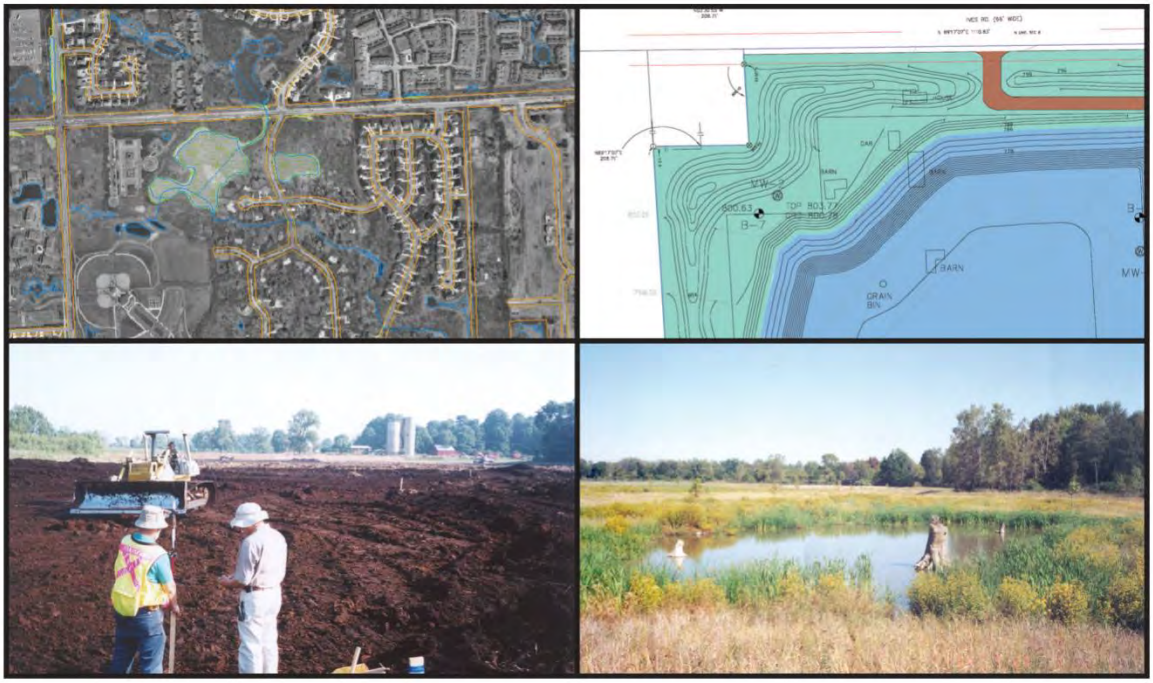
Limited Phase II Environmental Site Assessment

Orchard Village Apartments
Orchard and Santa Clara Streets
Detroit, Michigan

Orchard Village Limited Dividend Housing Association
Limited Partnership

October 18, 2022

ASTI ENVIRONMENTAL



ASTi
ENVIRONMENTAL

Limited Phase II Environmental Site Assessment

Orchard Village Apartments
Orchard and Santa Clara Streets
Detroit, Michigan

October 12, 2022

Prepared For:

Orchard Village LDHA LP
2999 Payne Avenue
Cleveland, Ohio 44114
and
Michigan State Housing Development Authority
735 E. Michigan Avenue
Lansing, Michigan 48912

Report Prepared By:

ASTI Environmental
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ASTI Project No. 1-12206

Report Prepared by:

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Environmental Technician

Report Reviewed by:

Jeremy Efros, EP, CPG
Associate III

ASTI ENVIRONMENTAL

TABLE OF CONTENTS

1.0 INTRODUCTION

ASTI Environmental (ASTI) was retained by Orchard Village Limited Dividend Housing Association Limited Partnership (LDHA LP) to conduct a Limited Phase II Environmental Site Assessment (ESA) of the property comprising nine parcels and an abandoned Right-of-Way located at Orchard and Santa Clara Streets in the City of Detroit, Wayne County, Michigan (Subject Property). This investigation was prepared for the benefit of Orchard Village LDHA LP, CHN Housing Partners, and the Michigan State Housing Development Authority (MSHDA) and ASTI acknowledges that said parties may rely upon the contents and conclusions presented in this report. The Subject Property is comprised of approximately 1.73 acres of land on the following nine parcels:

Parcel Information	**Address No.**	**Parcel No.**	**Acreage (±)**
	21556 Orchard Street	22014271	0.2
	21566 Orchard Street	22014270	0.1
	21604 Orchard Street	22014269	0.15
	21610 Orchard Street	22014268	0.15
	21624 Orchard Street	22014267	0.2
	21636 Orchard Street	22014266	0.2
	21652 Orchard Street	22014265	0.2
	21515 Santa Clara Avenue	22014361	0.1
	21525 Santa Clara Avenue	22014362	0.13
	21535 Santa Clara Avenue	22014363	0.1
	Abandoned ROWs	Not available	0.2

The Limited Phase II ESA was conducted in accordance with ASTI's proposal dated September 1, 2022.

2.0 PURPOSE AND PROPERTY HISTORY AND INFORMATION

2.1 Purpose

ASTI completed a Phase I ESA of the Subject Property on February 15, 2022 and an addendum to the Phase I ESA on July 25, 2022, which identified the following recognized environmental conditions (RECs) with respect to the Subject Property:

- **REC 1:** There was a former dwelling at 21624 Orchard Street that was removed by 1986. The demolition practice and the type of fill used at the former dwelling are unknown. This size of this dwelling is estimated to be 600 to 800 square feet based on the building footprint in Sanborn Maps. It was present from about 1926 to 1986. The foundation type is unknown. If it contained a basement, the typical design during this period was to build an elevated first floor with basement depth around four feet.

- **REC 2:** There was a former dwelling at 21515 Santa Clara Street that was removed in the 1970s or 1980s. The demolition practice and the type of fill used at the former dwelling are unknown. This size of this dwelling is estimated to be 600 to 800 square feet based on the building footprint in Sanborn Maps. It was present from the 1940s to the 1970s or 1980s. The foundation type is unknown. If it contained a basement, the typical design during this period was to build an elevated first floor with basement depth around four feet.

The objective of this Limited Phase II ESA was to identify if a release of hazardous substances and/or petroleum products has occurred at the Subject Property from the above listed RECs.

2.2 Historical Uses of the Subject Property

Based on the Phase I ESA research, the historical uses of the Subject Property are summarized as follows.

Along Santa Clara Street, the Subject Property has been vacant lots or an unpaved public right-of-way since at least 1926. The unpaved public right-of-way is no longer in use and now resembles a vacant lot. The lots are partially overgrown.

Along Orchard Street, the Subject Property was developed for residential use as early as 1926. These residential developments included dwellings and outbuildings. These lots are

now vacant and used for agricultural purposes, including raised-bed gardens and mulch storage. The former dwellings were removed at the following times:

- Dwelling at 21624 Orchard removed by 1986,
- Dwelling at 21652 Orchard removed by 1990,
- Dwelling at 21566 Orchard removed by 1992,
- Dwelling at 21610 Orchard removed by 2005,
- Dwelling at 21636 Orchard removed by 2012, &
- Dwelling at 21556 Orchard removed by 2016.

2.3 Current Uses of the Subject Property

The Subject Property is currently vacant but has been used for community agricultural programming.

2.4 Existing Infrastructure Features

The Subject Property is currently undeveloped land. Potable water, sewage, and stormwater services are available to the Subject Property by the City of Detroit Water and Sewerage Department. Electrical services and natural gas utilities are available through DTE Energy.

3.0 SAMPLING LOCATIONS

On September 21, 2022, ASTI advanced four soil borings (SB-1 through SB-4) at the Subject Property. The soil borings were advanced to approximately 12 feet below ground surface (bgs) using a direct-push Geoprobe® drill rig. A Sample Location Map is provided as Figure 2.

Boring/sample ID, boring/sample locations, and depth were as follows:

Boring/Sample ID	Boring/Sample Location	Depth of Boring (bgs)
SB-1	Northeast portion of the Subject Property regarding the former residence at 21624 Orchard Street	12 feet
SB-2	Northeast portion of the Subject Property regarding the former residence at 21624 Orchard Street	12 feet
SB-3	South portion of the Subject Property regarding the former residence at 21515 Santa Clara Street	12 feet
SB-4	South portion of the Subject Property regarding the former residence at 21515 Santa Clara Street	12 feet

4.0 SAMPLE COLLECTION PROCEDURES

Using the drill rig, soil was extracted from the ground in pre-cleaned, 4-foot-long, acetate liners. Soil encountered during field activities was identified by ASTI's field personnel, examined for visual and/or olfactory evidence of impact, and screened using a photoionization detector (PID) with notes recorded in a field logbook. Prior to sampling, the PID was calibrated to manufacturer specifications using 100 parts per million (ppm) isobutylene calibration gas. All down-hole equipment was decontaminated using an Alconox® wash and clean water rinse prior to and between borings to minimize the risk of cross contamination of the samples.

ASTI collected one soil sample each from soil boring. The soil samples were collected into laboratory certified clean, unpreserved 8-ounce glass jars and 40-milliliter glass vials preserved in the field with methanol that were subsequently placed on ice and submitted to Fibertec Environmental Services (Fibertec) in Holt, Michigan under standard chain-of-custody procedures.

One duplicate soil sample (DUP-1S) was collected at SB-1 (1-2') for quality assurance/quality control (QA/QC) purposes. In addition, a methanol blank was maintained with the samples during sampling and transport.

