Barton & Loguidice

April 7, 2023

Ms. Nicole Briand
Town Manager
Town of Bowdoinham
13 School Street
Bowdoinham, ME 04008

Re: Limited Phase II Environmental Site Assessment
Bowdoinham Recycling Barn
243 Post Road, Bowdoinham, ME

Dear Ms. Briand:

Barton & Loguidice, LLC (B & L) was retained by the Town of Bowdoinham, Maine (the Town) to investigate specific Areas of Concern (AOCs) on the "recycling barn" property located at 243 Post Road in Bowdoinham, Maine. The specific AOCs were identified by the Town and are presented in this report. In addition to conducting this limited Phase II Environmental Site Assessment (ESA), B & L also collected a limited number of building material samples to test for lead-based paint and hired a subcontractor to conduct mold testing.

Purpose

The Town leases the subject property from Mr. David Berry, the property owner. The Town has operated a recycling facility on this property for approximately the past 30 years. The purpose of this work is to evaluate on-site environmental conditions pursuant to a potential acquisition of the property by the Town and an expansion and upgrade of the recycling facility and operations.

Specific to the limited Phase II ESA activities, the purpose was to investigate whether any of the potential AOCs have been impacted by releases to the environment. This was not a full site characterization designed to identify the degree and extent of any and all potential site impacts.

Site Description

The site is located on the eastern side of Post Road, and contains a long rectangular three story barn, gravel driveway/parking areas, and an open grassy area, with a forested perimeter. Overall, the site topography of the site gently slopes to the east. The eastern property boundary is a steep slope and fill materials (metal, debris, wood, etc.) were observed on the surface of the slope. The horizontal and vertical extents of fill materials containing miscellaneous debris is unknown. The site also includes one building and a gravel driveway. The building is three stories and was historically used as a barn for a commercial egg business and includes an out of use "apartment". The approximate location of the site is presented on Figure 1.

Areas of Concern

Four AOCs were initially identified by the Town for the limited Phase II ESA subsurface investigation. The original four AOCs were:

- AOC-1: Areas of the site where fill material was brought in (natural and / or debris) and includes the driveway area on the northern side of the Recycling Barn. Two out-of-use metal aboveground storage tanks (ASTs) were also observed in this area.
- AOC-2: The tank grave area of the former underground storage tank (UST) located on the southern side of the recycling barn near the cinder block room containing the boiler.
- AOC-3: The former septic system located on the southern side of the building to the west of the loading dock.
- AOC-4: The edge of what appears to be the fill area of the site on the eastern side of the site to the south of the Recycling Barn.

As part of developing a scope of work for the four AOCs identified by the Town, B & L performed a site inspection and interviewed the current property owner. The proposed sampling locations were physically marked on the property for Dig Safe System, Inc. to identify underground utilities servicing the site prior to commencement of field work.

Other AOCs were identified in the field by Town's Public Works staff during execution of the limited Phase II ESA and included:

- AOC-5: The "Paint Dump" area as described by the Town's Public Works staff as an area where the property owner supposedly disposed of multiple containers of paint near a former building on the northern side of the existing Recycling Barn.
- AOC-6: The "Antifreeze Pit" area as described by the Town's Public Works staff as an area where the property owner supposedly disposed of multiple containers of waste antifreeze in the driveway area on the northern side of the existing Recycling Barn.
- AOC-7: The "Burn Pit" area as described by the Town's Public Works staff as an area where the property owner supposedly disposed of various materials by burning and burying

various materials to the south of the loading dock on the southern side of the Recycling Barn.

- AOC-8: The "Waste Glass Dumping Area" as identified in the field by B & L staff (a pile of broken glass, paper labels, metal caps, etc. was observed dumped on site while B & L staff were working on site). Town of Bowdoinham Public Works staff indicated that the property owner had previously disposed of material in this area and treated the material as "clean fill".

Contaminant of Potential Concern (COPCs) were identified as: total petroleum hydrocarbons (TPH, measured by the DRO method), volatile organic compounds (VOCs), gasoline range organics (GROs), pesticides, herbicides, and metals. It was noted that as additional AOCs were identified in the field after the limited scope of this investigation was agreed upon. Other COPCs may exist from the AOCs identified in the field, to include polycyclic aromatic hydrocarbons (PAHs) which are often by products of incomplete combustion (ex. burn pit). The approximate locations of the AOCs are shown in Figure 2 which is attached to this report.

Scope of Work Overview

The scope of this limited investigation included:

- Installation of three monitoring wells (one upgradient of the Recycling Barn and two downgradient of the recycling barn).
- Field screening and collection of soil samples from the three monitoring wells.
- Field screening and collection of soil samples from up to five test pits.
- Submittal of five soil samples to a state certified laboratory for analysis (based on the limited scope of work, a sample for laboratory analysis was not selected from each of the areas investigated).
- Collection of building material samples for asbestos and lead analyses.
- Testing for mod in the Recycling Barn.

One proposed test pit was not completed. While in the field, Public Works staff discussed the former septic system area on the southern side of the Recycling Barn (AOC-3) with the Town Manager. They were of the opinion that the septic system may still be in use and did not want to damage it. As such, a test pit was not completed in AOC-3.

Subsurface Soil Investigation

Monitoring well soil sampling and well installations were installed on February 8 and 9, 2023, Monitoring wells were completed using hollow steel casing. Soil samples were retrieved using decontaminated split spoon samplers. Boring logs describing the soil lithology and construction details of individual wells are presented in Attachment A.

Monitoring wells were installed using industry standard methods. Due to the shallow refusal during drilling, five foot slotted screens were installed (as opposed to typical ten foot screens). During monitoring well and test pit activities, field observations indicated groundwater at the subject property was shallow (encountered between approximately 1.5 and 5 feet below ground surface [BGS]). Bedrock was observed to be shallow, with refusal encountered between approximately 6 and 13 feet BGS.

Solid PVC pipe risers were installed above the slotted screens. Sand filters were installed around and above the screens. A bentonite clay seal was installed above the sand filter, followed by native backfill. A solid steel protective standpipe was installed around each PVC well pipe with a concrete collar.

Each well was developed using a whale pump and plastic tubing. The pump was decontaminated with alconox bleach and deionized water between wells and new tubing was used at each well to eliminate the potential for cross contamination. The pump was raised and lowered to surge the water in the well and the pump was turned on to purge water and sediment from the well. Well MW-101 and 102 were developed to the point where they were purging clear water (sediment removed). MW-103 was surged and repeatedly purged dry, but not enough recharge was available to allow the well to be purged until clear.

Test pits were completed on February 9, 2023. Test pits were completed by the Town's Public Works staff using a Town-supplied back hoe. Boring logs describing the soil lithology at individual test pits are presented in Attachment A.

Two areas were investigated with no samples were collected. An attempt was made to complete a test pit at AOC-6, the "Antifreeze Pit" area identified by the Town's Public Works staff. Due to the combination of frozen conditions and densely compacted material, the backhoe was not able to penetrate beyond approximately 1 to 4 inches below ground surface (BGS). As such, no sample was collected at this location. A test pit was excavated at AOC-8, the "Waste Glass Dumping Area" to approximately 5 feet BGS. This test pit bisected a drainage trench which quickly filled with water. No obvious buried waste was observed at this location, and the test pit was backfilled without sampling.

Soil samples collected from borings and test pits were transported under chain-of-custody procedures to a certified analytical laboratory.

The approximate location of the monitoring wells and test pits are presented on Figure 3.

Groundwater Sampling

Monitoring wells were allowed to stabilize after installation and development, and were sampled on March 1, 2023. Groundwater samples were collected in new laboratory supplied containers

and transferred to a certified laboratory under chain-of-custody procedures. At this time, field measurements were taken to horizontally locate all monitoring wells and test pits for mapping. A level run using an assumed datum was conducted on the monitoring wells to obtain relative elevations of the well casings and to subsequently use these elevations to determine direction of flow of groundwater.

Results

Laboratory data summary tables and analytical reports are presented in Attachment B.

Laboratory analytical data have been compared to the Maine Department of Environmental Protection Remedial Action Guidelines for Contaminated Sites (RAGs) which have an effective date of May 1, 2021. The RAGs have multiple criteria for different scenarios. For the purposes of this report, based on the use of the site and its general location (mostly residential area), the soil results were compared to three RAG criteria:

- Residential - The Residential RAGS are based on a residential individual's chronic exposure to contamination concentrations that do not exceed target risk levels over the individual's lifetime. This is assumed to be continuous, incidental contact over at least 26 years.
- Commercial Worker - The Commercial RAGS are based on a commercial worker's chronic exposure to contamination concentrations that do not exceed target risk levels over the individual's lifetime. This is assumed to be incidental contact during workdays over at least 25 years.
- Leaching to Groundwater- The Leaching to Groundwater RAGs are concentrations of contaminants in soil that when leached out are not expected to increase concentrations of the contaminant in groundwater above the Residential Groundwater RAG.

Groundwater results were compared to two RAG criteria:

- Residential - The Residential RAGS are based on a residential individual's chronic exposure to contamination concentrations that do not exceed target risk levels over the individual's lifetime.
- Construction Worker - The Construction Worker RAGS are based on a construction worker's subchronic exposure to contamination concentrations that do not exceed target risk levels within less than a year.

Soil

All soil samples were screened in the field with a photoionization detector (PID) calibrated to a known standard. Organic vapors were detected at only one location (Test Pit 1 – UST grave) at a concentration of 55.3 parts per million (ppm). VOCs, GRO, and herbicides were not detected above laboratory method detection limits (MDLs) in any of the five soil samples. It is noted that

there are multiple VOCs with reported MDLs above applicable criteria. The laboratory provided a Reasonable Confidence Protocol (RCP) certification report. The narration for VOCs indicates that no significant bias is suspected. A discussion of soil results at individual sample locations follows below.

- **Monitoring Well MW-101 (ugradient well near street):** A soil sample was collected from this location at a depth of 0 to 2 feet BGS. This boring was installed to an approximate depth of twelve feet BGS where bedrock was encountered (refusal). No staining or odors were noted in this boring. PID results were 0.0ppm. No soil samples were collected at this location.
- **Monitoring Well MW-103 (AOC-1, downgradient well near far end of barn downgradient of loading dock):** A soil sample was collected from this location at a depth of 0 to 2 feet BGS. This boring was installed to an approximate depth of thirteen feet BGS where bedrock was encountered (refusal). No staining or odors were noted in this boring. PID results were 0.0ppm. It was noted that ceramic fragments (manmade fill materials) were identified in the soil. Soil results at this location are characterized by elevated arsenic results. Arsenic was detected at 14.1 mg/kg exceeding the leaching to groundwater RAG of 0.83 mg/Kg and the residential RAG of 9.3 mg/Kg. All other metal results were below applicable RAGs. TPH, VOCs, pesticides, GRO, and herbicides were not detected above MDLs.
- **Test Pit 1 (AOC-2, UST grave on southern side of Recycling Barn):** A soil sample was collected from this location at a depth of 8 to 10 feet BGS (estimated bottom of tank grave). This test pit was installed to a depth of approximately ten feet BGS. A weathered petroleum odor was noted in the soil in this pit. A sheen was noted on the water in the test pit. It was also noted that a PID result of 55.3 ppm was noted in the eight to ten foot interval (estimated bottom of tank depth). Soil results at this location are characterized by elevated arsenic results. Arsenic was detected at 13 mg/kg exceeding the leaching to groundwater RAG of 0.83 mg/Kg and the residential RAG of 9.3 mg/Kg. All other metal results were below applicable RAGs. TPH was detected at a concentration of 200 mg/Kg (no criteria listed in RAGs for this parameter). VOCs, pesticides, GRO, and herbicides were not detected above MDLs.
- **AOC-3, former septic:** Out of concern by the Bowdoinham DPW staff that the septic field was still in use and in consultation with the Town Manager, this test pit was not installed.
- **Monitoring Well MW-102 (AOC-4, downgradient well near eastern end of barn):** A soil sample was collected from this location at a depth of 0 to 2 ft BGS. This boring was installed to an approximate depth of twelve feet BGS where bedrock was encountered (refusal). No staining or odors were noted in this boring. PID results were 0.0 ppm. Soil results at this location are characterized by elevated arsenic results. Arsenic was detected at 9.47 milligrams per kilogram (mg/kg) exceeding the leaching to groundwater RAG of 0.83 mg/Kg and the residential RAG of 9.3 mg/Kg. All other metal results were below applicable RAGs. TPH, VOCs, pesticides, GROs, and herbicides were not detected above MDLs.

- **Test Pit 3 (AOC-5, "Paint Dump" area on northern side of Recycling Barn upgradient of MW-102):** A soil sample was collected from this location at a depth of 4 to 5 feet BGS. This test pit was installed to an approximate depth of eight to nine feet BGS where bedrock was encountered (refusal). No staining or odor was noted. A variety of solid waste was noted at this location (approximately 0.5 to 4 foot BGS) and included glass bottles, plastic, metal pipes, painted wood, a toilet seat, fiberglass insulation, and various other wastes. Soil results at this location are characterized by elevated arsenic and a slightly elevated pesticide results. Arsenic was detected at 10.8 mg/kg exceeding the leaching to groundwater RAG of 0.83 mg/Kg and the residential RAG of 9.3 mg/Kg. All other metal results were below applicable RAGs. The pesticide 4,4'-DDT was detected at 18 micrograms per kilogram (ug/Kg). This pesticide result is below applicable criteria, but above background as this compound is not naturally occurring. TPH, VOCs, GRO, and herbicides were not detected above MDLs.
- **Test Pit 5 (AOC-7, "Burn Pit" area south of the Recycling Barn):** A soil sample was collected from this location at a depth of 0 to 3 feet BGS. This test pit was installed to an approximate depth of six feet BGS where bedrock was encountered (refusal). It was noted that a variety of waste materials was encountered here (metal, brick, furniture springs, glass bottles, remnants of a steel barrel, plywood) to an approximate depth of three feet BGS. No staining or odor was noted. PID results were 0.0 PPM. Soil results at this location are characterized by elevated arsenic and lead results. Arsenic was detected at 51.4 mg/kg exceeding the leaching to groundwater RAG of 0.83 mg/Kg, the residential RAG of 9.3 mg/Kg, and the commercial worker RAG of 41 mg/Kg. Lead was detected at 1,350 mg/L, which exceeds the leaching to groundwater RAG of 250 mg/Kg, the residential RAG of 140 mg/Kg, and the commercial worker RAG of 440 mg/Kg. All other metal results were below applicable RAGs. TPH, VOCs, GRO, pesticides and herbicides were not detected above MDLs.
- **Test Pit 6 (AOC-8, "Waste Glass Dumping Area"):** A test pit was installed at this location to a depth of approximately five feet BGS adjacent to a pile of waste glass that was dumped above grade. The soil was inspected and determined not to contain waste material. No staining or odor was noted. As such, the test pit was stopped at this depth and backfilled, and no soil samples were collected at this location.

