oz)	A	NA		2.9	Y	Absent		BA-TI(180),AS-TI(180),AG-TI(180),CR-TI(180),PB-TI(180),SE-TI(180),HG-T(28),CD-TI(180)
L2106250-03B	Vial Large Septa unpreserved (4oz)	A	NA		2.9	Y	Absent		NYCP51-PAH(14),TS(7)
L2106250-04A	Glass 120ml/4oz unpreserved	A	NA		2.9	Y	Absent		HOLD-METAL(180),HOLD-HG(28)
L2106250-04B	Glass 120ml/4oz unpreserved	A	NA		2.9	Y	Absent		HOLD-8270(14)
L2106250-05A	Glass 120ml/4oz unpreserved	A	NA		2.9	Y	Absent		HOLD-METAL(180),HOLD-HG(28)
L2106250-05B	Glass 120ml/4oz unpreserved	A	NA		2.9	Y	Absent		HOLD-8270(14)
L2106250-06A	Vial Large Septa unpreserved (4oz)	A	NA		2.9	Y	Absent		HOLD-METAL(180),HOLD-HG(28)
L2106250-06B	Vial Large Septa unpreserved (4oz)	A	NA		2.9	Y	Absent		HOLD-8270(14)
L2106250-07A	Vial Large Septa unpreserved (4oz)	A	NA		2.9	Y	Absent		HOLD-METAL(180),HOLD-HG(28)
L2106250-07B	Vial Large Septa unpreserved (4oz)	A	NA		2.9	Y	Absent		HOLD-8270(14)

Project Name: MICHIGAN & BEST
Project Number: T0371-021-001

Lab Number: L2106250
Report Date: 02/12/21

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
	Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers



Project Name: MICHIGAN & BEST
Project Number: T0371-021-001

Lab Number: L2106250
Report Date: 02/12/21

Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. (Note: 'PFAS, Total (6)' is applicable to MassDEP DW compliance analysis only.). If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers



Project Name: MICHIGAN & BEST**Lab Number:** L2106250**Project Number:** T0371-021-001**Report Date:** 02/12/21**Data Qualifiers**

- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.

Report Format: DU Report with 'J' Qualifiers



Project Name: MICHIGAN & BEST
Project Number: T0371-021-001

Lab Number: L2106250
Report Date: 02/12/21

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.
- 121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Alpha Analytical, Inc.Facility: **Company-wide**Department: **Quality Assurance**Title: **Certificate/Approval Program Summary**ID No.: **17873**

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Published Date: 4/28/2020 9:42:21 AM

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Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility**EPA 624/624.1:** m/p-xylene, o-xylene, Naphthalene**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.**Mansfield Facility****SM 2540D:** TSS**EPA 8082A:** NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

EPA TO-12 Non-methane organics**EPA 3C** Fixed gases**Biological Tissue Matrix:** EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:**Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.****Mansfield Facility:****Drinking Water****EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.**EPA 522.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.**EPA 245.1** Hg.**SM2340B**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

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