The soil samples were analyzed for a combination of the following: volatile organic compounds (VOCs) by US EPA Method 8260D; polynuclear aromatic hydrocarbons (PNAs) by US EPA Method 8270E; and the Michigan 10 metals (arsenic, barium, cadmium, chromium, copper, lead, mercury, selenium, silver, and zinc) by US EPA Methods 6020A and 7471B.

Sample depth, location rationale, and analysis are provided in the following table.

Boring	Sample Matrix	Sample Depth (feet bgs)	Rationale for sample depth	Analysis
SB-1	Soil	1-2'	Within fill soil	VOCs, PNAs, & Michigan 10 Metals
SB-2	Soil	0.5-1.5'	Within fill soil	VOCs, PNAs, & Michigan 10 Metals
SB-3	Soil	0.5-1.5'	Within fill soil	VOCs, PNAs, & Michigan 10 Metals

Boring	Sample Matrix	Sample Depth (feet bgs)	Rationale for sample depth	Analysis
SB-4	Soil	4-5’	Directly below fill soils	VOCs, PNAs, & Michigan 10 Metals

5.0 PATHWAY EVALUATION

The Michigan Department of Environment, Great Lakes, and Energy (EGLE) Generic Residential Cleanup Criteria (GRCC) used for comparison to the soil analytical for the Subject Property under Part 201 of Michigan's Natural Resources and Environmental Protection Act, 1994 PA 451, as Amended (Part 201) are the drinking water protection (DWP), direct contact (DC), finite source volatile soil inhalation (VSIC), soil volatilization to indoor air inhalation (SVIAI), and particulate soil inhalation (PSI). The GRCC for groundwater surface water interface protection was not used for comparison to the analytical data because it is not a relevant exposure pathway.

Additionally, the soil and groundwater analytical results were compared to EGLE's residential Volatilization to Indoor Air Pathway (VIAP) Screening Levels.

6.0 SOIL AND GROUNDWATER CHARACTERISTICS

The following sections describe the encountered soil and groundwater conditions during the investigation.

6.1 Soil

The general subsurface lithology encountered beneath surface cover (topsoil) in soil borings SB-1 and SB-2 comprised a silty clay fill layer that extended to approximately 3.5 feet and 5 feet bgs, respectively. This layer was followed by concrete to 5 feet or 6 feet bgs. A silty clay stratum was then encountered to 8' bgs that overlay well graded sand to 12 feet bgs, the explored depth of the borings.

The general subsurface lithology encountered beneath topsoil in soil borings SB-3 and SB-4 comprised a silty or sandy clay fill layer to approximately 4 and 2.5 feet bgs, respectively. Concrete was encountered in soil boring SB-4 from 2.5 to 3.5 feet bgs. Beneath the soil fill or concrete in these borings a silty clay stratum was encountered to 10 feet bgs that overlay a well graded sand stratum to 12 feet bgs the explored depth of the borings.

Fill materials, including concrete, brick, asphalt, and glass, was observed within the soil fill in all borings in the upper 2.5 to 5 feet bgs. No staining or odors were noted in the soil borings and no VOCs were detected on the PID during screening of the soil cores. For more detail on the encountered stratigraphy, refer to the boring logs included as Attachment A.

6.2 Groundwater

Groundwater was encountered in soil boring SB-2 at 10 feet bgs. The groundwater flow direction was not determined as a part of this investigation.

7.0 ANALYTICAL RESULTS

Table 1 presents the laboratory analytical results for the soil samples in comparison to the EGLE GRCC residential VIAP.

Metals

The laboratory analytical results reported the metals in each soil sample but at concentrations below the GRCC or VIAP SLs.

PNAs

The PNAs benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, fluoranthene, and pyrene were detected in soil sample SB-3 (0.5-1.5') at concentrations below the GRCC and VIAP SL. Because multiple PNAs were detected in this soil sample, it was further analyzed for diesel range organics (DRO). Results of the DRO analysis were below the laboratory reporting limits.

No PNAs were detected in the remaining soil samples above the laboratory reporting limits.

VOCs

No VOCs were detected in the soil samples at concentrations exceeding the laboratory reporting limits.

Quality Assurance/Quality Control

The laboratory analytical results for the duplicate soil sample were within the acceptable range of the associate parent sample. In addition, no VOCs were reported in the methanol blank at concentrations exceeding the laboratory reporting limits.

The Laboratory Analytical Reports and chain-of-custody documentation are provided in Attachment B.

8.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the laboratory analytical results of the Limited Phase II ESA, it is ASTI's opinion that the Subject Property is not a “facility” as defined in Part 201 of Michigan’s Natural Resources and Environmental Protection Act, 1994 PA 451, as Amended (Part 201). ASTI opines that the data provides sufficient information to support a professional opinion that a release of hazardous substances has not occurred at the Subject Property with respect to the RECs assessed. No further investigation is recommended.

FIGURES

Orchard & Santa Clara Streets

Detroit, MI

ASTI Environmental

Created for: Orchard Village LDHA LP
Created by: EAS, October 13, 2022, ASTI Project 1-12206

Figure 1 - Site Location Map

Y:\Project Files\Current and Closed\12000-12999\12200-12299\12206 Orchard & Santa Clara, Detroit\1-12206 Phase I\CAD\1-12206.dwg, 10/13/2022 11:42 AM,

GRAPHIC SCALE

0 50 100 200

1 inch = 100 ft.
Paper Size = (8.5x11)

LEGEND

- Property Line
- Adjacent Property Line
- Sample Location

N

Orchard Village Apartments

Detroit, MI

ASTI Environmental

Client: Orchard Village LDHA LP

Figure 2 - Sample Location Map

ASTI Project 1-12206, JRN, October 13, 2022

TABLES

Table 1 Summary of Soil Sample Analytical Results
Orchard and Santa Clara St, Detroit, Michigan
ASTI Project Number: 1-12206

Parameters (µg/kg)	Statewide Default Background Levels*	Residential Drinking Water Protection Criteria*	Residential Soil Volatilization to Indoor Air Inhalation Criteria*	Residential Finite Source Volatile Soil Inhalation for 5 Meter Source Thickness*	Residential Particulate Soil Inhalation Criteria*	Residential Direct Contact Criteria*	Volatilization to Indoor Air Pathway Screening Levels**	SB-1 (1' - 2') 09/21/22 µg/kg	DUP-1S SB-1 (1' - 2') 09/21/22 µg/kg	SB-2 (0.5' - 1.5') 09/21/22 µg/kg	SB-3 (0.5' - 1.5') 09/21/22 µg/kg	SB-4 (4' - 5') 09/21/22 µg/kg	Meth Blk - 09/21/22 µg/kg
Metals													
Arsenic	5,800	4,600	NLV	NLV	720,000	7,600	NA	4,400	3,800	5,100	3,800	2,000	~
Barium	75,000	1,300,000	NLV	NLV	330,000,000	37,000,000	NA	70,000	69,000	75,000	37,000	50,000	~
Cadmium	1,200	6,000	NLV	NLV	1,700,000	550,000	NA	400	330	290	210	65	~
Chromium, Total	18,000 (total)	30,000	NLV	NLV	260,000	2,500,000	NA	13,000	12,000	16,000	9,500	13,000	~
Copper	32,000	5,800,000	NLV	NLV	130,000,000	20,000,000	NA	12,000	10,000	17,000	10,000	4,100	~
Lead	21,000	700,000	NLV	NLV	100,000,000	400,000	NA	41,000	32,000	46,000	20,000	5,700	~
Mercury, Total	130	1,700	48,000	52,000	20,000,000	160,000	22 (M)	<50	<50	54	<50	<50	~
Selenium	410	4,000	NLV	NLV	130,000,000	2,600,000	NA	890	980	1,200	940	810	~
Silver	1,000	4,500	NLV	NLV	6,700,000	2,500,000	NA	<100	<100	<100	<100	<100	~
Zinc	47,000	2,400,000	NLV	NLV	ID	170,000,000	NA	100,000	88,000	93,000	42,000	62,000	~
Polynuclear Aromatic Hydrocarbons (PNAs)													
Benzo(a)anthracene	NA	NLL	NLV	NLV	ID	20,000	160,000 (MM)	<330	<330	<330	360	<330	~
Benzo(a)pyrene	NA	NLL	NLV	NLV	1,500,000	2,000	NA	<330	<330	<330	370	<330	~
Benzo(b)fluoranthene	NA	NLL	ID	ID	ID	20,000	NA	<330	<330	<330	510	<330	~
Fluoranthene	NA	730,000	1,000,000,000 (D)	740,000,000	9,300,000,000	46,000,000	NA	<330	<330	<330	540	<330	~
Pyrene	NA	480,000	1,000,000,000 (D)	650,000,000	6,700,000,000	29,000,000	25,000,000	<330	<330	<330	480	<330	~
Other PNAs	NA	CS	CS	CS	CS	CS	CS	<RL	<RL	<RL	<RL	<RL	~
Volatile Organic Compounds (VOCs)	NA	CS	CS	CS	CS	CS	CS	<RL	<RL	<RL	<RL	<RL	<RL

*Per R299.46, June 25, 2018
**EGLE residential Volatilization to Indoor Air Pathway Screening Levels dated September 2020
~ Parameter not tested for at this location.
ID-Inadequate data to develop criterion.
NA-Not available.
NLL-Hazardous substance is not likely to leach under most soil conditions.
NLV-Hazardous substance is not likely to volatilize under most conditions.
C-Value presented is a screening level based on the chemical-specific generic soil saturation concentration (Csat)
D-Calculated criterion exceeds 100%, hence it is reduced to 100% or 1.0e+9 ppb.
G-Groundwater Surface Water Interface (GSI) criterion depends on the pH or water hardness, or both, of the receiving surface water.
M-Calculated criterion is below the analytical target detection limit, therefore, the criterions defaults to the target detection limit.
X-The Groundwater Surface Water Interface (GSI) criterion shown in the generic cleanup criteria tables is not protective for surface water that is used as a drinking water source.
CS-Compound Specific
<RL-Analytical results were below laboratory reporting limits