Groundwater Investigation

A level run was conducted using an assumed datum to get relative elevations of PVC at all three monitoring wells. During groundwater monitoring, a depth to water measurement was taken from the top of PVC to the water table in each well. Based on the results, groundwater flow was determined to be from the west to the southeast (and follows the general topography of the site).

During groundwater monitoring, it was noted that monitoring well MW-103 had less than a foot of water in it, and while every effort was made to develop it in the field, suspended solids remained elevated. Monitoring well MW-103 was measured with less than a foot of water in the well. As such, insufficient volume of water was obtained to fill all sample containers. As such, groundwater at this well was not analyzed for all parameters (no pesticide or herbicide analysis).

- **Monitoring Well MW-101 (upgradient well):** TPH, VOCs, GROs, pesticides and herbicides were not detected above MDLs. Two metals (barium and cadmium) were detected above MDLs, but below criteria. All other metal results were below MDLs.
- **Monitoring Well MW-102** (**downgradient well near far end of barn):** TPH, VOCs, GRO, pesticides and herbicides were not detected above MDLs. Two metals (barium and lead) were detected above MDLs, but below criteria. All other metal results were below MDLs.
- **Monitoring Well MW-103 (downgradient well near far end of barn downgradient of loading dock):** VOCs and GRO were not detected above MDLs. TPH was detected above MDLs, but below criteria. Five metals were detected above applicable criteria.
    - Arsenic was detected at 0.228 mg/L, exceeding the Residential RAG criteria of 0.01 mg/L,
    - Barium was detected at 1.7mg/L, exceeding the Residential RAG criteria of 1.0 mg/L,
    - Cadmium was detected at 0.025 mg/L, exceeding the Residential RAG criteria of 0.001 mg/L,
    - Chromium was detected at 0.405 mg/L, exceeding the Residential RAG criteria of 0.02 mg/L, and
    - Lead was detected at 0.211 mg/L, exceeding the Residential RAG criteria of 0.01 mg/L. All other metal results were below MDLs.

Building Materials Testing

The Recycling Barn was inspected on February 8, 2023. During the inspection, it was noted that most of the building materials observed were unpainted (i.e. bare wood and bare metal). It was further noted that the barn could not be thoroughly inspected due to the sheer volume of materials stored within it, as well as a portion of the barn (former apartment area per employee) was locked and inaccessible.

During the inspection of the building on February 8, 2023, no suspected asbestos containing materials (ACMs – ex. pipe insulation, floor tiles, etc.) were observed on site and as such, no samples were collected to analyze for asbestos. A limited amount of insulation observed during the inspection was pink fiberglass.

Two areas of painted wood were noted for evaluation: a painted door with noticeably cracked (and layered) paint in an office next to the boiler room, and exterior painted surfaces that had what appeared to be an identical painting history (doors, window frames/sills, and a sign board,

all painted the same shade of red). Two paint samples were collected by measuring and marking a 4 inch by 4 inch area and cutting/scraping paint from the sample area down to the bare substrate (i.e., bare wood) and collecting the paint chips in a clean plastic baggie.

The Environmental Protection Agency (EPA) defines lead based paint as paint or surface coatings that contain lead equal to or in excess of 1.0 milligrams per centimeter squared ($mg/cm^{2)}$ or 0.5 percent by weight. A summary of laboratory results follows.

- **First Floor Office Door:** Laboratory results note that lead was detected at a concentration of 11 milligrams per centimeter squared (mg/cm^2) indicating this material is lead based paint.
- **Exterior Sign Board:** Laboratory results note that lead was not detected above MDLs. The reported concentration was less than 0.0020 mg/cm^2, indicating this material is not lead based paint.

Mold Testing

Mold testing was performed at the recycling barn by Sherwood Inspection Services on January 25, 2023. During the inspection, moisture, evidence of moisture, and visible mold growth from leaks in the roof and the walls were identified throughout the structure.

Indoor air quality and surface mold testing was conducted on each floor. Elevated indoor mold levels were reported through the recycling barn and five of the six surface samples were positively identified as mold.

Remediation of the mold throughout the building by a qualified mold remediation professional is recommended prior to occupation of the building. However, moisture leaks and humidity issues in the building need to be resolved prior to mold remediation or mold growth will recur.

The detailed Mold Testing Report is presented in Attachment D.

Summary of Observations and Results

This limited Phase II ESA was performed to evaluate eight potential areas of concern (AOCs) at the site. In addition, limited lead-based paint and mold testing were performed. Soil borings and test pits were advanced and soil samples were analyzed from select AOCs and groundwater samples were analyzed to evaluate if a release to the environment may have occurred. The following findings are noted:

- Three areas of the site were observed to contain buried solid waste materials, these areas are: the driveway area at the eastern end of the Recycling Barn (AOC-1), the “Paint Dump” area as identified by the Town’s DPW staff (AOC-5), and the “Burn Pit” area as identified by the Town’s DPW staff (AOC-7).

- One area of the site was observed to contain waste materials (broken glass, bottle caps, and labels) dumped above grade (AOC-8). This area is located on the southern side of the building approximately thirty feet south of the UST grave.
- Bedrock was encountered at shallow depths on site, ranging from approximately 6 to 13 feet below ground surface.
- Shallow groundwater was encountered during installation of monitoring wells at depths of approximately 1.5 to 5 feet BGS.
- No VOCs, GRO, or herbicides were identified above MDLs in any of the soil samples.
- All five soil samples (AOC-1, AOC-2, AOC-4, AOC-5, and AOC-7) were reported with arsenic results that exceed Maine RAGs.
- The "Burn Pit" soil sample (AOC-7) was reported with a lead result that exceeds Maine RAGs.
- The UST grave soil sample (AOC-2) had TPH detected at 200 mg/Kg. While specific criteria for this parameter was not identified in Maine RAGs, it is noted that this result is indicative of a petroleum release. It was also noted that a visible sheen was observed on the water table in the test pit, a PID reading of 55.3 ppm was noted at this location, and a petroleum odor was noted. The field observations (sheen, odor, PID reading) are considered alternate lines of evidence of a petroleum release.
- The "Paint Dump" soil sample (AOC-5) was reported with a pesticide detection (4,4'-DDT) above MDLs but below applicable criteria.
- Groundwater samples were collected from all three monitoring wells.
- One well, MW-103, had several metal results above Residential RAG criteria and TPH detected above MDLs.

Building Materials Assessment

- The interior of the building was inspected, but no suspected ACMs were identified on site. As such, no samples were collected for asbestos analysis.
- Two paint chip samples (one indoor and one outdoors) were collected and submitted for laboratory analysis. One of the two samples (the interior office door near the boiler room) was determined to contain lead based paint.
- Moisture sources (i.e., leaks) in the building are creating conditions that promote mold growth. Mold was detected on several surfaces and elevated mold levels were measured in the indoor air throughout the building.

Opinions and Recommendations

- Based on the results of this limited investigation and the fact that buried waste material was identified in three different AOCs on site, as well as the observation of waste material dumped above grade on site during field activities, the potential exists that unknown waste materials may be located below grade throughout the site, including beneath the

existing Recycling Barn building. Additional investigation would be needed to evaluate the degree and extent of buried waste materials on site.

- As several AOCs were identified with anecdotal information from the Town's Public Works staff, the potential exists that other AOCs and COCs may exist on site that were never documented.
- The detections of arsenic, lead, DDT, and petroleum hydrocarbons at specific locations suggests the need for additional characterization of the degree and extent of these identified releases.
- This limited site investigation does not present a full site characterization as would be performed by conducting a Phase III investigation.
- As lead based paint was detected on an interior door inside the Recycling Barn, B & L recommends conducting a thorough hazardous building materials survey to more fully evaluate the building and its components.
- Moisture sources will need to be resolve and the mold remediated, too.

If you have any questions or comments concerning this report, please call us at (860) 633-8770.

Sincerely,

Patrick J. McKay
Senior Staff Environmental Scientist

D. Scott Atkin, LEP
Senior Associate

Attachments

FIGURES

Barton & Loguidice

1:10,000

243 Post Road, Bowdoinham, ME

Property Location

3/15/2023

Figure 1

Project No. 4583.001

Barton & Loguidice

1:700

243 Post Road, Bowdoinham, ME

Property Layout AOCs

4/7/2023 *All locations are approximate

Figure 2

Project No. 4583.001

Path: C:\Users\cdurrel\Desktop\GIS\Bowdoinham\Maine\Maine.aprx

Barton & Loguidice

1:700

243 Post Road, Bowdoinham, ME

Property Layout

3/15/2023 *All locations are approximate

Figure 3

Project No. 4583.001

Path: C:\Users\cdurrel\Desktop\GIS\Bowdoinham\Maine.aprx

TABLES

Table 1
Bowdoinham Recycling Barn
Soil Samples
2/8/2023 and 2/9/2023

Parameter	Units	Commercial	Leaching To GW	Resident	MW-102 0-2`	MW-103 0-2`	TP-1 8-10`	TP-3 4-5`	TP-5 0-3`
Sample Type					Soil	Soil	Soil	Soil	Soil
Location					AOC-4	AOC-1	AOC-2	AOC-5	AOC-7
Phoenix Lab ID					CN40277	CN40278	CN40279	CN40280	CN40281
Miscellaneous/Inorganics									
Percent Solid	%				81	90	77	86	71
Metals, Total									
Arsenic	mg/Kg	**41**	**0.83**	**9.3**	**9.47**	**14.1**	**13**	**10.8**	**51.4**
Barium	mg/Kg	100,000	8,600	21,000	61.9	44.8	137	32.5	506
Cadmium	mg/Kg	1,400	38	98	0.98	0.71	1.88	0.71	2.7
Chromium	mg/Kg				36.4	25.6	60.8	20.1	77.1
Lead	mg/Kg	**440**	**250**	**140**	103	6.38	15.3	42.8	**1,350**
Mercury	mg/Kg	3.1	1.8	3.1	< 0.03	< 0.03	< 0.03	< 0.03	< 0.04
Selenium	mg/Kg	8,000	29	540	< 1.5	< 1.4	< 1.8	< 1.7	< 1.7
Silver	mg/Kg	8,000	44	540	0.51	< 0.36	< 0.45	< 0.42	< 0.41
TPH By SW-846 8015 (DRO)									
ETPH	mg/Kg				< 15	< 55	200	< 290	< 69
Volatiles By SW8260C									
1,2-Dibromo-3-chloropropane	ug/Kg	960	0.079	78	< 0.2	< 0.2	< 0.2	< 0.2	< 0.14
Pesticides By SW8081B									
4,4' -DDT	ug/Kg	120,000	43,000	26,000	< 8.2	< 7.4	< 8.5	18	< 9.2
Gasoline Range Hydrocarbons (C6-C10) By SW8015D GRO									
GRO (C6-C10)	mg/Kg				ND	ND	ND	ND	ND
Chlorinated Herbicides By SW8151A									
Various	ug/Kg	Varies	Varies	Varies	ND	ND	ND	ND	ND

Notes:
mg/Kg: milligrams per Kilogram
ug/Kg: micrograms per Kilogram
RAG: Remedial Action Guideline, Maine DEP, May 1, 2021
Commercial: Soil concentration for commercial worker chronic exposure over a lifetime
Resident: Soil concentration for residential individual chronic exposure over a lifetime
Leaching to GW: Remedial concentration leaching to groundwater
ND: Not Detected
*Bold values indicate an exceedance of one or more criteria
**1,2-Dibromo-3-chloropane's laboratory reporting limit exceeds one or more criteria

Table 2
Bowdoinham Recycling Barn
Groundwater Results
3/1/2023

Parameter	Units	RAG GW Const	RAG GW Res	MW-103	MW-101	MW-102	Trip Blank
Sample Type				Groundwater	Groundwater	Groundwater	Groundwater
Sample ID				PJM20230301-01	PJM20230301-02	PJM20230301-03	PJM20230301-04
Phoenix Lab ID				CN51493	CN51494	CN51495	CN51496
Metals, Total							
Arsenic	mg/L	1.4	**0.01**	**0.228**	< 0.004	< 0.004	-
Barium	mg/L	1,800	**1**	**1.7**	0.214	0.066	-
Cadmium	mg/L	0.65	**0.001**	**0.025**	0.001	< 0.001	-
Chromium	mg/L		**0.02**	**0.405**	< 0.001	< 0.001	-
Lead	mg/L	1,600	**0.01**	**0.211**	< 0.001	0.002	-
TPH By SW8015D (DRO)							
Total TPH	mg/L	59,000	10	1.7	< 0.47	< 0.47	-
Volatiles By SW8260C							
1,2,3-Trichloropropane	ug/L		0.01	< 0.2	< 0.2	< 0.2	< 0.2
Pesticides By SW8081B							
Various	ug/L	Varies	Varies	ND	ND	ND	ND
Chlorinated Herbicides By SW8151A							
Various	ug/L	Varies	Varies	ND	ND	ND	ND