ATTACHMENTS

Attachment A

Soil Boring Logs

ASTI Environmental
10448 Citation Dr., Suite 100
Brighton, MI 48116

SOIL BORING LOG

Boring Data	
Boring ID:	**SB-1**
Total Depth:	12' bgs

Proj. Name:	Orchard Village
Proj. Number:	1-12206
Site Address:	Orchard and Santa Clara Streets
	Detroit, MI
Drilled by:	ERG
Method:	Direct push probe
Geologist:	Emily Manetz

Date Completed:	9/21/2022

TW Data	
Size:	NA
Type:	NA
Screen Length:	NA
Well Depth:	NA
GW Depth (▼):	NA

Depth From	Depth To	Description	PID (ppm)	Sample Depth
0	2"	Topsoil	0.0	
2"	3.5'	SILTY CLAY, some very fine- to very coarse-grained sand, trace black angular gravel, concrete, and organics, gray with brown mottles, stiff, fill (silty clay)	0.0	Soil at 1-2'
3.5'	5'	Concrete	0.0	
5'	8'	SILTY CLAY, gray with brown mottles, stiff (silty clay)	0.0	
8'	12'	SAND, very fine- to fine-grained, brown, moist, dense (sand)	0.0	
		End of Boring		

ppm = parts per million
TW = temporary monitoring well
bgs = below ground surface
( ) = USDA soil texture

ASTI Environmental
10448 Citation Dr., Suite 100
Brighton, MI 48116

SOIL BORING LOG

Boring Data	
Boring ID:	**SB-2**
Total Depth:	12' bgs

Proj. Name:	Orchard Village
Proj. Number:	1-12206
Site Address:	Orchard and Santa Clara Streets
	Detroit, MI
Drilled by:	ERG
Method:	Direct push probe
Geologist:	Emily Manetz

Date Completed:	9/21/2022

TW Data	
Size:	NA
Type:	NA
Screen Length:	NA
Well Depth:	NA
GW Depth (▼):	10' bgs

Depth From	Depth To	Description	PID (ppm)	Sample Depth
0	2"	Topsoil	0.0	
2"	5'	SILTY CLAY, some very fine- to very coarse-grained sand, trace brick, asphalt, and organics, brown, stiff, fill (silty clay)	0.0	Soil at 0.5-1.5'
5'	6'	Concrete	0.0	
6'	8'	SILTY CLAY, some fine- to coarse-grained sand, gray with brown mottles, stiff (silty clay)	0.0	
8'	10'	SAND, very fine- to fine-grained, brown, moist, dense (sand)	0.0	
10'	12'	SAND, very fine- to fine-grained, brown, wet, dense (sand)	0.0	
		End of Boring		

ppm = parts per million
TW = temporary monitoring well
bgs = below ground surface
( ) = USDA soil texture

ASTI Environmental
10448 Citation Dr., Suite 100
Brighton, MI 48116

SOIL BORING LOG

Boring Data	
Boring ID:	**SB-3**
Total Depth:	12' bgs

Proj. Name:	Orchard Village
Proj. Number:	1-12206
Site Address:	Orchard and Santa Clara Streets
	Detroit, MI
Drilled by:	ERG
Method:	Direct push probe
Geologist:	Emily Manetz

Date Completed:	9/21/2022

TW Data	
Size:	NA
Type:	NA
Screen Length:	NA
Well Depth:	NA
GW Depth (▼):	NA

Depth From	Depth To	Description	PID (ppm)	Sample Depth
0	4"	Topsoil	0.0	
4"	4'	SANDY CLAY, some silt, trace brick, gravel, glass, and organics, gray with brown mottles, stiff, fill (sandy clay)	0.0	Soil at 0.5-1.5'
4'	10'	SILTY CLAY, some fine-grained sand, gray with brown mottles, medium stiff to soft (silty clay)	0.0	
10'	12'	SAND, very fine- to fine-grained, brown, moist, dense (sand)	0.0	
		End of Boring		

ppm = parts per million
TW = temporary monitoring well
bgs = below ground surface
( ) = USDA soil texture

ASTI Environmental
10448 Citation Dr., Suite 100
Brighton, MI 48116

SOIL BORING LOG

Boring Data	
Boring ID:	**SB-4**
Total Depth:	12' bgs

Proj. Name:	Orchard Village
Proj. Number:	1-12206
Site Address:	Orchard and Santa Clara Streets
	Detroit, MI
Drilled by:	ERG
Method:	Direct push probe
Geologist:	Emily Manetz

Date Completed:	9/21/2022

TW Data	
Size:	NA
Type:	NA
Screen Length:	NA
Well Depth:	NA
GW Depth (▼):	NA

Depth From	Depth To	Description	PID (ppm)	Sample Depth
0	4"	Topsoil	0.0	
4"	1.5'	SANDY CLAY, trace organics, brown, stiff, fill (sandy clay)	0.0	
1.5'	2.5'	SILTY CLAY, some fine- to very coarse-grained sand and black angular gravel, trace brick, brown, stiff, fill (silty clay)	0.0	
2.5'	3.5'	Concrete	0.0	
3.5'	4'	SAND, very fine- to fine-grained, brown, moist, dense (sand)	0.0	
4'	10'	SILTY CLAY, some very fine-grained sand, gray with brown mottles, soft to medium stiff (silty clay)	0.0	Soil at 4-5'
10'	12'	SAND, very fine- to fine-grained, gray/brown, moist, dense (sand)	0.0	
		End of Boring		

ppm = parts per million
TW = temporary monitoring well
bgs = below ground surface
( ) = USDA soil texture

Attachment B

Laboratory Analytical Reports and Chain-of-Custody Documentation

Fibertec
environmental
services

Thursday, September 29, 2022

Fibertec Project Number:	A11049
Project Identification:	Orchard St (1-12206) /1-12206
Submittal Date:	09/22/2022

Mr. Jeremy Efros
Applied Science & Technology, Inc. - Brighton
10448 Citation Dr.
Suite 100
Brighton, MI 48116

Dear Mr. Efros,

Thank you for selecting Fibertec Environmental Services as your analytical laboratory. The samples you submitted have been analyzed in accordance with NELAC standards and the results compiled in the attached report. Any exceptions to NELAC compliance are noted in the report. These results apply only to those samples submitted. Please note TO-15 samples will be disposed of 7 calendar days after the reporting date. All other samples will be disposed of 30 days after the reporting date.

If you have any questions regarding these results or if we may be of further assistance to you, please contact me at (517) 699-0345.

Sincerely,

By Sue Ricketts at 2:57 PM, Sep 29, 2022

For Daryl P. Strandbergh
Laboratory Director

Enclosures

Fibertec environmental services

Analytical Laboratory Report
Laboratory Project Number: A11049
Laboratory Sample Number: A11049-001

Order: A11049
Date: 09/29/22

Client Identification:	**Applied Science & Technology, Inc. - Brighton**	Sample Description:	**SB-1 (1-2')**	Chain of Custody:	**205679**
Client Project Name:	**Orchard St (1-12206)**	Sample No:		Collect Date:	**09/21/22**
Client Project No:	**1-12206**	Sample Matrix:	**Soil/Solid**	Collect Time:	**08:30**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C **Aliquot ID: A11049-001** **Matrix: Soil/Solid**
Method: ASTM D2216-10 **Description: SB-1 (1-2')**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	**10**		%	1	1.0	09/26/22	MC220926	09/27/22	MC220926	LJK

Michigan 10 Elements by ICP/MS **Aliquot ID: A11049-001** **Matrix: Soil/Solid**
Method: EPA 0200.2/EPA 6020A **Description: SB-1 (1-2')**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
1. Arsenic	**4400**		µg/kg	100	20	09/27/22	PT22I27C	09/27/22	T422I27B	RJM
2. Barium	**70000**		µg/kg	1000	20	09/27/22	PT22I27C	09/27/22	T422I27B	RJM
3. Cadmium	**400**		µg/kg	50	20	09/27/22	PT22I27C	09/27/22	T422I27B	RJM
4. Chromium	**13000**		µg/kg	500	20	09/27/22	PT22I27C	09/27/22	T422I27B	RJM
5. Copper	**12000**		µg/kg	1000	20	09/27/22	PT22I27C	09/27/22	T422I27B	RJM
6. Lead	**41000**		µg/kg	1000	20	09/27/22	PT22I27C	09/27/22	T422I27B	RJM
7. Selenium	**890**		µg/kg	200	20	09/27/22	PT22I27C	09/27/22	T422I27B	RJM
8. Silver	U		µg/kg	100	20	09/27/22	PT22I27C	09/27/22	T422I27B	RJM
9. Zinc	**100000**		µg/kg	1000	20	09/27/22	PT22I27C	09/28/22	T422I28B	CJA

Mercury by CVAAS **Aliquot ID: A11049-001** **Matrix: Soil/Solid**
Method: EPA 7471B **Description: SB-1 (1-2')**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
1. Mercury	U		µg/kg	50	10	09/27/22	PM22I27A	09/27/22	M722I27A	JLH

Volatile Organic Compounds (VOCs) by GC/MS, 5035 **Aliquot ID: A11049-001A** **Matrix: Soil/Solid**
Method: EPA 5035A/EPA 8260D **Description: SB-1 (1-2')**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
3. Benzene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
4. Bromobenzene	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
5. Bromochloromethane	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
6. Bromodichloromethane	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
7. Bromoform	U		µg/kg	120	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
8. Bromomethane	U		µg/kg	200	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
9. 2-Butanone	U		µg/kg	750	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC

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Fibertec environmental services

Analytical Laboratory Report
Laboratory Project Number: A11049
Laboratory Sample Number: A11049-001

Order: A11049
Date: 09/29/22

Client Identification:	**Applied Science & Technology, Inc. - Brighton**	Sample Description:	**SB-1 (1-2')**	Chain of Custody:	**205679**
Client Project Name:	**Orchard St (1-12206)**	Sample No:		Collect Date:	**09/21/22**
Client Project No:	**1-12206**	Sample Matrix:	**Soil/Solid**	Collect Time:	**08:30**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 **Aliquot ID: A11049-001A** **Matrix: Soil/Solid**
Method: EPA 5035A/EPA 8260D **Description: SB-1 (1-2')**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
10. n-Butylbenzene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
11. sec-Butylbenzene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
12. tert-Butylbenzene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
13. Carbon Disulfide	U		µg/kg	250	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
14. Carbon Tetrachloride	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
15. Chlorobenzene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
16. Chloroethane	U	V+	µg/kg	250	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
17. Chloroform	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
18. Chloromethane	U		µg/kg	250	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
19. 2-Chlorotoluene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
21. Dibromochloromethane	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
22. Dibromomethane	U		µg/kg	250	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
32. 1,2-Dichloropropane	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
33. cis-1,3-Dichloropropene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
34. trans-1,3-Dichloropropene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
35. Ethylbenzene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
36. Ethylene Dibromide	U		µg/kg	62	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
37. 2-Hexanone	U	V+ L+	µg/kg	2500	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
38. Isopropylbenzene	U		µg/kg	250	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
40. Methylene Chloride	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
42. MTBE	U		µg/kg	250	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
43. Naphthalene	U		µg/kg	330	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
44. n-Propylbenzene	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
45. Styrene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC

Client Identification:	**Applied Science & Technology, Inc. - Brighton**	Sample Description:	**SB-1 (1-2')**	Chain of Custody:	**205679**
Client Project Name:	**Orchard St (1-12206)**	Sample No:		Collect Date:	**09/21/22**
Client Project No:	**1-12206**	Sample Matrix:	**Soil/Solid**	Collect Time:	**08:30**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 **Aliquot ID: A11049-001A** **Matrix: Soil/Solid**
Method: EPA 5035A/EPA 8260D **Description: SB-1 (1-2')**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	62	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
48. Tetrachloroethene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
49. Toluene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
53. Trichloroethene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
54. Trichlorofluoromethane	U	V+ L+	µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
59. Vinyl Chloride	U		µg/kg	40	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
60. m&p-Xylene	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
61. o-Xylene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC
‡ 62. Xylenes	U		µg/kg	150	1.0	09/27/22	VJ22I27D	09/27/22 18:01	VJ22I27D	SNC

Polynuclear Aromatic Hydrocarbons (PNAs) **Aliquot ID: A11049-001** **Matrix: Soil/Solid**
Method: EPA 3546/EPA 8270E **Description: SB-1 (1-2')**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
1. Acenaphthene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 02:39	S622I27B	ALS
2. Acenaphthylene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 02:39	S622I27B	ALS
3. Anthracene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 02:39	S622I27B	ALS
4. Benzo(a)anthracene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 02:39	S622I27B	ALS
5. Benzo(a)pyrene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 02:39	S622I27B	ALS
6. Benzo(b)fluoranthene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 02:39	S622I27B	ALS
7. Benzo(ghi)perylene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 02:39	S622I27B	ALS
8. Benzo(k)fluoranthene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 02:39	S622I27B	ALS
9. Chrysene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 02:39	S622I27B	ALS
10. Dibenzo(a,h)anthracene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 02:39	S622I27B	ALS
11. Fluoranthene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 02:39	S622I27B	ALS
12. Fluorene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 02:39	S622I27B	ALS
13. Indeno(1,2,3-cd)pyrene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 02:39	S622I27B	ALS

Client Identification:	**Applied Science & Technology, Inc. - Brighton**	Sample Description:	**SB-1 (1-2')**	Chain of Custody:	**205679**
Client Project Name:	**Orchard St (1-12206)**	Sample No:		Collect Date:	**09/21/22**
Client Project No:	**1-12206**	Sample Matrix:	**Soil/Solid**	Collect Time:	**08:30**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polynuclear Aromatic Hydrocarbons (PNAs) **Aliquot ID: A11049-001** **Matrix: Soil/Solid**
Method: EPA 3546/EPA 8270E **Description: SB-1 (1-2')**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
14. 2-Methylnaphthalene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 02:39	S622I27B	ALS
15. Naphthalene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 02:39	S622I27B	ALS
16. Phenanthrene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 02:39	S622I27B	ALS
17. Pyrene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 02:39	S622I27B	ALS

Fibertec environmental services

Analytical Laboratory Report
Laboratory Project Number: A11049
Laboratory Sample Number: A11049-002

Order: A11049
Date: 09/29/22

Client Identification:	**Applied Science & Technology, Inc. - Brighton**	Sample Description:	**SB-2 (0.5-1.5')**	Chain of Custody:	**205679**
Client Project Name:	**Orchard St (1-12206)**	Sample No:		Collect Date:	**09/21/22**
Client Project No:	**1-12206**	Sample Matrix:	**Soil/Solid**	Collect Time:	**08:45**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C **Aliquot ID: A11049-002** **Matrix: Soil/Solid**
Method: ASTM D2216-10 **Description: SB-2 (0.5-1.5')**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	**11**		%	1	1.0	09/26/22	MC220926	09/27/22	MC220926	LJK

Michigan 10 Elements by ICP/MS **Aliquot ID: A11049-002** **Matrix: Soil/Solid**
Method: EPA 0200.2/EPA 6020A **Description: SB-2 (0.5-1.5')**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
1. Arsenic	**5100**		µg/kg	100	20	09/27/22	PT22I27C	09/27/22	T422I27B	RJM
2. Barium	**75000**		µg/kg	1000	20	09/27/22	PT22I27C	09/27/22	T422I27B	RJM
3. Cadmium	**290**		µg/kg	50	20	09/27/22	PT22I27C	09/27/22	T422I27B	RJM
4. Chromium	**16000**		µg/kg	500	20	09/27/22	PT22I27C	09/27/22	T422I27B	RJM
5. Copper	**17000**		µg/kg	1000	20	09/27/22	PT22I27C	09/27/22	T422I27B	RJM
6. Lead	**46000**		µg/kg	1000	20	09/27/22	PT22I27C	09/27/22	T422I27B	RJM
7. Selenium	**1200**		µg/kg	200	20	09/27/22	PT22I27C	09/27/22	T422I27B	RJM
8. Silver	U		µg/kg	100	20	09/27/22	PT22I27C	09/27/22	T422I27B	RJM
9. Zinc	**93000**		µg/kg	1000	20	09/27/22	PT22I27C	09/28/22	T422I28B	CJA

Mercury by CVAAS **Aliquot ID: A11049-002** **Matrix: Soil/Solid**
Method: EPA 7471B **Description: SB-2 (0.5-1.5')**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
1. Mercury	**54**		µg/kg	50	10	09/27/22	PM22I27A	09/27/22	M722I27A	JLH

Volatile Organic Compounds (VOCs) by GC/MS, 5035 **Aliquot ID: A11049-002A** **Matrix: Soil/Solid**
Method: EPA 5035A/EPA 8260D **Description: SB-2 (0.5-1.5')**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
3. Benzene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
4. Bromobenzene	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
5. Bromochloromethane	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
6. Bromodichloromethane	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
7. Bromoform	U		µg/kg	130	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
8. Bromomethane	U		µg/kg	200	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
9. 2-Butanone	U		µg/kg	750	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC

Client Identification:	**Applied Science & Technology, Inc. - Brighton**	Sample Description:	**SB-2 (0.5-1.5')**	Chain of Custody:	**205679**
Client Project Name:	**Orchard St (1-12206)**	Sample No:		Collect Date:	**09/21/22**
Client Project No:	**1-12206**	Sample Matrix:	**Soil/Solid**	Collect Time:	**08:45**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 **Aliquot ID: A11049-002A** **Matrix: Soil/Solid**
Method: EPA 5035A/EPA 8260D **Description: SB-2 (0.5-1.5')**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
10. n-Butylbenzene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
11. sec-Butylbenzene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
12. tert-Butylbenzene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
13. Carbon Disulfide	U		µg/kg	250	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
14. Carbon Tetrachloride	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
15. Chlorobenzene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
16. Chloroethane	U	V+	µg/kg	250	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
17. Chloroform	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
18. Chloromethane	U		µg/kg	250	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
19. 2-Chlorotoluene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
21. Dibromochloromethane	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
22. Dibromomethane	U		µg/kg	250	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
32. 1,2-Dichloropropane	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
33. cis-1,3-Dichloropropene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
34. trans-1,3-Dichloropropene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
35. Ethylbenzene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
36. Ethylene Dibromide	U		µg/kg	63	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
37. 2-Hexanone	U	V+ L+	µg/kg	2500	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
38. Isopropylbenzene	U		µg/kg	250	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
40. Methylene Chloride	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
42. MTBE	U		µg/kg	250	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
43. Naphthalene	U		µg/kg	330	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
44. n-Propylbenzene	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
45. Styrene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC

Client Identification:	**Applied Science & Technology, Inc. - Brighton**	Sample Description:	**SB-2 (0.5-1.5')**	Chain of Custody:	**205679**
Client Project Name:	**Orchard St (1-12206)**	Sample No:		Collect Date:	**09/21/22**
Client Project No:	**1-12206**	Sample Matrix:	**Soil/Solid**	Collect Time:	**08:45**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 **Aliquot ID: A11049-002A** **Matrix: Soil/Solid**
Method: EPA 5035A/EPA 8260D **Description: SB-2 (0.5-1.5')**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	63	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
48. Tetrachloroethene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
49. Toluene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
53. Trichloroethene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
54. Trichlorofluoromethane	U	V+ L+	µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
59. Vinyl Chloride	U		µg/kg	40	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
60. m&p-Xylene	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
61. o-Xylene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC
‡ 62. Xylenes	U		µg/kg	150	1.0	09/27/22	VJ22I27D	09/27/22 18:26	VJ22I27D	SNC

Polynuclear Aromatic Hydrocarbons (PNAs) **Aliquot ID: A11049-002** **Matrix: Soil/Solid**
Method: EPA 3546/EPA 8270E **Description: SB-2 (0.5-1.5')**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
1. Acenaphthene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 03:07	S622I27B	ALS
2. Acenaphthylene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 03:07	S622I27B	ALS
3. Anthracene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 03:07	S622I27B	ALS
4. Benzo(a)anthracene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 03:07	S622I27B	ALS
5. Benzo(a)pyrene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 03:07	S622I27B	ALS
6. Benzo(b)fluoranthene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 03:07	S622I27B	ALS
7. Benzo(ghi)perylene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 03:07	S622I27B	ALS
8. Benzo(k)fluoranthene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 03:07	S622I27B	ALS
9. Chrysene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 03:07	S622I27B	ALS
10. Dibenzo(a,h)anthracene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 03:07	S622I27B	ALS
11. Fluoranthene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 03:07	S622I27B	ALS
12. Fluorene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 03:07	S622I27B	ALS
13. Indeno(1,2,3-cd)pyrene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 03:07	S622I27B	ALS

Client Identification:	**Applied Science & Technology, Inc. - Brighton**	Sample Description:	**SB-2 (0.5-1.5')**	Chain of Custody:	**205679**
Client Project Name:	**Orchard St (1-12206)**	Sample No:		Collect Date:	**09/21/22**
Client Project No:	**1-12206**	Sample Matrix:	**Soil/Solid**	Collect Time:	**08:45**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polynuclear Aromatic Hydrocarbons (PNAs) **Aliquot ID: A11049-002** **Matrix: Soil/Solid**
Method: EPA 3546/EPA 8270E **Description: SB-2 (0.5-1.5')**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
14. 2-Methylnaphthalene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 03:07	S622I27B	ALS
15. Naphthalene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 03:07	S622I27B	ALS
16. Phenanthrene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 03:07	S622I27B	ALS
17. Pyrene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 03:07	S622I27B	ALS

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Analytical Laboratory Report
Laboratory Project Number: A11049
Laboratory Sample Number: A11049-003

Order: A11049
Date: 09/29/22

Client Identification:	**Applied Science & Technology, Inc. - Brighton**	Sample Description:	**SB-3 (0.5-1.5')**	Chain of Custody:	**205679**
Client Project Name:	**Orchard St (1-12206)**	Sample No:		Collect Date:	**09/21/22**
Client Project No:	**1-12206**	Sample Matrix:	**Soil/Solid**	Collect Time:	**09:10**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C **Aliquot ID: A11049-003** **Matrix: Soil/Solid**
Method: ASTM D2216-10 **Description: SB-3 (0.5-1.5')**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	**4**		%	1	1.0	09/26/22	MC220926	09/27/22	MC220926	LJK

Michigan 10 Elements by ICP/MS **Aliquot ID: A11049-003** **Matrix: Soil/Solid**
Method: EPA 0200.2/EPA 6020A **Description: SB-3 (0.5-1.5')**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
1. Arsenic	**3800**		µg/kg	100	20	09/27/22	PT22I27C	09/27/22	T422I27B	RJM
2. Barium	**37000**		µg/kg	1000	20	09/27/22	PT22I27C	09/27/22	T422I27B	RJM
3. Cadmium	**210**		µg/kg	50	20	09/27/22	PT22I27C	09/27/22	T422I27B	RJM
4. Chromium	**9500**		µg/kg	500	20	09/27/22	PT22I27C	09/27/22	T422I27B	RJM
5. Copper	**10000**		µg/kg	1000	20	09/27/22	PT22I27C	09/27/22	T422I27B	RJM
6. Lead	**20000**		µg/kg	1000	20	09/27/22	PT22I27C	09/27/22	T422I27B	RJM
7. Selenium	**940**		µg/kg	200	20	09/27/22	PT22I27C	09/27/22	T422I27B	RJM
8. Silver	U		µg/kg	100	20	09/27/22	PT22I27C	09/27/22	T422I27B	RJM
9. Zinc	**42000**		µg/kg	1000	20	09/27/22	PT22I27C	09/28/22	T422I28B	CJA

Mercury by CVAAS **Aliquot ID: A11049-003** **Matrix: Soil/Solid**
Method: EPA 7471B **Description: SB-3 (0.5-1.5')**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
1. Mercury	U		µg/kg	50	10	09/27/22	PM22I27A	09/27/22	M722I27A	JLH

Volatile Organic Compounds (VOCs) by GC/MS, 5035 **Aliquot ID: A11049-003A** **Matrix: Soil/Solid**
Method: EPA 5035A/EPA 8260D **Description: SB-3 (0.5-1.5')**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
3. Benzene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
4. Bromobenzene	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
5. Bromochloromethane	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
6. Bromodichloromethane	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
7. Bromoform	U		µg/kg	110	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
8. Bromomethane	U		µg/kg	200	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
9. 2-Butanone	U		µg/kg	750	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC

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Analytical Laboratory Report
Laboratory Project Number: A11049
Laboratory Sample Number: A11049-003

Order: A11049
Date: 09/29/22

Client Identification:	**Applied Science & Technology, Inc. - Brighton**	Sample Description:	**SB-3 (0.5-1.5')**	Chain of Custody:	**205679**
Client Project Name:	**Orchard St (1-12206)**	Sample No:		Collect Date:	**09/21/22**
Client Project No:	**1-12206**	Sample Matrix:	**Soil/Solid**	Collect Time:	**09:10**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 **Aliquot ID: A11049-003A** **Matrix: Soil/Solid**
Method: EPA 5035A/EPA 8260D **Description: SB-3 (0.5-1.5')**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
10. n-Butylbenzene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
11. sec-Butylbenzene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
12. tert-Butylbenzene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
13. Carbon Disulfide	U		µg/kg	250	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
14. Carbon Tetrachloride	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
15. Chlorobenzene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
16. Chloroethane	U	V+	µg/kg	250	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
17. Chloroform	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
18. Chloromethane	U		µg/kg	250	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
19. 2-Chlorotoluene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
21. Dibromochloromethane	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
22. Dibromomethane	U		µg/kg	250	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
32. 1,2-Dichloropropane	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
33. cis-1,3-Dichloropropene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
34. trans-1,3-Dichloropropene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
35. Ethylbenzene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
36. Ethylene Dibromide	U		µg/kg	54	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
37. 2-Hexanone	U	V+ L+	µg/kg	2500	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
38. Isopropylbenzene	U		µg/kg	250	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
40. Methylene Chloride	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
42. MTBE	U		µg/kg	250	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
43. Naphthalene	U		µg/kg	330	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
44. n-Propylbenzene	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
45. Styrene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC

Client Identification:	**Applied Science & Technology, Inc. - Brighton**	Sample Description:	**SB-3 (0.5-1.5')**	Chain of Custody:	**205679**
Client Project Name:	**Orchard St (1-12206)**	Sample No:		Collect Date:	**09/21/22**
Client Project No:	**1-12206**	Sample Matrix:	**Soil/Solid**	Collect Time:	**09:10**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 **Aliquot ID: A11049-003A** **Matrix: Soil/Solid**
Method: EPA 5035A/EPA 8260D **Description: SB-3 (0.5-1.5')**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	54	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
48. Tetrachloroethene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
49. Toluene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
53. Trichloroethene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
54. Trichlorofluoromethane	U	V+ L+	µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
59. Vinyl Chloride	U		µg/kg	40	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
60. m&p-Xylene	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
61. o-Xylene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC
‡ 62. Xylenes	U		µg/kg	150	1.0	09/27/22	VJ22I27D	09/27/22 18:50	VJ22I27D	SNC

Polynuclear Aromatic Hydrocarbons (PNAs) **Aliquot ID: A11049-003** **Matrix: Soil/Solid**
Method: EPA 3546/EPA 8270E **Description: SB-3 (0.5-1.5')**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
1. Acenaphthene (SIM)	U		µg/kg	330	10	09/27/22	PS22I27F	09/27/22 19:44	S622I27B	ALS
2. Acenaphthylene (SIM)	U		µg/kg	330	10	09/27/22	PS22I27F	09/27/22 19:44	S622I27B	ALS
3. Anthracene (SIM)	U		µg/kg	330	10	09/27/22	PS22I27F	09/27/22 19:44	S622I27B	ALS
4. Benzo(a)anthracene (SIM)	**360**		µg/kg	330	10	09/27/22	PS22I27F	09/27/22 19:44	S622I27B	ALS
5. Benzo(a)pyrene (SIM)	**370**		µg/kg	330	10	09/27/22	PS22I27F	09/27/22 19:44	S622I27B	ALS
6. Benzo(b)fluoranthene (SIM)	**510**		µg/kg	330	10	09/27/22	PS22I27F	09/27/22 19:44	S622I27B	ALS
7. Benzo(ghi)perylene (SIM)	U		µg/kg	330	10	09/27/22	PS22I27F	09/27/22 19:44	S622I27B	ALS
8. Benzo(k)fluoranthene (SIM)	U		µg/kg	330	10	09/27/22	PS22I27F	09/27/22 19:44	S622I27B	ALS
9. Chrysene (SIM)	U		µg/kg	330	10	09/27/22	PS22I27F	09/27/22 19:44	S622I27B	ALS
10. Dibenzo(a,h)anthracene (SIM)	U		µg/kg	330	10	09/27/22	PS22I27F	09/27/22 19:44	S622I27B	ALS
11. Fluoranthene (SIM)	**540**		µg/kg	330	10	09/27/22	PS22I27F	09/27/22 19:44	S622I27B	ALS
12. Fluorene (SIM)	U		µg/kg	330	10	09/27/22	PS22I27F	09/27/22 19:44	S622I27B	ALS
13. Indeno(1,2,3-cd)pyrene (SIM)	U		µg/kg	330	10	09/27/22	PS22I27F	09/27/22 19:44	S622I27B	ALS