Notes:
mg/L: milligrams per Liter
ug/L: micrograms per Liter
RAG: Remedial Action Guideline, Maine DEP, May 1, 2021
GW Const: GW concentration for construction worker subchronic exposure for less than on year
GW Res: GW concentration for residential individual chronic exposure over a lifetime (over 26 years)
- : Not Tested
ND: No Detection
*Bold values indicate an exceedance of one or more criteria
**1,2,3-Trichloropropane's laboratory reporting limit exceeds one or more criteria

ATTACHMENT A
BORING LOGS

Barton & Loguidice, LLC
41 Sequin Drive
Glastonbury, CT 06033
Tel. (860) 633-8770 Fax (860) 633-5971

Project #: 4583.001.001 Sheet #: 1 of 1
Project: Recycle Barn
Location: Bowdoinham, ME Boring #: TP-1

Anchor Personnel: PJM	Drilling Rig: CAT Backhoe	Date Started: 2/9/23	Surface Elevation:
Drilling Contractor: Bowdoinham DPW	Auger/Core Diameter:	Date Completed:	Groundwater Depth at 0 Hours:
On-Site Drillers:	Hammer Wt. & Fall:	Sampling Method:	Groundwater Depth at _____ Hours:

Depth	Sample #	# of Blow Counts	Penetration/ Recovery	Sample Description	Sample Number
0				SAND fine little med/coarse sand trace gravel, trace cobble, trace boulder, trace glass brown, wet faint petro odor visible sheen on water in hole melting runoff in hole, also possible groundwater in hole	PID = 0.0 ppm sample 0-3' collected 1320
5					
				underwater - SILT and clay : large cobbles gravel sand saturated noticeable petroleum odor grey/brown	sample 8-10' collected @ 1355
10				PID = 55.3 ppm	
				operator encounters bedrock @ est 9' BGS	
15					
20					
25					
30					

REMARKS- former UST location near small concrete block area where boiler is located

Proportions Used		Cohesionless Density	Cohesive Consistency
Trace	0 to 10%	0 - 10 Loose	0 - 4 Soft
Little	10 to 20%	10 - 30 Med. Dense	4 - 8 Mod. Stiff
Some	20 to 35%	30 - 50 Dense	8 - 15 Stiff
And	35 to 50%	50+ Very Dense	15 - 30 Very Stiff

NOTES:
Water Readings Represent Direct Observations at the Times Noted Above.
Samples will be Retained for 90 Days Unless Otherwise Requested.

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Project #: 4583.001.001 Sheet #: 1 of 1

Project: Recycle Barn

Location: Boudoinham ME Boring #: TP 2

Anchor Personnel: PJM	Drilling Rig: CAT	Date Started: 2/9/23	Surface Elevation:
Drilling Contractor: Boudoinham DPW	Auger/Core Diameter:	Date Completed:	Groundwater Depth at 0 Hours:
On-Site Drillers: TE	Hammer Wt. & Fall:	Sampling Method:	Groundwater Depth at _____ Hours:

Depth	Sample #	# of Blow Counts	Penetration/ Recovery	Sample Description	Sample Number
0				-Per Tom Egan - machine operator - spoke to his supervisor and town manager specifically told not to dig in this area.	
5					
10					
15					
20					
25					
30					

REMARKS: Former septic leach field area adjacent to loading dock

Proportions Used		Cohesionless Density	Cohesive Consistency
Trace	0 to 10%	0 - 10 Loose	0 - 4 Soft
Little	10 to 20%	10 - 30 Med. Dense	4 - 8 Mod. Stiff
Some	20 to 35%	30 - 50 Dense	8 - 15 Stiff
And	35 to 50%	50+ Very Dense	15 - 30 Very Stiff

NOTES:

Water Readings Represent Direct Observations at the Times Noted Above.
Samples will be Retained for 90 Days Unless Otherwise Requested.

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Project #: 4583,001,001 Sheet #: 1 of 1

Project: Recycling Barn

Location: Bowdoinham ME 04095 IT

Boring #: TP3

Anchor Personnel: PJM	Drilling Rig: CAT Backhoe	Date Started: 2/9/23	Surface Elevation:
Drilling Contractor: Bowdoinham DPW	Auger/Core Diameter:	Date Completed: 2/9/23	Groundwater Depth at 0 Hours:
On-Site Drillers: Tom Egan	Hammer Wt. & Fall:	Sampling Method:	Groundwater Depth at _____ Hours:

Depth	Sample #	# of Blow Counts	Penetration/ Recovery	Sample Description	Stratum	Monitoring Well Completion Details	Field Meter Results
0				Glass bottles, plastic, metal roof shingles, various waste SAND fine little med/coarse cobble waste @ ~ 6" - 4' BGS	toilet seat painted wood	pipes, fiberglass insulation sand trace gravel trace sample TP3 collected @ 4-5' BGS	
5							
				SAND fine trace med sand trace coarse sand no odor no waste orange/brown trace gravel moist			1149
9 10				bedrock @ ~ 8-9'. end of test pit			
15							
20							
25							
30							

REMARKS- "paint dump" area per DPW staff - record photos taken

Proportions Used		Cohesionless Density	Cohesive Consistency
Trace	0 to 10%	0 - 10 Loose	0 - 4 Soft
Little	10 to 20%	10 - 30 Med. Dense	4 - 8 Mod. Stiff
Some	20 to 35%	30 - 50 Dense	8 - 15 Stiff
And	35 to 50%	50+ Very Dense	15 - 30 Very Stiff

NOTES:

Water Readings Represent Direct Observations at the Times Noted Above.
Samples will be Retained for 90 Days Unless Otherwise Requested.

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Project #: 4583.001.001 Sheet #: 1 of 1
Project: Recycle Roach
Location: Bowdoinham, ME Boring #: TP-4

Anchor Personnel: PJM	Drilling Rig: CAT Backhoe	Date Started: 2/9/23	Surface Elevation:
Drilling Contractor: Bowdoinham DPW	Auger/Core Diameter:	Date Completed: 2/9/23	Groundwater Depth at 0 Hours:
On-Site Drillers: TE	Hammer Wt. & Fall:	Sampling Method:	Groundwater Depth at _____ Hours:

Depth	Sample #	# of Blow Counts	Penetration/ Recovery	Sample Description	Sample Number
0				0-6" densely packed sand and gravel - frozen operator cannot break thru indicates they do not have bigger machine this is it - moving on to other locations	
5					
10					
15					
20					
25					
30					

REMARKS- 11 Antifreeze Pit" area per DPW staff

Proportions Used		Cohesionless Density	Cohesive Consistency
Trace	0 to 10%	0 - 10 Loose	0 - 4 Soft
Little	10 to 20%	10 - 30 Med. Dense	4 - 8 Mod. Stiff
Some	20 to 35%	30 - 50 Dense	8 - 15 Stiff
And	35 to 50%	50+ Very Dense	15 - 30 Very Stiff

NOTES:
Water Readings Represent Direct Observations at the Times Noted Above.
Samples will be Retained for 90 Days Unless Otherwise Requested.

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Project #: 4583.001.001 Sheet #: 1 of 1
Project: Recycle Barn
Location: Bowdoinham ME
Boring #: TP-5

Anchor Personnel: PJM	Drilling Rig: CAT Backhoe	Date Started: 2/9/23	Surface Elevation:
Drilling Contractor: Bowdoinham DPW	Auger/Core Diameter:	Date Completed:	Groundwater Depth at 0 Hours:
On-Site Drillers: Tom Egan	Hammer Wt. & Fall:	Sampling Method:	Groundwater Depth at _____ Hours:

Depth	Sample #	# of Blow Counts	Penetration/ Recovery	Sample Description	Sample Number
0				0-2' metal, brick, furniture springs	no odor
				2-3' SAND fine to medium and waste glass (wholed broken bottles) trace med/coarse sand, trace gravel plastic, brick, remnants of steel barrel plywood remnants dark brown moist Horne PID = 0.0 ppm	sample 0-3' collected @ 1512
5					
				3-6' SAND fine, trace med sand trace coarse sand trace gravel trace cobble orange/brown no odor	
10				operator hit rock end of test pit water coming into hole	
15					
20					
25					
30					

REMARKS- "Barn Pit" area per Tom Egan - approx 150 ft south of loading dock adjacent to tree line

Proportions Used		Cohesionless Density	Cohesive Consistency
Trace	0 to 10%	0 - 10 Loose	0 - 4 Soft
Little	10 to 20%	10 - 30 Med. Dense	4 - 8 Mod. Stiff
Some	20 to 35%	30 - 50 Dense	8 - 15 Stiff
And	35 to 50%	50+ Very Dense	15 - 30 Very Stiff

NOTES:
Water Readings Represent Direct Observations at the Times Noted Above.
Samples will be Retained for 90 Days Unless Otherwise Requested.

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Project #: 4583.001.001 Sheet #: 1 of 1

Project: Recycle Barn

Location: Bowdoinham ME

Boring #: TP-6

Anchor Personnel: PJM	Drilling Rig: CAT backhoe	Date Started:	Surface Elevation:
Drilling Contractor: Bowdoinham DPW	Auger/Core Diameter:	Date Completed:	Groundwater Depth at 0 Hours:
On-Site Drillers: TE	Hammer Wt. & Fall:	Sampling Method:	Groundwater Depth at _____ Hours:

Depth	Sample #	# of Blow Counts	Penetration/ Recovery	Sample Description	Sample Number
0				SILT and clay, trace fine/med/coarse sand trace gravel trace cobble, trace organics no obvious buried waste material at this test pit	
5				end of test pit	
10					
15					
20					
25					
30					

REMARKS- "waste glass dumping area" near former UST area

Proportions Used		Cohesionless Density	Cohesive Consistency
Trace	0 to 10%	0 - 10 Loose	0 - 4 Soft
Little	10 to 20%	10 - 30 Med. Dense	4 - 8 Mod. Stiff
Some	20 to 35%	30 - 50 Dense	8 - 15 Stiff
And	35 to 50%	50+ Very Dense	15 - 30 Very Stiff

NOTES:

Water Readings Represent Direct Observations at the Times Noted Above.
Samples will be Retained for 90 Days Unless Otherwise Requested.

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Tel. (860) 633-8770 Fax (860) 633-5971

Project #: 4583.001.001 Sheet #: 1 of
Project: Recycle Barn
Location: Bowdoinham ME
Boring #: MW-101

track mounted

Anchor Personnel: PJM	Drilling Rig: Mobile B53	Date Started: 2/8/23	Surface Elevation:
Drilling Contractor: New England Boring	Auger/Core Diameter: 4" casing - no augers	Date Completed:	Groundwater Depth at 0 Hours:
On-Site Drillers: Sam Shaw / Brian Steen	Hammer Wt. & Fall: 140	Sampling Method: split spoon	Groundwater Depth at _____ Hours:

Depth	Sample #	# of Blow Counts	Penetration/ Recovery	Sample Description	Stratum	Monitoring Well Completion Details	Field Meter Results
0		1-1-2-2	2'/19"	0-12" SAND fine trace med sand trace coarse sand trace organic brown no odor			
2				12"-19" SILT and clay trace fine sand trace med sand trace coarse sand light grey no odor			0-2' collected @ 1030
5				init PID = 0.0 ppm Hspace PID = 0.0 ppm			
7		14-15-12-9	2'/17"	5'-6'5" SAND fine and medium trace silt trace coarse sand brown/grey som black mottling moist no odor			5-7' collected @ 1042
10				init PID = 0.0 ppm Hspace PID = 0.0 ppm			
				Driller caller hits thru rock 9-12' BGS split spoon refusal @ 12' BGS - end of boring			
15				Bentonite chips 12' - ~9'2" BGS			
				~2" #2 sand			
				5' slotted screen, 9'-4' BGS then solid PVC riser			
				#2 filter sand 9-3' BGS			
20				Bentonite chips 3'-2' BGS	Steel stand pipe		3'5" stick up
25							
30							

REMARKS- upgradient well near entrance near ~~[illegible]~~ Post Road - noted wetland indicator plants (cattails) within 50' of drilling location

Proportions Used		Cohesionless Density	Cohesive Consistency
Trace	0 to 10%	0 - 10 Loose	0 - 4 Soft
Little	10 to 20%	10 - 30 Med. Dense	4 - 8 Mod. Stiff
Some	20 to 35%	30 - 50 Dense	8 - 15 Stiff
And	35 to 50%	50+ Very Dense	15 - 30 Very Stiff

NOTES:
Water Readings Represent Direct Observations at the Times Noted Above.
Samples will be Retained for 90 Days Unless Otherwise Requested.

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over

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Project #: 4583.001.0011 Sheet #: 1 of 1
Project: Recycling Barn
Location: Bowdoinham ME Boring #: MW-102
track mounted

Anchor Personnel: PJM	Drilling Rig: Mobile B-53	Date Started: 2/8/23	Surface Elevation:
Drilling Contractor: New England Borings	Auger/Core Diameter: 140	Date Completed: 2/9/23	Groundwater Depth at 0 Hours:
On-Site Drillers: SS/BS	Hammer Wt. & Fall: 140 lb	Sampling Method: Split spoon	Groundwater Depth at _____ Hours:

Depth	Sample #	# of Blow Counts	Penetration/ Recovery	Sample Description	Sample Number
0		4-22-2	2'/16"	0-1'4" SAND fine to medium trace silt trace coarse sand trace gravel grey/brown moist no odor	
2				note: light grey silt/clay spoils observed @ ~4-5' BGS	
				init PID = 0.0 PPM Hspace PID = 0.0 ppm	Sample 0-2' collected @ 1415
5					
7		4-7-7-10	2'/2'	5'-7' SILT and clay, trace fine sand trace med sand trace coarse sand, light grey moist no odor	
					sample 0-5' collected 1430
10				init PID = 0.0 PPM Hspace PID = 0.0 ppm	
12		6-23-17-73	2'/20"	10'-11'8" SAND fine trace silt trace med sand trace coarse sand trace gravel brown, saturated no odor	
				bent spoon, weathered rock in tip of spoon	sample 10-12' collected 1457
15				init PID = 0.0 ppm Hspace PID = 0.0 ppm	
				5' slotted screen 10' solid riser	
				7' #2 sand filter	
				2' bentonite chips	
20				steel casing stickup concrete collar	
25					
30					

REMARKS: Downgradient well near southwest corner of recycling barn

Proportions Used		Cohesionless Density	Cohesive Consistency
Trace	0 to 10%	0 - 10 Loose	0 - 4 Soft
Little	10 to 20%	10 - 30 Med. Dense	4 - 8 Mod. Stiff
Some	20 to 35%	30 - 50 Dense	8 - 15 Stiff
And	35 to 50%	50+ Very Dense	15 - 30 Very Stiff

NOTES:
Water Readings Represent Direct Observations at the Times Noted Above.
Samples will be Retained for 90 Days Unless Otherwise Requested.