Client Identification:	**Applied Science & Technology, Inc. - Brighton**	Sample Description:	**SB-3 (0.5-1.5')**	Chain of Custody:	**205679**
Client Project Name:	**Orchard St (1-12206)**	Sample No:		Collect Date:	**09/21/22**
Client Project No:	**1-12206**	Sample Matrix:	**Soil/Solid**	Collect Time:	**09:10**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polynuclear Aromatic Hydrocarbons (PNAs) **Aliquot ID: A11049-003** **Matrix: Soil/Solid**
Method: EPA 3546/EPA 8270E **Description: SB-3 (0.5-1.5')**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
14. 2-Methylnaphthalene (SIM)	U		µg/kg	330	10	09/27/22	PS22I27F	09/27/22 19:44	S622I27B	ALS
15. Naphthalene (SIM)	U		µg/kg	330	10	09/27/22	PS22I27F	09/27/22 19:44	S622I27B	ALS
16. Phenanthrene (SIM)	U		µg/kg	330	10	09/27/22	PS22I27F	09/27/22 19:44	S622I27B	ALS
17. Pyrene (SIM)	**480**		µg/kg	330	10	09/27/22	PS22I27F	09/27/22 19:44	S622I27B	ALS

Fibertec environmental services

Analytical Laboratory Report
Laboratory Project Number: A11049
Laboratory Sample Number: A11049-004

Order: A11049
Date: 09/29/22

Client Identification:	**Applied Science & Technology, Inc. - Brighton**	Sample Description:	**SB-4 (4-5')**	Chain of Custody:	**205679**
Client Project Name:	**Orchard St (1-12206)**	Sample No:		Collect Date:	**09/21/22**
Client Project No:	**1-12206**	Sample Matrix:	**Soil/Solid**	Collect Time:	**09:00**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C **Aliquot ID: A11049-004** **Matrix: Soil/Solid**
Method: ASTM D2216-10 **Description: SB-4 (4-5')**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	**14**		%	1	1.0	09/26/22	MC220926	09/27/22	MC220926	LJK

Michigan 10 Elements by ICP/MS **Aliquot ID: A11049-004** **Matrix: Soil/Solid**
Method: EPA 0200.2/EPA 6020A **Description: SB-4 (4-5')**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
1. Arsenic	**2000**		µg/kg	100	20	09/27/22	PT22I27C	09/27/22	T422I27B	RJM
2. Barium	**50000**		µg/kg	1000	20	09/27/22	PT22I27C	09/27/22	T422I27B	RJM
3. Cadmium	**65**		µg/kg	50	20	09/27/22	PT22I27C	09/27/22	T422I27B	RJM
4. Chromium	**13000**		µg/kg	500	20	09/27/22	PT22I27C	09/27/22	T422I27B	RJM
5. Copper	**4100**		µg/kg	1000	20	09/27/22	PT22I27C	09/27/22	T422I27B	RJM
6. Lead	**5700**		µg/kg	1000	20	09/27/22	PT22I27C	09/27/22	T422I27B	RJM
7. Selenium	**810**		µg/kg	200	20	09/27/22	PT22I27C	09/27/22	T422I27B	RJM
8. Silver	U		µg/kg	100	20	09/27/22	PT22I27C	09/27/22	T422I27B	RJM
9. Zinc	**62000**		µg/kg	1000	20	09/27/22	PT22I27C	09/28/22	T422I28B	CJA

Mercury by CVAAS **Aliquot ID: A11049-004** **Matrix: Soil/Solid**
Method: EPA 7471B **Description: SB-4 (4-5')**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
1. Mercury	U		µg/kg	50	10	09/27/22	PM22I27A	09/27/22	M722I27A	JLH

Volatile Organic Compounds (VOCs) by GC/MS, 5035 **Aliquot ID: A11049-004A** **Matrix: Soil/Solid**
Method: EPA 5035A/EPA 8260D **Description: SB-4 (4-5')**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
3. Benzene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
4. Bromobenzene	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
5. Bromochloromethane	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
6. Bromodichloromethane	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
7. Bromoform	U		µg/kg	130	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
8. Bromomethane	U		µg/kg	200	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
9. 2-Butanone	U		µg/kg	750	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC

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Client Identification:	**Applied Science & Technology, Inc. - Brighton**	Sample Description:	**SB-4 (4-5')**	Chain of Custody:	**205679**
Client Project Name:	**Orchard St (1-12206)**	Sample No:		Collect Date:	**09/21/22**
Client Project No:	**1-12206**	Sample Matrix:	**Soil/Solid**	Collect Time:	**09:00**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 **Aliquot ID: A11049-004A** **Matrix: Soil/Solid**
Method: EPA 5035A/EPA 8260D **Description: SB-4 (4-5')**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
10. n-Butylbenzene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
11. sec-Butylbenzene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
12. tert-Butylbenzene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
13. Carbon Disulfide	U		µg/kg	250	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
14. Carbon Tetrachloride	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
15. Chlorobenzene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
16. Chloroethane	U	V+	µg/kg	250	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
17. Chloroform	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
18. Chloromethane	U		µg/kg	250	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
19. 2-Chlorotoluene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
21. Dibromochloromethane	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
22. Dibromomethane	U		µg/kg	250	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
32. 1,2-Dichloropropane	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
33. cis-1,3-Dichloropropene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
34. trans-1,3-Dichloropropene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
35. Ethylbenzene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
36. Ethylene Dibromide	U		µg/kg	65	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
37. 2-Hexanone	U	V+ L+	µg/kg	2500	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
38. Isopropylbenzene	U		µg/kg	250	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
40. Methylene Chloride	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
42. MTBE	U		µg/kg	250	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
43. Naphthalene	U		µg/kg	330	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
44. n-Propylbenzene	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
45. Styrene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC

Client Identification:	**Applied Science & Technology, Inc. - Brighton**	Sample Description:	**SB-4 (4-5')**	Chain of Custody:	**205679**
Client Project Name:	**Orchard St (1-12206)**	Sample No:		Collect Date:	**09/21/22**
Client Project No:	**1-12206**	Sample Matrix:	**Soil/Solid**	Collect Time:	**09:00**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 **Aliquot ID: A11049-004A** **Matrix: Soil/Solid**
Method: EPA 5035A/EPA 8260D **Description: SB-4 (4-5')**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	65	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
48. Tetrachloroethene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
49. Toluene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
53. Trichloroethene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
54. Trichlorofluoromethane	U	V+ L+	µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
59. Vinyl Chloride	U		µg/kg	40	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
60. m&p-Xylene	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
61. o-Xylene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC
‡ 62. Xylenes	U		µg/kg	150	1.0	09/27/22	VJ22I27D	09/27/22 19:14	VJ22I27D	SNC

Polynuclear Aromatic Hydrocarbons (PNAs) **Aliquot ID: A11049-004** **Matrix: Soil/Solid**
Method: EPA 3546/EPA 8270E **Description: SB-4 (4-5')**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
1. Acenaphthene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 00:21	S622I27B	ALS
2. Acenaphthylene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 00:21	S622I27B	ALS
3. Anthracene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 00:21	S622I27B	ALS
4. Benzo(a)anthracene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 00:21	S622I27B	ALS
5. Benzo(a)pyrene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 00:21	S622I27B	ALS
6. Benzo(b)fluoranthene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 00:21	S622I27B	ALS
7. Benzo(ghi)perylene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 00:21	S622I27B	ALS
8. Benzo(k)fluoranthene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 00:21	S622I27B	ALS
9. Chrysene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 00:21	S622I27B	ALS
10. Dibenzo(a,h)anthracene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 00:21	S622I27B	ALS
11. Fluoranthene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 00:21	S622I27B	ALS
12. Fluorene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 00:21	S622I27B	ALS
13. Indeno(1,2,3-cd)pyrene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 00:21	S622I27B	ALS

Client Identification:	**Applied Science & Technology, Inc. - Brighton**	Sample Description:	**SB-4 (4-5')**	Chain of Custody:	**205679**
Client Project Name:	**Orchard St (1-12206)**	Sample No:		Collect Date:	**09/21/22**
Client Project No:	**1-12206**	Sample Matrix:	**Soil/Solid**	Collect Time:	**09:00**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polynuclear Aromatic Hydrocarbons (PNAs) **Aliquot ID: A11049-004** **Matrix: Soil/Solid**
Method: EPA 3546/EPA 8270E **Description: SB-4 (4-5')**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
14. 2-Methylnaphthalene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 00:21	S622I27B	ALS
15. Naphthalene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 00:21	S622I27B	ALS
16. Phenanthrene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 00:21	S622I27B	ALS
17. Pyrene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 00:21	S622I27B	ALS

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Analytical Laboratory Report
Laboratory Project Number: A11049
Laboratory Sample Number: A11049-005

Order: A11049
Date: 09/29/22

Client Identification:	**Applied Science & Technology, Inc. - Brighton**	Sample Description:	**DUP-1S**	Chain of Custody:	**205679**
Client Project Name:	**Orchard St (1-12206)**	Sample No:		Collect Date:	**09/21/22**
Client Project No:	**1-12206**	Sample Matrix:	**Soil/Solid**	Collect Time:	**NA**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C **Aliquot ID: A11049-005** **Matrix: Soil/Solid**
Method: ASTM D2216-10 **Description: DUP-1S**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	**11**		%	1	1.0	09/26/22	MC220926	09/27/22	MC220926	LJK

Michigan 10 Elements by ICP/MS **Aliquot ID: A11049-005** **Matrix: Soil/Solid**
Method: EPA 0200.2/EPA 6020A **Description: DUP-1S**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
1. Arsenic	**3800**		µg/kg	100	20	09/27/22	PT22I27C	09/27/22	T422I27B	RJM
2. Barium	**69000**		µg/kg	1000	20	09/27/22	PT22I27C	09/27/22	T422I27B	RJM
3. Cadmium	**330**		µg/kg	50	20	09/27/22	PT22I27C	09/27/22	T422I27B	RJM
4. Chromium	**12000**		µg/kg	500	20	09/27/22	PT22I27C	09/27/22	T422I27B	RJM
5. Copper	**10000**		µg/kg	1000	20	09/27/22	PT22I27C	09/27/22	T422I27B	RJM
6. Lead	**32000**		µg/kg	1000	20	09/27/22	PT22I27C	09/27/22	T422I27B	RJM
7. Selenium	**980**		µg/kg	200	20	09/27/22	PT22I27C	09/27/22	T422I27B	RJM
8. Silver	U		µg/kg	100	20	09/27/22	PT22I27C	09/27/22	T422I27B	RJM
9. Zinc	**88000**		µg/kg	1000	20	09/27/22	PT22I27C	09/28/22	T422I28B	CJA

Mercury by CVAAS **Aliquot ID: A11049-005** **Matrix: Soil/Solid**
Method: EPA 7471B **Description: DUP-1S**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
1. Mercury	U		µg/kg	50	10	09/27/22	PM22I27A	09/27/22	M722I27A	JLH

Volatile Organic Compounds (VOCs) by GC/MS, 5035 **Aliquot ID: A11049-005A** **Matrix: Soil/Solid**
Method: EPA 5035A/EPA 8260D **Description: DUP-1S**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
1. Acetone	U		µg/kg	1000	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
3. Benzene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
4. Bromobenzene	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
5. Bromochloromethane	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
6. Bromodichloromethane	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
7. Bromoform	U		µg/kg	130	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
8. Bromomethane	U		µg/kg	200	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
9. 2-Butanone	U		µg/kg	750	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC

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Analytical Laboratory Report
Laboratory Project Number: A11049
Laboratory Sample Number: A11049-005

Order: A11049
Date: 09/29/22

Client Identification:	**Applied Science & Technology, Inc. - Brighton**	Sample Description:	**DUP-1S**	Chain of Custody:	**205679**
Client Project Name:	**Orchard St (1-12206)**	Sample No:		Collect Date:	**09/21/22**
Client Project No:	**1-12206**	Sample Matrix:	**Soil/Solid**	Collect Time:	**NA**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 **Aliquot ID: A11049-005A** **Matrix: Soil/Solid**
Method: EPA 5035A/EPA 8260D **Description: DUP-1S**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
10. n-Butylbenzene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
11. sec-Butylbenzene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
12. tert-Butylbenzene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
13. Carbon Disulfide	U		µg/kg	250	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
14. Carbon Tetrachloride	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
15. Chlorobenzene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
16. Chloroethane	U	V+	µg/kg	250	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
17. Chloroform	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
18. Chloromethane	U		µg/kg	250	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
19. 2-Chlorotoluene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
21. Dibromochloromethane	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
22. Dibromomethane	U		µg/kg	250	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
32. 1,2-Dichloropropane	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
33. cis-1,3-Dichloropropene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
34. trans-1,3-Dichloropropene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
35. Ethylbenzene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
36. Ethylene Dibromide	U		µg/kg	65	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
37. 2-Hexanone	U	V+ L+	µg/kg	2500	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
38. Isopropylbenzene	U		µg/kg	250	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
40. Methylene Chloride	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
42. MTBE	U		µg/kg	250	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
43. Naphthalene	U		µg/kg	330	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
44. n-Propylbenzene	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
45. Styrene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC

Client Identification:	**Applied Science & Technology, Inc. - Brighton**	Sample Description:	**DUP-1S**	Chain of Custody:	**205679**
Client Project Name:	**Orchard St (1-12206)**	Sample No:		Collect Date:	**09/21/22**
Client Project No:	**1-12206**	Sample Matrix:	**Soil/Solid**	Collect Time:	**NA**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 **Aliquot ID: A11049-005A** **Matrix: Soil/Solid**
Method: EPA 5035A/EPA 8260D **Description: DUP-1S**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	65	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
48. Tetrachloroethene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
49. Toluene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
53. Trichloroethene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
54. Trichlorofluoromethane	U	V+ L+	µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
59. Vinyl Chloride	U		µg/kg	40	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
60. m&p-Xylene	U		µg/kg	100	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
61. o-Xylene	U		µg/kg	50	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC
‡ 62. Xylenes	U		µg/kg	150	1.0	09/27/22	VJ22I27D	09/27/22 19:38	VJ22I27D	SNC

Polynuclear Aromatic Hydrocarbons (PNAs) **Aliquot ID: A11049-005** **Matrix: Soil/Solid**
Method: EPA 3546/EPA 8270E **Description: DUP-1S**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
1. Acenaphthene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 03:34	S622I27B	ALS
2. Acenaphthylene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 03:34	S622I27B	ALS
3. Anthracene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 03:34	S622I27B	ALS
4. Benzo(a)anthracene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 03:34	S622I27B	ALS
5. Benzo(a)pyrene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 03:34	S622I27B	ALS
6. Benzo(b)fluoranthene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 03:34	S622I27B	ALS
7. Benzo(ghi)perylene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 03:34	S622I27B	ALS
8. Benzo(k)fluoranthene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 03:34	S622I27B	ALS
9. Chrysene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 03:34	S622I27B	ALS
10. Dibenzo(a,h)anthracene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 03:34	S622I27B	ALS
11. Fluoranthene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 03:34	S622I27B	ALS
12. Fluorene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 03:34	S622I27B	ALS
13. Indeno(1,2,3-cd)pyrene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 03:34	S622I27B	ALS

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Analytical Laboratory Report
Laboratory Project Number: A11049
Laboratory Sample Number: A11049-005

Order: A11049
Date: 09/29/22

Client Identification:	**Applied Science & Technology, Inc. - Brighton**	Sample Description:	**DUP-1S**	Chain of Custody:	**205679**
Client Project Name:	**Orchard St (1-12206)**	Sample No:		Collect Date:	**09/21/22**
Client Project No:	**1-12206**	Sample Matrix:	**Soil/Solid**	Collect Time:	**NA**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Polynuclear Aromatic Hydrocarbons (PNAs) **Aliquot ID: A11049-005** **Matrix: Soil/Solid**
Method: EPA 3546/EPA 8270E **Description: DUP-1S**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
14. 2-Methylnaphthalene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 03:34	S622I27B	ALS
15. Naphthalene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 03:34	S622I27B	ALS
16. Phenanthrene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 03:34	S622I27B	ALS
17. Pyrene (SIM)	U		µg/kg	330	5.0	09/27/22	PS22I27F	09/28/22 03:34	S622I27B	ALS

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Analytical Laboratory Report
Laboratory Project Number: A11049
Laboratory Sample Number: A11049-006

Order: A11049
Date: 09/29/22

Client Identification:	**Applied Science & Technology, Inc. - Brighton**	Sample Description:	**Meth Blk**	Chain of Custody:	**205679**
Client Project Name:	**Orchard St (1-12206)**	Sample No:		Collect Date:	**09/21/22**
Client Project No:	**1-12206**	Sample Matrix:	**Blank: Methanol**	Collect Time:	**NA**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 **Aliquot ID: A11049-006** **Matrix: Blank: Methanol**
Method: EPA 5035A/EPA 8260D **Description: Meth Blk**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
1. Acetone	U	V-	µg/kg	1000	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
‡ 2. Acrylonitrile	U		µg/kg	100	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
3. Benzene	U		µg/kg	50	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
4. Bromobenzene	U		µg/kg	100	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
5. Bromochloromethane	U		µg/kg	100	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
6. Bromodichloromethane	U		µg/kg	100	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
7. Bromoform	U		µg/kg	100	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
8. Bromomethane	U		µg/kg	200	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
9. 2-Butanone	U		µg/kg	750	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
10. n-Butylbenzene	U		µg/kg	50	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
11. sec-Butylbenzene	U		µg/kg	50	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
12. tert-Butylbenzene	U		µg/kg	50	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
13. Carbon Disulfide	U		µg/kg	250	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
14. Carbon Tetrachloride	U		µg/kg	50	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
15. Chlorobenzene	U		µg/kg	50	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
16. Chloroethane	U		µg/kg	250	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
17. Chloroform	U		µg/kg	50	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
18. Chloromethane	U		µg/kg	250	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
19. 2-Chlorotoluene	U		µg/kg	50	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
‡ 20. 1,2-Dibromo-3-chloropropane (SIM)	U		µg/kg	250	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
21. Dibromochloromethane	U		µg/kg	100	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
22. Dibromomethane	U		µg/kg	250	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
23. 1,2-Dichlorobenzene	U		µg/kg	100	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
24. 1,3-Dichlorobenzene	U		µg/kg	100	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
25. 1,4-Dichlorobenzene	U		µg/kg	100	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
26. Dichlorodifluoromethane	U		µg/kg	250	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
27. 1,1-Dichloroethane	U		µg/kg	50	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
28. 1,2-Dichloroethane	U		µg/kg	50	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
29. 1,1-Dichloroethene	U		µg/kg	50	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
30. cis-1,2-Dichloroethene	U		µg/kg	50	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
31. trans-1,2-Dichloroethene	U		µg/kg	50	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
32. 1,2-Dichloropropane	U		µg/kg	50	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
33. cis-1,3-Dichloropropene	U		µg/kg	50	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
34. trans-1,3-Dichloropropene	U		µg/kg	50	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
35. Ethylbenzene	U		µg/kg	50	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
36. Ethylene Dibromide	U		µg/kg	50	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
37. 2-Hexanone	U		µg/kg	2500	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC

Fibertec environmental services

Analytical Laboratory Report
Laboratory Project Number: A11049
Laboratory Sample Number: A11049-006

Order: A11049
Date: 09/29/22

Client Identification:	**Applied Science & Technology, Inc. - Brighton**	Sample Description:	**Meth Blk**	Chain of Custody:	**205679**
Client Project Name:	**Orchard St (1-12206)**	Sample No:		Collect Date:	**09/21/22**
Client Project No:	**1-12206**	Sample Matrix:	**Blank: Methanol**	Collect Time:	**NA**

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Volatile Organic Compounds (VOCs) by GC/MS, 5035 **Aliquot ID: A11049-006** **Matrix: Blank: Methanol**
Method: EPA 5035A/EPA 8260D **Description: Meth Blk**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation P. Date	Preparation P. Batch	Analysis A. Date	Analysis A. Batch	Init.
38. Isopropylbenzene	U		µg/kg	250	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
39. 4-Methyl-2-pentanone	U		µg/kg	2500	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
40. Methylene Chloride	U		µg/kg	100	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
‡ 41. 2-Methylnaphthalene	U		µg/kg	330	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
42. MTBE	U		µg/kg	250	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
43. Naphthalene	U		µg/kg	330	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
44. n-Propylbenzene	U		µg/kg	100	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
45. Styrene	U		µg/kg	50	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
46. 1,1,1,2-Tetrachloroethane	U		µg/kg	100	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
47. 1,1,2,2-Tetrachloroethane	U		µg/kg	50	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
48. Tetrachloroethene	U		µg/kg	50	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
49. Toluene	U		µg/kg	50	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
50. 1,2,4-Trichlorobenzene	U		µg/kg	250	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
51. 1,1,1-Trichloroethane	U		µg/kg	50	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
52. 1,1,2-Trichloroethane	U		µg/kg	50	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
53. Trichloroethene	U		µg/kg	50	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
54. Trichlorofluoromethane	U	V+	µg/kg	100	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
55. 1,2,3-Trichloropropane	U		µg/kg	100	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
‡ 56. 1,2,3-Trimethylbenzene	U		µg/kg	100	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
57. 1,2,4-Trimethylbenzene	U		µg/kg	100	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
58. 1,3,5-Trimethylbenzene	U		µg/kg	100	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
59. Vinyl Chloride	U		µg/kg	40	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
60. m&p-Xylene	U		µg/kg	100	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
61. o-Xylene	U		µg/kg	50	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC
‡ 62. Xylenes	U		µg/kg	150	1.0	09/26/22	VJ22I26C	09/26/22 14:21	VJ22I26C	SNC

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
M: Modified Method
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
***:** Value reported is outside QC limits

Exception Summary:

L+ : Recovery in the associated laboratory sample (LCS) exceeds the upper control limit. Results may be biased high.
V- : Recovery in the associated continuing calibration verification sample (CCV) exceeds the lower control limit. Results may be biased low.
V+ : Recovery in the associated continuing calibration verification sample (CCV) exceeds the upper control limit. Results may be biased high.

Analysis Locations:

All analyses performed in Holt.

NELAP ACCREDITED TNI LABORATORY

Accreditation Number(s):

T104704518-22-14 (TX)

Fibertec environmental services

Analytical Laboratory

1914 Holloway Drive
Holt, MI 48842
Phone: 517 699 0345
Fax: 517 699 0388
email: lab@fibertec.us

8660 S. Mackinaw Trail
Cadillac, MI 49601
Phone: 231 775 8368
Fax: 231 775 8584

Geoprobe

11766 E. Grand River Rd.
Brighton, MI 48116
Phone: 810 220 3300
Fax: 810 220 3311

Chain of Custody # **205679**

PAGE 1 of 1

Client Name: ASTI Environmental

Contact Person: Jeremy Efros

Project Name/ Number: 1-12206 / Orchard St

Email distribution list: jefros@asti-env.com

Quote#

Purchase Order#

Date	Time	Sample #	Client Sample Descriptor	MATRIX (SEE RIGHT CORNER FOR CODE)	# OF CONTAINERS	VOCs	PNAs	MI 10 Metals	HOLD SAMPLE
9/21/22	0830		SB-1 (1-2')	S	2	X	X	X	
	0845		SB-2 (0.5-1.5')						
	0910		SB-3 (0.5-1.5')						
	0900		SB-4 (4-5')						
	—		DUP-1S						
	—		Meth Blk	—	1				

Matrix Code

S	Soil	GW	Ground Water
A	Air	SW	Surface Water
O	Oil	WW	Waste Water
P	Wipe	X	Other: Specify

Deliverables

- Level 2
- Level 3
- Level 4
- EDD

Remarks:

Received By Lab

SEP 22 '22

Initials: DG

Comments:

Sampled/Relinquished By: CHAA	Date/ Time 9/21/22 12:45	Received By: ASTI Cold Storage
Relinquished By: ASTI Cold Storage	Date/ Time	Received By: 9/22/22 8:15
Relinquished By:	Date/ Time 9/22/22 9:31	Received By Laboratory:

Turnaround Time ALL RESULTS WILL BE SENT BY THE END OF THE BUSINESS DAY

_____1 bus. day _____2 bus. days _____3 bus. days _____4 bus. days

X 5-7 bus. days (standard) Other (specify time/date requirement): _____

LAB USE ONLY

Fibertec project number: A11049

Temperature upon receipt at Lab 4.4°C

Received On Ice

Please see back for terms and conditions

Fibertec environmental services

Wednesday, October 5, 2022

Fibertec Project Number:	A11049 Supplemental
Project Identification:	Orchard St (1-12206) /1-12206
Submittal Date:	09/22/2022

Mr. Jeremy Efros
Applied Science & Technology, Inc. - Brighton
10448 Citation Dr.
Suite 100
Brighton, MI 48116

Dear Mr. Efros,

Thank you for selecting Fibertec Environmental Services as your analytical laboratory. The samples you submitted have been analyzed in accordance with NELAC standards and the results compiled in the attached report. Any exceptions to NELAC compliance are noted in the report. These results apply only to those samples submitted. Please note TO-15 samples will be disposed of 7 calendar days after the reporting date. All other samples will be disposed of 30 days after the reporting date.

Supplemental report contains DRO analysis for sample -003, SB-3 (0.5-1.5').

If you have any questions regarding these results or if we may be of further assistance to you, please contact me at (517) 699-0345.

Sincerely,

Bailey Welch

By Bailey Welch at 11:31 AM, Oct 05, 2022

For Daryl P. Strandbergh
Laboratory Director

Enclosures

Fibertec environmental services

Analytical Laboratory Report
Laboratory Project Number: A11049
Laboratory Sample Number: A11049-003

Order: A11049
Date: 10/05/22

Client Identification:	**Applied Science & Technology, Inc. - Brighton**	Sample Description:	**SB-3 (0.5-1.5')**	Chain of Custody:	**205679**
Client Project Name:	**Orchard St (1-12206)**	Sample No:		Collect Date:	**09/21/22**
Client Project No:	**1-12206**	Sample Matrix:	**Soil/Solid**	Collect Time:	**09:10**

Sample Comments: **Soil results have been calculated and reported on a dry weight basis unless otherwise noted.**

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Water (Moisture) Content Dried at 105 ± 5°C **Aliquot ID: A11049-003** **Matrix: Soil/Solid**
Method: ASTM D2216-10 **Description: SB-3 (0.5-1.5')**

						Preparation		Analysis		
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Percent Moisture (Water Content)	**4**		%	1	1.0	09/26/22	MC220926	09/27/22	MC220926	LJK

Diesel and Oil Range Organics **Aliquot ID: A11049-003** **Matrix: Soil/Solid**
Method: EPA 3546/EPA 8015C **Description: SB-3 (0.5-1.5')**

						Preparation		Analysis		
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	P. Date	P. Batch	A. Date	A. Batch	Init.
1. DRO (C10-C20)	U		µg/kg	10000	1.0	10/03/22	PS22J03D	10/04/22 16:39	S922J04A	TKT

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
M: Modified Method
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
***:** Value reported is outside QC limits

Exception Summary:

Analysis Locations:

All analyses performed in Holt.

Accreditation Number(s):

T104704518-22-14 (TX)

ASTI ENVIRONMENTAL

ENVIRONMENTAL INVESTIGATION, REMEDIATION, COMPLIANCE AND RESTORATION PROJECTS THROUGHOUT THE GREAT LAKES SINCE 1985.

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