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Project #: 4583.001.001 Sheet #: 1 of 1
Project: Recycling Barn
Location: Boardoinham ME Boring #: MW-103

Anchor Personnel: PJM	Drilling Rig: Mobile B53	Date Started: 2/9/23	Surface Elevation:
Drilling Contractor: NEB	Auger/Core Diameter: 4" casing	Date Completed: 2/9/23	Groundwater Depth at 0 Hours:
On-Site Drillers: SS/BS	Hammer Wt. & Fall: 140 lb	Sampling Method: Split Spoon	Groundwater Depth at _____ Hours:

Depth	Sample #	# of Blow Counts	Penetration/ Recovery	Sample Description	Stratum	Monitoring Well Completion Details	Field Meter Results
0		2-2-3-3	2'/14"	0-1'2" SAND, fine trace med sand, trace coarse sand trace silt trace gravel brown no odor,			
2							
5				init PID=0.0 PPM Hspace PID=0.0ppm			0-2' sample collected 0947
7		3-3-2-4	2'/15"	5'-5'4" SAND coarse little fine sand trace med trace ceramic fragments (porcellin?) dark brown saturated			init sample
10				5'4"-6'3" SAND fine and silt trace med sand trace light brown no odor init PID=0.0ppm Hspace PID=0.0			5-7' sample collected
12		3-2-6-6	2'/11"	10'-10'11" SAND fine trace med sand trace coarse sand trace silt brown, saturated no odor			1002
15				refusal @ 13 ft BGS init PID=0.0 PPM Hspace PID=0.0 PPM			Sample 10-12' collected 1020
20				5' slotted screen ~ 11' solid riser 7' #2 sand filter 2' bentonite chips steel casing - stick up - concrete collar			
25							
30							

REMARKS: Well located near tanks off edge of driveway

Proportions Used		Cohesionless Density	Cohesive Consistency
Trace	0 to 10%	0 - 10 Loose	0 - 4 Soft
Little	10 to 20%	10 - 30 Med. Dense	4 - 8 Mod. Stiff
Some	20 to 35%	30 - 50 Dense	8 - 15 Stiff
And	35 to 50%	50+ Very Dense	15 - 30 Very Stiff

NOTES:
Water Readings Represent Direct Observations at the Times Noted Above.
Samples will be Retained for 90 Days Unless Otherwise Requested.

ATTACHMENT B
LABORATORY ANALYTICAL DATA

Monitoring Well Field Data Sheet

Client/Project Name: Bowdoinham Recycling Barn	Location: Bowdoinham, ME	Project: 4583.001.001
Sample #: PJM20230301-03		Well #: MW-102

Water Level Data

Date: 3/1/23
Weather: Sunny/40's Snow
Well Diameter: 2 in.

	Measured Depth
Depth to Bottom	15.21
Depth to Water	7.85
Water Column Height:	

Water Column Height: ____
Correction Factor: x ____
Volume to Purge: ____ gal

Diam. (in)	Corr. Factor
1.5	0.3
2	0.5
4	2.0
6	4.4

Measuring Device: Tape / Elec. Tape / Other ____
Measuring Point: PVC / Top of Steel / Other ____
Comments:

Well Condition

General Condition: Good / Fair / Requires Repair
Protective Casing: Steel / PVC / Other
Casing Condition: Good / Rusty / Bent / Requires Repair
Concrete Collar: Good / Cracked / None / Requires Maintenance
Comments:

Ponding Near Well: Yes / No
Holes Observed Near Well: Yes / No
Water Between PVC and Casing: Yes / No
Lockable Cap: Yes / No
Lock Present: Yes / No

Purge Data

Start Time: 1311
Finish Time: ____
Pump Rate: ____ mL/pm (if appl.)
Elapsed Time: ____ min
Volume Purged: ____ gal
Comments:

Purge Device: Bailer / Peristaltic Pump / Bladder Pump / Waterra ____
Bailer Type: Stainless Steel / Teflon / PVC / ____
Bailer Size: 2" / 1.05" / N/A
Equipment Decon: Office / Dedicated / Designated / Field
Well Recharge: Good / Moderate / Low Dry @ ____ gal

Sample Data

Date: 3/1 Time: 1337
Sampler: PJM Weather: Sunny/40's
Sampling Device: Bailer / Pump / Other ____
Filtering Required: Yes / No Field Filtered: Yes / No
Filter Type: Pneumatic / Syringe / Other / N/A ____
Filter Field Decontaminated: Yes / No

Additional Comments:
* D.O. probe malfunction

Field Parameters

Time	Rate/Unit (mL/min)	pH (std)	Conductance (µmhos)	Temp (°c)	Turbidity (ntu)	D.O. (mg/L-ppm)	eH/ORP (mV)	DTW (ft)
1311	175	6.05	592.1	6.9	3.99	0.55	177.0	8.07
1316		4.92	528.6	7.2	2.97	*	254.1	8.12
1321		4.50	517.8	7.4	2.68	*	286.5	8.12
1326		4.34	510.2	7.3	1.86	*	309.9	8.12
1331		4.26	501.5	7.1	1.75	*	324.1	8.12
1336		4.19	496.7	7.2	1.12	*	335.8	8.12

Sample Appearance / Description / Odor: clear / colorless / no odor

Monitoring Well Field Data Sheet

Client/Project Name: Bowdoinham Recycling Barn	Location: Bowdoinham, ME	Project: 4583.001.001
Sample #: PJM 20230301-02		Well #: MW-101

Water Level Data

Date: 3/1/23
Weather: sunny / 40's
Well Diameter: 2 in.

	Measured Depth
Depth to Bottom	
Depth to Water	3.90
Water Column Height:	

Water Column Height: ____
Correction Factor: x ____
Volume to Purge: ____ gal

Diam. (in)	Corr. Factor
1.5	0.3
2	0.5
4	2.0
6	4.4

Measuring Device: Tape / Elec. Tape / Other ____
Measuring Point: PVC / Top of Steel / Other ____
Comments:

Well Condition

General Condition: Good / Fair / Requires Repair
Protective Casing: Steel / PVC / Other
Casing Condition: Good / Rusty / Bent / Requires Repair
Concrete Collar: Good / Cracked / None / Requires Maintenance
Comments:

Ponding Near Well: Yes / No
Holes Observed Near Well: Yes / No
Water Between PVC and Casing: Yes / No
Lockable Cap: Yes / No
Lock Present: Yes / No

Purge Data

Start Time: 1156
Finish Time: ____
Pump Rate: ____ mL/pm (if appl.)
Elapsed Time: ____ min
Volume Purged: ____ gal
Comments:

Purge Device: Bailer / Peristaltic Pump / Bladder Pump / Waterra ____
Bailer Type: Stainless Steel / Teflon / PVC / ____
Bailer Size: 2" / 1.05" / N/A
Equipment Decon: Office / Dedicated / Designated / Field
Well Recharge: Good / Moderate / Low Dry @ ____ gal

Sample Data

Date: 3/1/23 Time: 1233
Sampler: PJM Weather: sunny / 40's
Sampling Device: Bailer / Pump / Other ____
Filtering Required: Yes / No Field Filtered: Yes / No
Filter Type: Pneumatic / Syringe / Other / N/A ____
Filter Field Decontaminated: Yes / No

Additional Comments:

Field Parameters

Time	Rate/Unit (mL/min)	pH (std)	Conductance (µmhos)	Temp (°c)	Turbidity (ntu)	D.O. (mg/L-ppm)	eH/ORP (mV)	DTW (ft)
1157	190	5.59	1088	5.8	8.98	5.99	201.7	4.00
1202		5.02	1314	6.0	7.24	*	235.4	4.02
1207		7.35	1426	6.1	4.08	5.30	249.8	4.03
1212		8.43	1510	6.2	2.09	5.21	276.6	4.03
1217		8.64	1608	6.3	1.37	4.14	271.6	4.04
1222		8.82	1692	6.2	1.38	3.80	271.1	4.05
1227		8.83	1755	6.2	1.66	3.52	272.2	4.05
1232		8.73	1830	6.4	1.84	3.30	273.4	4.05

Sample Appearance / Description / Odor:
* D.O. probe malfunction appears to have reset
clear / colorless / no odor

Monitoring Well Field Data Sheet

Client/Project Name: Bowdoinham Recycling Barn	Location: Bowdoinham, ME	Project: 4583.001.001
Sample #: PJM 20230301-01		Well #: MW-103

Water Level Data

Date: 3/1/23
Weather: sunny / 49's snow
Well Diameter: 2 in.

	Measured Depth
Depth to Bottom	15.70
Depth to Water	14.92
Water Column Height:	0.78

Water Column Height: ____
Correction Factor: x ____
Volume to Purge: ____ gal

Diam. (in)	Corr. Factor
1.5	0.3
2	0.5
4	2.0
6	4.4

Measuring Device: Tape / Elec. Tape / Other ____
Measuring Point: PVC / Top of Steel / Other ____
Comments:

Well Condition

General Condition: (Good) / Fair / Requires Repair
Protective Casing: (Steel) / PVC / Other
Casing Condition: (Good) / Rusty / Bent / Requires Repair
Concrete Collar: (Good) / Cracked / None / Requires Maintenance
Comments:

Ponding Near Well: Yes / (No)
Holes Observed Near Well: Yes / (No)
Water Between PVC and Casing: Yes / (No)
Lockable Cap: (Yes) / No
Lock Present: Yes / No

Purge Data

Start Time: ____
Finish Time: ____
Pump Rate: ____ mL/pm (if appl.)
Elapsed Time: ____ min
Volume Purged: ____ gal
Comments: attempt to purge by low flow, cannot due to low volume of water in well, purge well dry w/ peri pump then sample per DSA

Purge Device: Bailer / (Peristaltic Pump) / Bladder Pump / Waterra ____
Bailer Type: Stainless Steel / (Teflon) / PVC / ____
Bailer Size: 2" / 1.05" / N/A
Equipment Decon: Office / Dedicated / (Designated) / Field
Well Recharge: Good / Moderate / Low Dry @ ____ gal

Sample Data

Date: 3/1/23 Time: 1255
Sampler: PJM Weather: sunny/40s
Sampling Device: Bailer / (Pump) / Other ____
Filtering Required: Yes / (No) Field Filtered: Yes / (No)
Filter Type: Pneumatic / Syringe / Other / N/A ____
Filter Field Decontaminated: Yes / No

Additional Comments:

Field Parameters

Time	Rate/Unit (mL/min)	pH (std)	Conductance (µmhos)	Temp (°C)	Turbidity (ntu)	D.O. (mg/L-ppm)	eH/ORP (mV)	DTW (ft)
1120		5.53	866	7.6	over range	4.95	203.2	

Sample Appearance / Description / Odor: cloudy / faint yellow / no odor

OrderID: 062302993

Lead (Pb) Chain of Custody

EMSL Order ID *(Lab Use Only):* 062302993

EMSL ANALYTICAL, INC.
200 ROUTE 130 NORTH
CINNAMINSON, NJ 08077
PHONE: (800) 220-3675
FAX: (856) 786-5974

Company : Barton & Loguidice, LLC	EMSL-Bill to: ☐ Same ☐ Different If Bill to is Different note instructions in Comments**
Street: 41 Sequin Drive	*Third Party Billing requires written authorization from third party*
City: Glastonbury / State/Province: CT	Zip/Postal Code: 06033 / Country: USA
Report To (Name): Patrick McKay	Telephone #: 860 633-8770
Email Address: pmckay@bartonandloguidice.com	Fax #: 860 633-5971 / Purchase Order: 4583.001.001
Project Name/Number: 4583.001.001	Please Provide Results: ☐ Fax ☒ Email
U.S. State Samples Taken: ME	CT Samples: ☐ Commercial/Taxable ☐ Residential/Tax Exempt

Turnaround Time (TAT) Options* - Please Check

☐ 3 Hour | ☐ 6 Hour | ☐ 24 Hour | ☐ 48 Hour | ☐ 72 Hour | ☐ 96 Hour | ☒ 1 Week | ☐ 2 Week

**Analysis completed in accordance with EMSL's Terms and Conditions located in the Price Guide*

Matrix	Method	Instrument	Reporting Limit	Check
Chips ☐ % by wt. ☒ mg/cm² ☐ ppm	SW846-7000B	Flame Atomic Absorption	0.01%	☒
Air	NIOSH 7082	Flame Atomic Absorption	4 µg/filter	☐
	NIOSH 7105	Graphite Furnace AA	0.03 µg/filter	☐
	NIOSH 7300 modified	ICP-AES/ICP-MS	0.5 µg/filter	☐
Wipe* ASTM ☐ non ASTM ☐ *if no box is checked, non-ASTM Wipe is assumed	SW846-7000B	Flame Atomic Absorption	10 µg/wipe	☐
	SW846-6010B or C	ICP-AES	1.0 µg/wipe	☐
	SW846-7000B/7010	Graphite Furnace AA	0.075 µg/wipe	☐
TCLP	SW846-1311/7000B/SM 3111B	Flame Atomic Absorption	0.4 mg/L (ppm)	☐
	SW846-1131/SW846-6010B or C	ICP-AES	0.1 mg/L (ppm)	☐
Soil	SW846-7000B	Flame Atomic Absorption	40 mg/kg (ppm)	☐
	SW846-7010	Graphite Furnace AA	0.3 mg/kg (ppm)	☐
	SW846-6010B or C	ICP-AES	2 mg/kg (ppm)	☐
Wastewater Unpreserved ☐ Preserved with HNO_3 pH < 2 ☐	SM3111B/SW846-7000B	Flame Atomic Absorption	0.4 mg/L (ppm)	☐
	EPA 200.9	Graphite Furnace AA	0.003 mg/L (ppm)	☐
	EPA 200.7	ICP-AES	0.020 mg/L (ppm)	☐
Drinking Water Unpreserved ☐ Preserved with HNO_3 pH < 2 ☐	EPA 200.9	Graphite Furnace AA	0.003 mg/L (ppm)	☐
	EPA 200.8	ICP-MS	0.001 mg/L (ppm)	☐
TSP/SPM Filter	40 CFR Part 50	ICP-AES	12 µg/filter	☐
	40 CFR Part 50	Graphite Furnace AA	3.6 µg/filter	☐
Other:				☐

Name of Sampler: Patrick McKay | Signature of Sampler:

Sample #	Location	Volume/Area	Date/Time Sampled
1 First Floor Office Door	Recycling Barn first floor office near boiler	4 inches by 4 inches	2/8/23 1705
2 Exterior Sign Board	Recycling Barn exterior sign board between windows	4 inches by 4 inches	2/8/23 1724

Client Sample #'s: First floor office door/Exterior Sign Board | Total # of Samples: 2

Relinquished (Client):	Patrick J McKay	Date:	2/10/23	Time:	0840
Received (Lab):	UPS	Date:	2/13/23	Time:	950

Samantha Chewfsey 2/15/23 10:00am

OrderID: 062302993

collected for municipal client (Town of Bowdoinham, ME) please cc all data and correspondence to satkin@bartonandloguidice.com

~~2023011556~~

062302993

EMSL Analytical, Inc.
528 Mineola Avenue, Carle Place, NY 11514
Phone/Fax: (516) 997-7251 / (516) 997-7528
http://www.EMSL.com carleplacelab@emsl.com

EMSL Order:	062302993
CustomerID:	ANCH63
CustomerPO:	4583.001.001
ProjectID:	

Attn: **Patrick McKay**
Barton & Loguidice
443 Electronics Parkway
Liverpool, NY 13088

Phone:	(860) 633-8770
Fax:	(860) 633-5971
Received:	2/15/2023 10:00 AM
Collected:	2/8/2023

Project: **4583.001.001**

Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)*

Client Sample Description	*Lab ID*	*Collected*	*Analyzed*	*Area*	*Total Weight*	*Weight*	*Lead Concentration*
First Floor Office Door	*062302993-0001*	2/8/2023	2/20/2023	16 in²	9.3231 g	0.2645 g	11 mg/cm²
Site: Recycling Barn first floor office near boiler							
Exterior Sign Board	*062302993-0002*	2/8/2023	2/20/2023	16 in²	2.5347 g	0.2638 g	<0.0020 mg/cm²
Site: Recycling Barn exterior sign board between windows							

James Han, Chemistry Laboratory Manager
or other approved signatory

Initial report from 02/20/2023 13:54:33

PHOENIX
Environmental Laboratories, Inc.

Tuesday, March 21, 2023

Attn: Mr. Scott Atkin
Barton & Loguidice, LLC
41 Sequin Drive
Glastonbury, CT 06033

Project ID: **BOWDOINHAM RECYCLING BARN**
SDG ID: **GCN40277**
Sample ID#s: **CN40277**

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

Enclosed are revised Analysis Report pages. Please replace and discard the original pages. If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

SDG Comments

March 21, 2023

SDG I.D.: GCN40277

Version 2:
Maine Residential criteria was added and analyses were re-evaluated.

Version 3:
TPH RLs were lowered.
8260 analyses were re-evaluated to meet criteria with the exception of the compound below.
1,2-Dibromo-3-chloropropane criteria could not be achieved.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

March 21, 2023

SDG I.D.: GCN40277

Project ID: BOWDOINHAM RECYCLING BARN

Client Id	Lab Id	Matrix
MW-102 0-2`	CN40277	SOIL

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 21, 2023

FOR: Attn: Mr. Scott Atkin
Barton & Loguidice, LLC
41 Sequin Drive
Glastonbury, CT 06033

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	PM	02/08/23	14:15
Location Code:	ANCHOR	Received by:	CP	02/10/23	9:20
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	4583.001.001				

Laboratory Data

SDG ID: GCN40277
Phoenix ID: CN40277

Project ID: BOWDOINHAM RECYCLING BARN
Client ID: MW-102 0-2`

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	0.51	0.36	mg/Kg	1	02/13/23	TH	SW6010D
Arsenic	9.47	0.73	mg/Kg	1	02/13/23	CPP	SW6010D
Barium	61.9	0.36	mg/Kg	1	02/13/23	CPP	SW6010D
Cadmium	0.98	0.36	mg/Kg	1	02/13/23	CPP	SW6010D
Chromium	36.4	0.36	mg/Kg	1	02/13/23	CPP	SW6010D
Mercury	< 0.03	0.03	mg/Kg	2	02/13/23	AL1	SW7471B
Lead	103	0.36	mg/Kg	1	02/13/23	CPP	SW6010D
Selenium	< 1.5	1.5	mg/Kg	1	02/13/23	CPP	SW6010D
Percent Solid	81		%		02/10/23	AL	SW846-%Solid
Soil Extraction for Pesticide	Completed				02/10/23	C/Y	SW3545A
Field Extraction	Completed				02/08/23		SW5035A
Mercury Digestion	Completed				02/13/23	L/L	SW7471B
Extraction of ETPH	Completed				02/10/23	MO/U	SW3546
Soil Extraction for Herbicide	Completed				02/13/23	J/D	SW3546
Total Metals Digest	Completed				02/10/23	P/AG	SW3050B
Gasoline Range Hydrocarbons (C6-C10)							
GRO (C6-C10)	ND	7.4	mg/Kg	50	02/10/23	RM	SW8015D GRO
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	121		%	50	02/10/23	RM	70 - 130 %
Chlorinated Herbicides							
2,4,5-T	ND	150	ug/Kg	10	02/14/23	JRB	SW8151A
2,4,5-TP (Silvex)	ND	150	ug/Kg	10	02/14/23	JRB	SW8151A
2,4-D	ND	300	ug/Kg	10	02/14/23	JRB	SW8151A
2,4-DB	ND	3000	ug/Kg	10	02/14/23	JRB	SW8151A
Dalapon	ND	150	ug/Kg	10	02/14/23	JRB	SW8151A

Project ID: BOWDOINHAM RECYCLING BARN
Client ID: MW-102 0-2`

Phoenix I.D.: CN40277

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Dicamba	ND	150	ug/Kg	10	02/14/23	JRB	SW8151A
Dichloroprop	ND	300	ug/Kg	10	02/14/23	JRB	SW8151A
Dinoseb	ND	300	ug/Kg	10	02/14/23	JRB	SW8151A
QA/QC Surrogates							
% DCAA	78		%	10	02/14/23	JRB	30 - 150 %
% DCAA (Confirmation)	92		%	10	02/14/23	JRB	30 - 150 %
Pesticides							
4,4' -DDD	ND	8.2	ug/Kg	2	02/14/23	AW	SW8081B
4,4' -DDE	ND	8.2	ug/Kg	2	02/14/23	AW	SW8081B
4,4' -DDT	ND	8.2	ug/Kg	2	02/14/23	AW	SW8081B
a-BHC	ND	8.2	ug/Kg	2	02/14/23	AW	SW8081B
Alachlor	ND	8.2	ug/Kg	2	02/14/23	AW	SW8081B
Aldrin	ND	4.1	ug/Kg	2	02/14/23	AW	SW8081B
b-BHC	ND	8.2	ug/Kg	2	02/14/23	AW	SW8081B
Chlordane	ND	41	ug/Kg	2	02/14/23	AW	SW8081B
d-BHC	ND	8.2	ug/Kg	2	02/14/23	AW	SW8081B
Dieldrin	ND	4.1	ug/Kg	2	02/14/23	AW	SW8081B
Endosulfan I	ND	8.2	ug/Kg	2	02/14/23	AW	SW8081B
Endosulfan II	ND	8.2	ug/Kg	2	02/14/23	AW	SW8081B
Endosulfan sulfate	ND	8.2	ug/Kg	2	02/14/23	AW	SW8081B
Endrin	ND	8.2	ug/Kg	2	02/14/23	AW	SW8081B
Endrin aldehyde	ND	8.2	ug/Kg	2	02/14/23	AW	SW8081B
Endrin ketone	ND	8.2	ug/Kg	2	02/14/23	AW	SW8081B
g-BHC	ND	1.6	ug/Kg	2	02/14/23	AW	SW8081B
Heptachlor	ND	8.2	ug/Kg	2	02/14/23	AW	SW8081B
Heptachlor epoxide	ND	8.2	ug/Kg	2	02/14/23	AW	SW8081B
Methoxychlor	ND	41	ug/Kg	2	02/14/23	AW	SW8081B
Toxaphene	ND	160	ug/Kg	2	02/14/23	AW	SW8081B
QA/QC Surrogates							
% DCBP	69		%	2	02/14/23	AW	30 - 150 %
% DCBP (Confirmation)	76		%	2	02/14/23	AW	30 - 150 %
% TCMX	60		%	2	02/14/23	AW	30 - 150 %
% TCMX (Confirmation)	77		%	2	02/14/23	AW	30 - 150 %
TPH DRO (C10-C28)							
Diesel Range Organics (C10-C28)	ND	15	mg/Kg	5	02/14/23	JRB	SW-846 8015
QA/QC Surrogates							
% COD (surr)	101		%	5	02/14/23	JRB	50 - 150 %
% Terphenyl (surr)	69		%	5	02/14/23	JRB	50 - 150 %
Volatiles							
1,1,1,2-Tetrachloroethane	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
1,1,1-Trichloroethane	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
1,1,2,2-Tetrachloroethane	ND	3.2	ug/Kg	1	02/10/23	JLI	SW8260C
1,1,2-Trichloroethane	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
1,1-Dichloroethane	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
1,1-Dichloroethene	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
1,1-Dichloropropene	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
1,2,3-Trichlorobenzene	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C

Project ID: BOWDOINHAM RECYCLING BARN
Client ID: MW-102 0-2`

Phoenix I.D.: CN40277

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2,3-Trichloropropane	ND	0.18	ug/Kg	1	02/10/23	JLI	SW8260C
1,2,4-Trichlorobenzene	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
1,2,4-Trimethylbenzene	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.2	ug/Kg	1	02/10/23	JLI	SW8260C
1,2-Dibromoethane	ND	0.53	ug/Kg	1	02/10/23	JLI	SW8260C
1,2-Dichlorobenzene	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
1,2-Dichloroethane	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
1,2-Dichloropropane	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
1,3,5-Trimethylbenzene	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
1,3-Dichlorobenzene	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
1,3-Dichloropropane	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
1,4-Dichlorobenzene	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
2,2-Dichloropropane	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
2-Chlorotoluene	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
2-Hexanone	ND	27	ug/Kg	1	02/10/23	JLI	SW8260C
2-Isopropyltoluene	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
4-Chlorotoluene	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
4-Methyl-2-pentanone	ND	27	ug/Kg	1	02/10/23	JLI	SW8260C
Acetone	ND	270	ug/Kg	1	02/10/23	JLI	SW8260C
Acrylonitrile	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
Benzene	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
Bromobenzene	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
Bromochloromethane	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
Bromodichloromethane	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
Bromoform	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
Bromomethane	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
Carbon Disulfide	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
Carbon tetrachloride	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
Chlorobenzene	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
Chloroethane	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
Chloroform	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
Chloromethane	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
cis-1,2-Dichloroethene	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
cis-1,3-Dichloropropene	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
Dibromochloromethane	ND	3.2	ug/Kg	1	02/10/23	JLI	SW8260C
Dibromomethane	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
Dichlorodifluoromethane	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
Ethylbenzene	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
Hexachlorobutadiene	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
Isopropylbenzene	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
m&p-Xylene	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
Methyl Ethyl Ketone	ND	32	ug/Kg	1	02/10/23	JLI	SW8260C
Methyl t-butyl ether (MTBE)	ND	11	ug/Kg	1	02/10/23	JLI	SW8260C
Methylene chloride	ND	11	ug/Kg	1	02/10/23	JLI	SW8260C
Naphthalene	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
n-Butylbenzene	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
n-Propylbenzene	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
o-Xylene	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
p-Isopropyltoluene	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C

Project ID: BOWDOINHAM RECYCLING BARN
Client ID: MW-102 0-2`

Phoenix I.D.: CN40277

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
sec-Butylbenzene	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
Styrene	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
tert-Butylbenzene	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
Tetrachloroethene	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
Tetrahydrofuran (THF)	ND	11	ug/Kg	1	02/10/23	JLI	SW8260C
Toluene	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
Total Xylenes	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
trans-1,2-Dichloroethene	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
trans-1,3-Dichloropropene	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
trans-1,4-dichloro-2-butene	ND	0.34	ug/Kg	1	02/10/23	JLI	SW8260C
Trichloroethene	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
Trichlorofluoromethane	ND	5.3	ug/Kg	1	02/10/23	JLI	SW8260C
Trichlorotrifluoroethane	ND	11	ug/Kg	1	02/10/23	JLI	SW8260C
Vinyl chloride	ND	3.0	ug/Kg	1	02/10/23	JLI	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	97		%	1	02/10/23	JLI	70 - 130 %
% Bromofluorobenzene	111		%	1	02/10/23	JLI	70 - 130 %
% Dibromofluoromethane	90		%	1	02/10/23	JLI	70 - 130 %
% Toluene-d8	97		%	1	02/10/23	JLI	70 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

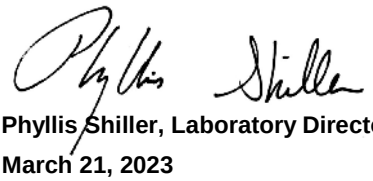
Comments:

The GRO (C6-C10) is quantitated using an gasoline standard.

The TPH (C10-C28) is quantitated using an alkane standard.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
March 21, 2023
Reviewed and Released by: Phyllis Shiller, Laboratory Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

QA/QC Report

March 21, 2023

QA/QC Data

SDG I.D.: GCN40277

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 663769 (mg/kg), QC Sample No: CN40269 2X (CN40277, CN40278, CN40279, CN40280, CN40281)														
Mercury - Soil	BRL	0.03	<0.03	<0.03	NC	109	104	4.7	106	102	3.8	70 - 130	30	
Comment:														
Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 70-130%. MS acceptance range is 75-125%.														
QA/QC Batch 663857 (mg/kg), QC Sample No: CN40277 (CN40277, CN40278, CN40279, CN40280, CN40281)														
ICP Metals - Soil														
Arsenic	BRL	0.67	9.47	9.16	3.30	118	112	5.2	92.1			75 - 125	35	
Barium	BRL	0.33	61.9	68.8	10.6	123	122	0.8	87.8			75 - 125	35	
Cadmium	BRL	0.33	0.98	1.12	NC	118	114	3.4	96.6			75 - 125	35	
Chromium	BRL	0.33	36.4	40.5	10.7	122	117	4.2	94.1			75 - 125	35	
Lead	BRL	0.33	103	56.7	58.0	123	116	5.9	91.0			75 - 125	35	r
Selenium	BRL	1.3	<1.5	<1.7	NC	119	116	2.6	93.6			75 - 125	35	
Silver	BRL	0.33	0.51	<0.42	NC	118	113	4.3	91.6			75 - 125	35	
Comment:														
Additional Criteria: LCS acceptance range is 80-120% MS acceptance range 75-125%.														

r = This parameter is outside laboratory RPD specified recovery limits.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

QA/QC Report

March 21, 2023

QA/QC Data

SDG I.D.: GCN40277

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 663810 (mg/Kg), QC Sample No: CN40271 (CN40277, CN40278, CN40279, CN40280)										
TPH by GC (Extractable Products) - Soil										
Ext. Petroleum HC	ND	50	113	107	5.5	86	98	13.0	30 - 130	30
% COD (surr)	86	%	117	146	22.1	90	101	11.5	50 - 150	30
% Terphenyl (surr)	84	%	100	103	3.0	87	98	11.9	50 - 150	30
Comment:										
Additional surrogate criteria: LCS acceptance range is 60-120% MS acceptance range 50-150%. The ETPH/DRO LCS has been normalized based on the alkane calibration.										
QA/QC Batch 664181 (mg/Kg), QC Sample No: CN41578 (CN40281)										
TPH by GC (Extractable Products) - Soil										
Ext. Petroleum HC	ND	50	91	80	12.9	80			30 - 130	30
% COD (surr)	114	%	101	92	9.3	103			50 - 150	30
% Terphenyl (surr)	112	%	100	94	6.2	92			50 - 150	30
Comment:										
This batch consists of a Blank, LCS, LCSD and MS.										
Additional surrogate criteria: LCS acceptance range is 60-120% MS acceptance range 50-150%. The ETPH/DRO LCS has been normalized based on the alkane calibration.										
QA/QC Batch 663962 (mg/Kg), QC Sample No: CN38318 50X (CN40277 (50X) , CN40278 (50X) , CN40279 (50X) , CN40280 (50X) , CN40281 (50X))										
Gasoline Range Hydrocarbons (C6C10) - Soil										
GRO (C6-C10)	ND	5.0	87	85	2.3	83	84	1.2	70 - 130	30
% 2,5-Dibromotoluene (FID)	118	%	125	126	0.8	125	119	4.9	70 - 130	30
QA/QC Batch 664008 (ug/Kg), QC Sample No: CN40833 10X (CN40277, CN40278, CN40279, CN40280, CN40281)										
Chlorinated Herbicides - Soil										
2,4,5-T	ND	130	54	52	3.8	63	61	3.2	40 - 140	30
2,4,5-TP (Silvex)	ND	130	58	55	5.3	66	63	4.7	40 - 140	30
2,4-D	ND	250	52	52	0.0	59	58	1.7	40 - 140	30
2,4-DB	ND	2500	50	50	0.0	58	57	1.7	40 - 140	30
Dalapon	ND	130	56	46	19.6	46	44	4.4	40 - 140	30
Dicamba	ND	130	67	56	17.9	70	66	5.9	40 - 140	30
Dichloroprop	ND	130	60	58	3.4	74	67	9.9	40 - 140	30
Dinoseb	ND	130	65	56	14.9	56	53	5.5	40 - 140	30
% DCAA (Surrogate Rec)	67	%	67	65	3.0	78	74	5.3	30 - 150	30
% DCAA (Surrogate Rec) (Confirm	73	%	81	78	3.8	93	85	9.0	30 - 150	30
Comment:										
Additional criteria: LCS acceptance range is 40-140% MS acceptance range 30-150%.										
QA/QC Batch 663822 (ug/Kg), QC Sample No: CN39206 2X (CN40277, CN40278, CN40279, CN40280, CN40281)										
Pesticides - Soil										
4,4' -DDD	ND	1.7	96	78	20.7	74	61	19.3	40 - 140	30
4,4' -DDE	ND	1.7	98	73	29.2	71	58	20.2	40 - 140	30
4,4' -DDT	ND	1.7	88	72	20.0	65	61	6.3	40 - 140	30

QA/QC Data

SDG I.D.: GCN40277

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
a-BHC	ND	1.0	91	70	26.1	71	57	21.9	40 - 140	30	
Alachlor	ND	3.3	NA	NA	NC	NA	NA	NC	40 - 140	30	
Aldrin	ND	1.0	107	79	30.1	79	64	21.0	40 - 140	30	
b-BHC	ND	1.0	82	63	26.2	65	57	13.1	40 - 140	30	
Chlordane	ND	33	99	75	27.6	75	62	19.0	40 - 140	30	
d-BHC	ND	3.3	100	74	29.9	81	63	25.0	40 - 140	30	
Dieldrin	ND	1.0	98	73	29.2	72	59	19.8	40 - 140	30	
Endosulfan I	ND	3.3	95	75	23.5	66	54	20.0	40 - 140	30	
Endosulfan II	ND	3.3	99	85	15.2	77	65	16.9	40 - 140	30	
Endosulfan sulfate	ND	3.3	91	72	23.3	68	59	14.2	40 - 140	30	
Endrin	ND	3.3	106	79	29.2	79	65	19.4	40 - 140	30	
Endrin aldehyde	ND	3.3	88	72	20.0	64	56	13.3	40 - 140	30	
Endrin ketone	ND	3.3	93	74	22.8	76	64	17.1	40 - 140	30	
g-BHC	ND	1.0	98	72	30.6	74	60	20.9	40 - 140	30	r
Heptachlor	ND	3.3	94	70	29.3	70	57	20.5	40 - 140	30	
Heptachlor epoxide	ND	3.3	102	77	27.9	78	65	18.2	40 - 140	30	
Methoxychlor	ND	3.3	95	74	24.9	70	58	18.8	40 - 140	30	
Toxaphene	ND	130	NA	NA	NC	NA	NA	NC	40 - 140	30	
% DCBP	97	%	97	86	12.0	81	70	14.6	30 - 150	30	
% DCBP (Confirmation)	80	%	90	74	19.5	78	66	16.7	30 - 150	30	
% TCMX	71	%	79	65	19.4	66	55	18.2	30 - 150	30	
% TCMX (Confirmation)	70	%	78	60	26.1	72	61	16.5	30 - 150	30	
QA/QC Batch 663964 (ug/kg), QC Sample No: CN40073 (CN40277, CN40278, CN40280, CN40281)											
Volatiles - Soil (Low Level)											
1,1,1,2-Tetrachloroethane	ND	5.0	83	88	5.8				70 - 130	30	
1,1,1-Trichloroethane	ND	5.0	86	91	5.6				70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	3.0	88	91	3.4				70 - 130	30	
1,1,2-Trichloroethane	ND	5.0	86	89	3.4				70 - 130	30	
1,1-Dichloroethane	ND	5.0	90	94	4.3				70 - 130	30	
1,1-Dichloroethene	ND	5.0	91	91	0.0				70 - 130	30	
1,1-Dichloropropene	ND	5.0	90	93	3.3				70 - 130	30	
1,2,3-Trichlorobenzene	ND	5.0	84	86	2.4				70 - 130	30	
1,2,3-Trichloropropane	ND	5.0	88	91	3.4				70 - 130	30	
1,2,4-Trichlorobenzene	ND	5.0	84	87	3.5				70 - 130	30	
1,2,4-Trimethylbenzene	ND	1.0	88	92	4.4				70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	5.0	83	86	3.6				70 - 130	30	
1,2-Dibromoethane	ND	5.0	88	93	5.5				70 - 130	30	
1,2-Dichlorobenzene	ND	5.0	89	93	4.4				70 - 130	30	
1,2-Dichloroethane	ND	5.0	85	89	4.6				70 - 130	30	
1,2-Dichloropropane	ND	5.0	86	91	5.6				70 - 130	30	
1,3,5-Trimethylbenzene	ND	1.0	90	94	4.3				70 - 130	30	
1,3-Dichlorobenzene	ND	5.0	87	91	4.5				70 - 130	30	
1,3-Dichloropropane	ND	5.0	89	93	4.4				70 - 130	30	
1,4-Dichlorobenzene	ND	5.0	87	90	3.4				70 - 130	30	
2,2-Dichloropropane	ND	5.0	66	70	5.9				70 - 130	30	l
2-Chlorotoluene	ND	5.0	91	94	3.2				70 - 130	30	
2-Hexanone	ND	25	81	84	3.6				70 - 130	30	
2-Isopropyltoluene	ND	5.0	90	94	4.3				70 - 130	30	
4-Chlorotoluene	ND	5.0	89	91	2.2				70 - 130	30	
4-Methyl-2-pentanone	ND	25	86	88	2.3				70 - 130	30	
Acetone	ND	10	76	79	3.9				70 - 130	30	
Acrylonitrile	ND	5.0	81	86	6.0				70 - 130	30	

QA/QC Data

SDG I.D.: GCN40277

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Benzene	ND	1.0	88	93	5.5				70 - 130	30
Bromobenzene	ND	5.0	89	93	4.4				70 - 130	30
Bromochloromethane	ND	5.0	89	95	6.5				70 - 130	30
Bromodichloromethane	ND	5.0	82	86	4.8				70 - 130	30
Bromoform	ND	5.0	77	81	5.1				70 - 130	30
Bromomethane	ND	5.0	102	108	5.7				70 - 130	30
Carbon Disulfide	ND	5.0	81	81	0.0				70 - 130	30
Carbon tetrachloride	ND	5.0	77	83	7.5				70 - 130	30
Chlorobenzene	ND	5.0	88	92	4.4				70 - 130	30
Chloroethane	ND	5.0	104	110	5.6				70 - 130	30
Chloroform	ND	5.0	88	93	5.5				70 - 130	30
Chloromethane	ND	5.0	89	95	6.5				70 - 130	30
cis-1,2-Dichloroethene	ND	5.0	90	95	5.4				70 - 130	30
cis-1,3-Dichloropropene	ND	5.0	77	81	5.1				70 - 130	30
Dibromochloromethane	ND	3.0	83	88	5.8				70 - 130	30
Dibromomethane	ND	5.0	88	93	5.5				70 - 130	30
Dichlorodifluoromethane	ND	5.0	90	95	5.4				70 - 130	30
Ethylbenzene	ND	1.0	89	93	4.4				70 - 130	30
Hexachlorobutadiene	ND	5.0	85	90	5.7				70 - 130	30
Isopropylbenzene	ND	1.0	90	95	5.4				70 - 130	30
m&p-Xylene	ND	2.0	87	91	4.5				70 - 130	30
Methyl ethyl ketone	ND	5.0	86	90	4.5				70 - 130	30
Methyl t-butyl ether (MTBE)	ND	1.0	84	88	4.7				70 - 130	30
Methylene chloride	ND	5.0	81	79	2.5				70 - 130	30
Naphthalene	ND	5.0	89	91	2.2				70 - 130	30
n-Butylbenzene	ND	1.0	92	94	2.2				70 - 130	30
n-Propylbenzene	ND	1.0	90	93	3.3				70 - 130	30
o-Xylene	ND	2.0	86	90	4.5				70 - 130	30
p-Isopropyltoluene	ND	1.0	90	94	4.3				70 - 130	30
sec-Butylbenzene	ND	1.0	92	96	4.3				70 - 130	30
Styrene	ND	5.0	87	92	5.6				70 - 130	30
tert-Butylbenzene	ND	1.0	91	95	4.3				70 - 130	30
Tetrachloroethene	ND	5.0	86	88	2.3				70 - 130	30
Tetrahydrofuran (THF)	ND	5.0	85	87	2.3				70 - 130	30
Toluene	ND	1.0	88	92	4.4				70 - 130	30
trans-1,2-Dichloroethene	ND	5.0	92	96	4.3				70 - 130	30
trans-1,3-Dichloropropene	ND	5.0	73	77	5.3				70 - 130	30
trans-1,4-dichloro-2-butene	ND	5.0	68	72	5.7				70 - 130	30
Trichloroethene	ND	5.0	88	91	3.4				70 - 130	30
Trichlorofluoromethane	ND	5.0	102	107	4.8				70 - 130	30
Trichlorotrifluoroethane	ND	5.0	86	83	3.6				70 - 130	30
Vinyl chloride	ND	5.0	99	105	5.9				70 - 130	30
% 1,2-dichlorobenzene-d4	98	%	98	98	0.0				70 - 130	30
% Bromofluorobenzene	91	%	92	93	1.1				70 - 130	30
% Dibromofluoromethane	90	%	94	95	1.1				70 - 130	30
% Toluene-d8	97	%	96	96	0.0				70 - 130	30

Comment:

The Low Level MS/MSD are not reported for this batch.

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%, 25-160% for Chloroethane-HL and Trichlorofluoromethane-HL.

QA/QC Data

SDG I.D.: GCN40277

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 665501H (ug/kg), QC Sample No: CN40531 50X (CN40281 (50X))										
Volatiles - Soil (High Level)										
% 1,2-dichlorobenzene-d4	101	%	100	100	0.0	100	99	1.0	70 - 130	30
% Bromofluorobenzene	92	%	97	96	1.0	97	97	0.0	70 - 130	30
% Dibromofluoromethane	98	%	97	100	3.0	97	95	2.1	70 - 130	30
% Toluene-d8	95	%	95	97	2.1	97	96	1.0	70 - 130	30
Comment:										
Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%, 25-160% for Chloroethane-HL and Trichlorofluoromethane-HL.										
QA/QC Batch 663995 (ug/kg), QC Sample No: CN41010 (CN40279)										
Volatiles - Soil (Low Level)										
1,1,1,2-Tetrachloroethane	ND	5.0	92	88	4.4				70 - 130	30
1,1,1-Trichloroethane	ND	5.0	100	93	7.3				70 - 130	30
1,1,2,2-Tetrachloroethane	ND	3.0	95	92	3.2				70 - 130	30
1,1,2-Trichloroethane	ND	5.0	92	90	2.2				70 - 130	30
1,1-Dichloroethane	ND	5.0	102	107	4.8				70 - 130	30
1,1-Dichloroethene	ND	5.0	116	107	8.1				70 - 130	30
1,1-Dichloropropene	ND	5.0	99	92	7.3				70 - 130	30
1,2,3-Trichlorobenzene	ND	5.0	85	82	3.6				70 - 130	30
1,2,3-Trichloropropane	ND	5.0	98	96	2.1				70 - 130	30
1,2,4-Trichlorobenzene	ND	5.0	85	79	7.3				70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	96	90	6.5				70 - 130	30
1,2-Dibromo-3-chloropropane	ND	5.0	86	85	1.2				70 - 130	30
1,2-Dibromoethane	ND	5.0	94	91	3.2				70 - 130	30
1,2-Dichlorobenzene	ND	5.0	96	91	5.3				70 - 130	30
1,2-Dichloroethane	ND	5.0	100	96	4.1				70 - 130	30
1,2-Dichloropropane	ND	5.0	93	90	3.3				70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	99	93	6.3				70 - 130	30
1,3-Dichlorobenzene	ND	5.0	93	88	5.5				70 - 130	30
1,3-Dichloropropane	ND	5.0	96	93	3.2				70 - 130	30
1,4-Dichlorobenzene	ND	5.0	93	88	5.5				70 - 130	30
2,2-Dichloropropane	ND	5.0	68	67	1.5				70 - 130	30
2-Chlorotoluene	ND	5.0	98	92	6.3				70 - 130	30
2-Hexanone	ND	25	85	83	2.4				70 - 130	30
2-Isopropyltoluene	ND	5.0	99	93	6.3				70 - 130	30
4-Chlorotoluene	ND	5.0	94	88	6.6				70 - 130	30
4-Methyl-2-pentanone	ND	25	93	91	2.2				70 - 130	30
Acetone	ND	10	102	105	2.9				70 - 130	30
Acrylonitrile	ND	5.0	86	94	8.9				70 - 130	30
Benzene	ND	1.0	96	90	6.5				70 - 130	30
Bromobenzene	ND	5.0	95	91	4.3				70 - 130	30
Bromochloromethane	ND	5.0	98	94	4.2				70 - 130	30
Bromodichloromethane	ND	5.0	93	91	2.2				70 - 130	30
Bromoform	ND	5.0	86	84	2.4				70 - 130	30
Bromomethane	ND	5.0	143	132	8.0				70 - 130	30
Carbon Disulfide	ND	5.0	103	94	9.1				70 - 130	30
Carbon tetrachloride	ND	5.0	88	83	5.8				70 - 130	30
Chlorobenzene	ND	5.0	96	91	5.3				70 - 130	30
Chloroethane	ND	5.0	145	135	7.1				70 - 130	30
Chloroform	ND	5.0	102	95	7.1				70 - 130	30
Chloromethane	ND	5.0	94	86	8.9				70 - 130	30
cis-1,2-Dichloroethene	ND	5.0	98	92	6.3				70 - 130	30

QA/QC Data

SDG I.D.: GCN40277

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
cis-1,3-Dichloropropene	ND	5.0	83	80	3.7				70 - 130	30
Dibromochloromethane	ND	3.0	91	89	2.2				70 - 130	30
Dibromomethane	ND	5.0	99	95	4.1				70 - 130	30
Dichlorodifluoromethane	ND	5.0	93	84	10.2				70 - 130	30
Ethylbenzene	ND	1.0	96	92	4.3				70 - 130	30
Hexachlorobutadiene	ND	5.0	91	85	6.8				70 - 130	30
Isopropylbenzene	ND	1.0	98	92	6.3				70 - 130	30
m&p-Xylene	ND	2.0	96	91	5.3				70 - 130	30
Methyl ethyl ketone	ND	5.0	97	90	7.5				70 - 130	30
Methyl t-butyl ether (MTBE)	ND	1.0	106	102	3.8				70 - 130	30
Methylene chloride	ND	5.0	102	96	6.1				70 - 130	30
Naphthalene	ND	5.0	92	90	2.2				70 - 130	30
n-Butylbenzene	ND	1.0	99	92	7.3				70 - 130	30
n-Propylbenzene	ND	1.0	97	91	6.4				70 - 130	30
o-Xylene	ND	2.0	93	88	5.5				70 - 130	30
p-Isopropyltoluene	ND	1.0	98	91	7.4				70 - 130	30
sec-Butylbenzene	ND	1.0	101	95	6.1				70 - 130	30
Styrene	ND	5.0	96	91	5.3				70 - 130	30
tert-Butylbenzene	ND	1.0	100	94	6.2				70 - 130	30
Tetrachloroethene	ND	5.0	91	85	6.8				70 - 130	30
Tetrahydrofuran (THF)	ND	5.0	89	86	3.4				70 - 130	30
Toluene	ND	1.0	96	91	5.3				70 - 130	30
trans-1,2-Dichloroethene	ND	5.0	114	105	8.2				70 - 130	30
trans-1,3-Dichloropropene	ND	5.0	81	78	3.8				70 - 130	30
trans-1,4-dichloro-2-butene	ND	5.0	72	70	2.8				70 - 130	30
Trichloroethene	ND	5.0	96	90	6.5				70 - 130	30
Trichlorofluoromethane	ND	5.0	138	127	8.3				70 - 130	30
Trichlorotrifluoroethane	ND	5.0	107	97	9.8				70 - 130	30
Vinyl chloride	ND	5.0	117	106	9.9				70 - 130	30
% 1,2-dichlorobenzene-d4	98	%	98	98	0.0				70 - 130	30
% Bromofluorobenzene	91	%	94	94	0.0				70 - 130	30
% Dibromofluoromethane	89	%	91	92	1.1				70 - 130	30
% Toluene-d8	97	%	97	97	0.0				70 - 130	30

Comment:

The Low Level MS/MSD are not reported for this batch.

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%, 25-160% for Chloroethane-HL and Trichlorofluoromethane-HL.

l = This parameter is outside laboratory LCS/LCSD specified recovery limits.
r = This parameter is outside laboratory RPD specified recovery limits.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
March 21, 2023

Tuesday, March 21, 2023

Criteria: ME: RAGCOMM, RAGLEACHGW, RAGRES

State: ME

Sample Criteria Exceedances Report

GCN40277 - ANCHOR

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CN40277	$8260MAR	1,2-Dibromo-3-chloropropane	ME / RAG Soil / Leaching to GW	ND	0.2	0.079	0.079	ug/Kg
CN40277	AS-SM	Arsenic	ME / RAG Soil / Leaching to GW	9.47	0.73	0.83	0.83	mg/Kg
CN40277	AS-SM	Arsenic	ME / RAG Soil / Resident	9.47	0.73	9.3	9.3	mg/Kg
CN40278	$8260MAR	1,2-Dibromo-3-chloropropane	ME / RAG Soil / Leaching to GW	ND	0.2	0.079	0.079	ug/Kg
CN40278	AS-SM	Arsenic	ME / RAG Soil / Leaching to GW	14.1	0.71	0.83	0.83	mg/Kg
CN40278	AS-SM	Arsenic	ME / RAG Soil / Resident	14.1	0.71	9.3	9.3	mg/Kg
CN40279	$8260MAR	1,2-Dibromo-3-chloropropane	ME / RAG Soil / Leaching to GW	ND	0.2	0.079	0.079	ug/Kg
CN40279	AS-SM	Arsenic	ME / RAG Soil / Leaching to GW	13.0	0.90	0.83	0.83	mg/Kg
CN40279	AS-SM	Arsenic	ME / RAG Soil / Resident	13.0	0.90	9.3	9.3	mg/Kg
CN40280	$8260MAR	1,2-Dibromo-3-chloropropane	ME / RAG Soil / Leaching to GW	ND	0.2	0.079	0.079	ug/Kg
CN40280	AS-SM	Arsenic	ME / RAG Soil / Leaching to GW	10.8	0.83	0.83	0.83	mg/Kg
CN40280	AS-SM	Arsenic	ME / RAG Soil / Resident	10.8	0.83	9.3	9.3	mg/Kg
CN40281	$8260MAR	1,2-Dibromo-3-chloropropane	ME / RAG Soil / Leaching to GW	ND	0.14	0.079	0.079	ug/Kg
CN40281	AS-SM	Arsenic	ME / RAG Soil / Commercial	51.4	0.83	41	41	mg/Kg
CN40281	AS-SM	Arsenic	ME / RAG Soil / Leaching to GW	51.4	0.83	0.83	0.83	mg/Kg
CN40281	AS-SM	Arsenic	ME / RAG Soil / Resident	51.4	0.83	9.3	9.3	mg/Kg
CN40281	PB-SM	Lead	ME / RAG Soil / Commercial	1350	41	440	440	mg/Kg
CN40281	PB-SM	Lead	ME / RAG Soil / Leaching to GW	1350	41	250	250	mg/Kg
CN40281	PB-SM	Lead	ME / RAG Soil / Resident	1350	41	140	140	mg/Kg

REASONABLE CONFIDENCE PROTOCOL
LABORATORY ANALYSIS QA/QC CERTIFICATION FORM

Laboratory Name: Phoenix Environmental Labs, Inc. ***Client:*** Barton & Loguidice, LLC

Project Location: BOWDOINHAM RECYCLING BARN ***Project Number:***

Laboratory Sample ID(s): CN40277-CN40281 ***Sampling Date(s):*** 2/8/2023, 2/9/2023

List RCP Methods Used (e.g., 8260, 8270, et cetera) 6010, 7470/7471, 8081, 8151, 8260

1	**For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the CT DEP method-specific Reasonable Confidence Protocol documents?**	☑ Yes ☐ No
1A	**Were the method specified preservation and holding time requirements met?**	☑ Yes ☐ No
1B	***VPH and EPH methods only:*** **Was the VPH or EPH method conducted without significant modifications (see section 11.3 of respective RCP methods)**	☐ Yes ☐ No ☑ NA
2	**Were all samples received by the laboratory in a condition consistent with that described on the associated Chain-of-Custody document(s)?**	☑ Yes ☐ No
3	**Were samples received at an appropriate temperature (< 6 Degrees C)?**	☑ Yes ☐ No ☐ NA
4	**Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents acheived? See Sections: ICP Narration, PEST Narration, VOA Narration.**	☐ Yes ☑ No
5	**a) Were reporting limits specified or referenced on the chain-of-custody?** **b) Were these reporting limits met?**	☑ Yes ☐ No ☑ Yes ☐ No
6	**For each analytical method referenced in this laboratory report package, were results reported for all constituents identified in the method-specific analyte lists presented in the Reasonable Confidence Protocol documents?**	☐ Yes ☑ No
7	**Are project-specific matrix spikes and laboratory duplicates included in the data set?**	☑ Yes ☐ No

Notes: For all questions to which the response was "No" (with the exception of question #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A or 1B is "No", the data package does not meet the requirements for "Reasonable Confidence". This form may not be altered and all questions must be answered.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete.

Authorized Signature: Rashmi Makol **Position:** Project Manager

Printed Name: Rashmi Makol **Date:** Tuesday, March 21, 2023

Name of Laboratory Phoenix Environmental Labs, Inc.

This certification form is to be used for RCP methods only.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

RCP Certification Report

March 21, 2023

SDG I.D.: GCN40277

SDG Comments

Metals Analysis:
The client requested a shorter list of elements than the 6010 RCP list. Only the RCRA 8 Metals are reported as requested on the chain of custody.

Version 2:
Maine Residential criteria was added and analyses were re-evaluated.

Version 3:
TPH RLs were lowered.
8260 analyses were re-evaluated to meet criteria with the exception of the compound below.
1,2-Dibromo-3-chloropropane criteria could not be achieved.

ETPH Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

Instrument:

AU-FID1 02/14/23-1 Jeff Bucko, Chemist 02/14/23

CN40280 (5X)

The initial calibration (ET_213AI) RSD for the compound list was less than 30% except for the following compounds: None.
As per section 7.2.3, a discrimination check standard was run (214A003_1) and contained the following outliers: None.
The continuing calibration %D for the compound list was less than 30% except for the following compounds:None.

AU-FID84 02/13/23-1 Jeff Bucko, Chemist 02/13/23

CN40277 (5X)

The initial calibration (ET_126AI) RSD for the compound list was less than 30% except for the following compounds: None.
As per section 7.2.3, a discrimination check standard was run (213A005_1) and contained the following outliers: None.
The continuing calibration %D for the compound list was less than 30% except for the following compounds:None.

AU-XL1 02/15/23-1 Jeff Bucko, Chemist 02/15/23

CN40281 (1X)

The initial calibration (ETPHN15I) RSD for the compound list was less than 30% except for the following compounds: None.
As per section 7.2.3, a discrimination check standard was run (215A004_1) and contained the following outliers: None.
The continuing calibration %D for the compound list was less than 30% except for the following compounds:None.

AU-XL2 02/13/23-1 Jeff Bucko, Chemist 02/13/23

CN40278 (1X), CN40279 (1X)

The initial calibration (ETPH116I) RSD for the compound list was less than 30% except for the following compounds: None.
As per section 7.2.3, a discrimination check standard was run (213A003) and contained the following outliers: None.
The continuing calibration %D for the compound list was less than 30% except for the following compounds:None.

QC (Batch Specific):

Batch 663810 (CN40271)

CN40277, CN40278, CN40279, CN40280

All LCS recoveries were within 60 - 120 with the following exceptions: None.
All LCSD recoveries were within 60 - 120 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
Additional surrogate criteria: LCS acceptance range is 60-120% MS acceptance range 50-150%. The ETPH/DRO LCS has been

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RCP Certification Report

March 21, 2023

SDG I.D.: GCN40277

ETPH Narration

normalized based on the alkane calibration.

Batch 664181 (CN41578)

CN40281

All LCS recoveries were within 60 - 120 with the following exceptions: None.
All LCSD recoveries were within 60 - 120 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
This batch consists of a Blank, LCS, LCSD and MS.
Additional surrogate criteria: LCS acceptance range is 60-120% MS acceptance range 50-150%. The ETPH/DRO LCS has been normalized based on the alkane calibration.

GRO Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

Instrument:

PIDFID 02/10/23-1 Raman Makol, Chemist 02/10/23

CN40277 (50X), CN40278 (50X), CN40279 (50X), CN40280 (50X), CN40281 (50X)

The initial calibration (PIDFID/GRO_012323): RSD for the compound list was less than 20% except for the following compounds: None.

QC (Batch Specific):

Batch 663962 (CN38318)

CN40277(50X), CN40278(50X), CN40279(50X), CN40280(50X), CN40281(50X)

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

Herbicide Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

Instrument:

AU-ECD12 02/14/23-1 Jeff Bucko, Chemist 02/14/23

CN40277 (10X), CN40278 (10X), CN40279 (10X), CN40280 (10X), CN40281 (10X)

The initial calibration (HRB208AI) RSD for the compound list was less than 20% except for the following compounds: None.
The initial calibration (HRB208BI) RSD for the compound list was less than 20% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 15% except for the following compounds:None.

QC (Batch Specific):

Batch 664008 (CN40833)

CN40277, CN40278, CN40279, CN40280, CN40281

All LCS recoveries were within 40 - 140 with the following exceptions: None.
All LCSD recoveries were within 40 - 140 with the following exceptions: None.

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RCP Certification Report

March 21, 2023

SDG I.D.: GCN40277

Herbicide Narration

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
Additional criteria: LCS acceptance range is 40-140% MS acceptance range 30-150%.

Mercury Narration

Were all QA/QC performance criteria specified in the analytical method achieved? Yes.

Instrument:

MERLIN 02/13/23 17:48 Alexander Latka, Chemist 02/13/23

CN40277, CN40278, CN40279, CN40280, CN40281

The method preparation blank, ICB, and CCBs contain all of the acids and reagents as the samples.
The initial calibration met all criteria including a standard run at or below the reporting level.
All calibration verification standards (ICV, CCV) met criteria.
All calibration blank verification standards (ICB, CCB) met criteria.
The matrix spike sample is used to identify spectral interference for each batch of samples, if within 85-115%, no interference is observed and no further action is taken.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.

QC (Batch Specific):

Batch 663769 (CN40269)

CN40277, CN40278, CN40279, CN40280, CN40281

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 70-130%. MS acceptance range is 75-125%.

ICP Metals Narration

Were all QA/QC performance criteria specified in the analytical method achieved? No.

QC Batch 663857 (Samples: CN40277, CN40278, CN40279, CN40280, CN40281): -----

The Sample/Duplicate RPD exceeds the method criteria for one or more analytes, therefore there may be variability in the reported result. (Lead)

Instrument:

ARCOS-2 02/13/23 10:29 Cindy Pearce, Tina Hall, Chemist 02/13/23

CN40277, CN40278, CN40279, CN40280, CN40281

The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

ARCOS-2 02/15/23 09:17 Cindy Pearce, Tina Hall, Chemist 02/15/23

CN40281

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NY # 11301

Certification Report

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SDG I.D.: GCN40277

ICP Metals Narration

The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

QC (Site Specific):

Batch 663857 (CN40277)

CN40277, CN40278, CN40279, CN40280, CN40281

All LCS recoveries were within 75 - 125 with the following exceptions: None.
All LCSD recoveries were within 75 - 125 with the following exceptions: None.
All LCS/LCSD RPDs were less than 35% with the following exceptions: None.
All MS recoveries were within 75 - 125 with the following exceptions: None.
Additional Criteria: LCS acceptance range is 80-120% MS acceptance range 75-125%.

PEST Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? No.

QC Batch 663822 (Samples: CN40277, CN40278, CN40279, CN40280, CN40281): -----

The LCS/LCSD RPD exceeds the method criteria for one or more analytes, but these analytes were not reported in the sample(s) so no variability is suspected. (g-BHC)

Instrument:

AU-ECD35 02/13/23-1 Adam Werner, Chemist 02/13/23

CN40278 (2X)

The initial calibration (PS0210AI) RSD for the compound list was less than 20% except for the following compounds: None.
The initial calibration (PS0210BI) RSD for the compound list was less than 20% except for the following compounds: None.
The Endrin and DDT breakdown does not exceed 15% except for the following compounds:None.
The Endrin and DDT breakdown does not exceed the maximum of 20% except for the following compounds:None.
The continuing calibration %D for the compound list was less than 20% except for the following compounds:
Samples: CN40278
Preceding CC 213B031 - None.
Succeeding CC 213B044 - Endrin -27%L (20%), g-BHC 24%H (20%)
A low "1A" standard was run after the samples to demonstrate capability to detect any compounds outside of the CC acceptance criteria. All reported samples were ND for the affected compounds.

AU-ECD6 02/13/23-1 Adam Werner, Chemist 02/13/23

CN40277 (2X), CN40279 (2X), CN40280 (2X), CN40281 (2X)

The initial calibration (PS0116AI) RSD for the compound list was less than 20% except for the following compounds: None.
The initial calibration (PS0116BI) RSD for the compound list was less than 20% except for the following compounds: None.
The Endrin and DDT breakdown does not exceed 15% except for the following compounds:None.
The Endrin and DDT breakdown does not exceed the maximum of 20% except for the following compounds:None.
The continuing calibration %D for the compound list was less than 20% except for the following compounds:
Samples: CN40277, CN40280
Preceding CC 213B047 - None.
Succeeding CC 213B061 - Endosulfan II 22%H (20%), Endrin aldehyde 29%H (20%), Endrin Ketone 22%H (20%)

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587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

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RCP Certification Report

March 21, 2023

SDG I.D.: GCN40277

PEST Narration

QC (Batch Specific):

Batch 663822 (CN39206)

CN40277, CN40278, CN40279, CN40280, CN40281

All LCS recoveries were within 40 - 140 with the following exceptions: None.
All LCSD recoveries were within 40 - 140 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: g-BHC(30.6%)

VOA Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? No.

QC Batch 663964 (Samples: CN40277, CN40278, CN40280, CN40281): -----

The LCS and/or the LCSD recovery is below the method criteria. All of the other QC is acceptable, therefore no significant bias is suspected. (2,2-Dichloropropane, trans-1,4-dichloro-2-butene)

QC Batch 663995 (Samples: CN40279): -----

One or more analytes is below the method criteria. A low bias for these analytes is possible. (2,2-Dichloropropane)

The LCS and/or the LCSD recovery is above the upper range for one or more analytes that were not reported in the sample(s), therefore no significant bias is suspected. (Bromomethane, Chloroethane, Trichlorofluoromethane)

Instrument:

CHEM26 02/10/23-1 Jane Li, Chemist 02/10/23

CN40277 (1X), CN40278 (1X), CN40280 (1X), CN40281 (1X)

Initial Calibration Evaluation (CHEM26/VT-013123P):
99% of target compounds met criteria.
The following compounds had %RSDs >20%: Acetone 28% (20%)
The following compounds did not meet Table 4 recommended minimum response factors: Acetone 0.086 (0.1), Tetrachloroethene 0.194 (0.2)
The following compounds did not meet the minimum response factor of 0.05: None.

Continuing Calibration Verification (CHEM26/0210_02-VT-013123P):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
99% of target compounds met criteria.
The following compounds did not meet % deviation criteria: 2,2-Dichloropropane 34%L (30%)
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet Table 4 recommended minimum response factors: None.

CHEM26 02/10/23-2 Jane Li, Chemist 02/10/23

CN40279 (1X)

Initial Calibration Evaluation (CHEM26/VT-013123P):
99% of target compounds met criteria.
The following compounds had %RSDs >20%: Acetone 28% (20%)
The following compounds did not meet Table 4 recommended minimum response factors: Acetone 0.086 (0.1), Tetrachloroethene 0.194 (0.2)

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Tel. (860) 645-1102 Fax (860) 645-0823

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RCP Certification Report

March 21, 2023

SDG I.D.: GCN40277

VOA Narration

The following compounds did not meet the minimum response factor of 0.05: None.

Continuing Calibration Verification (CHEM26/0210_37-VT-013123P):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
94% of target compounds met criteria.
The following compounds did not meet % deviation criteria: 2,2-Dichloropropane 33%L (30%), Bromomethane 38%H (30%), Chloroethane 36%H (30%), trans-1,4-dichloro-2-butene 36%L (30%), Trichlorofluoromethane 35%H (30%)
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet Table 4 recommended minimum response factors: None.

CHEM31 02/13/23-1 Jane Li, Chemist 02/13/23

CN40281 (50X)

Initial Calibration Evaluation (CHEM31/VT-L012523):
94% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet Table 4 recommended minimum response factors: None.
The following compounds did not meet the minimum response factor of 0.05: None.

Continuing Calibration Verification (CHEM31/0213_02-VT-L012523):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
99% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet Table 4 recommended minimum response factors: None.

QC (Batch Specific):

Batch 663964 (CN40073) CHEM26 2/10/2023-1

CN40277(1X), CN40278(1X), CN40280(1X), CN40281(1X)

All LCS recoveries were within 70 - 130 with the following exceptions: 2,2-Dichloropropane(66%), trans-1,4-dichloro-2-butene(68%)
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
The Low Level MS/MSD are not reported for this batch.
Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%, 25-160% for Chloroethane-HL and Trichlorofluoromethane-HL.

Batch 663995 (CN41010) CHEM26 2/10/2023-2

CN40279(1X)

All LCS recoveries were within 70 - 130 with the following exceptions: 2,2-Dichloropropane(68%), Bromomethane(143%), Chloroethane(145%), Trichlorofluoromethane(138%)
All LCSD recoveries were within 70 - 130 with the following exceptions: 2,2-Dichloropropane(67%), Bromomethane(132%), Chloroethane(135%)
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
The Low Level MS/MSD are not reported for this batch.
Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%, 25-160% for Chloroethane-HL and Trichlorofluoromethane-HL.

Batch 665501H (CN40531) CHEM31 2/13/2023-1

CN40281(50X)

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RCP Certification Report

March 21, 2023

SDG I.D.: GCN40277

VOA Narration

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%, 25-160% for Chloroethane-HL and Trichlorofluoromethane-HL.

Temperature Narration

The samples were received at 2.1C with cooling initiated.
(Note acceptance criteria for relevant matrices is above freezing up to 6°C)

Cooler: Yes ☒ No ☐
Coolant: IPK ☑ ICE ☐ No ☐

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Temp 2.1 °C Pg of

Data Delivery:
☐ Fax #:
■ Email:

Customer: Barton & Loguidice, LLC
Address: 41 Sequin Drive
Glastonbury, CT 06033

Project: Bowdoinham Recycling Barn
Report to: Scott Atkin, Barton & Loguidice, LLC
Invoice to: AP, Barton & Loguidice, LLC
Phone #: (860) 633-8770
Fax #: (860) 633-5971

Project P.O: 4583.001.001

This section MUST be completed with Bottle Quantities.

Sampler's Signature: Patrick J McKay Date: 2/9/23

Client Sample - Information - Identification

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe
OIL=Oil **B**=Bulk **L**=Liquid

Analysis Request

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrixx	Date Sampled	Time Sampled	VOCs by 8260	TPH by GRO	TPH by DRO	Total RCRA 8 metals	pesticides	herbicides	+	+	+	Soil VOA Vials [3] methanol [2] H2O	GL Soil container (8) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [x] HCl	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is [ ] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [ ] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle
40277	MW-102 0-2'	S	2/8/23	1415	x	x	x	x	x	x				5	1								
40278	MW-103 0-2'	1	2/9/23	0947	1	1	1	1	1	1				1									
40279	TP-1 8-10'		2/9/23	1355										2									
40280	TP-3 4-6'		2/9/23	1149										1									
40281	TP-5 0-3'	V	2/9/23	1512	V	V	V	V	V	V				2									

Relinquished by:	Accepted by:	Date:	Time:
Patrick J McKay		2/10/23	9:20

Comments, Special Requirements or Regulations:

PLEASE HOLD SAMPLE FOR POSSIBLE FUTURE

ADDITONAL ANALYSIS

Turnaround:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
■ Standard
☐ Other
* SURCHARGE APPLIES

RI
☐ Direct Exposure (Residential)
☐ GW
☐ Other

CT
☐ RCP Cert
☐ GW Protection
☐ SW Protection
☐ GA Mobility
☐ GB Mobility
☐ Residential DEC
☐ I/C DEC
☐ Other

MA
☐ MCP Certification
☐ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MWRA eSMART
☐ Other

State where samples were collected: ME

Data Format
■ Excel
■ PDF
☐ GIS/Key
☐ EQuIS
☐ Other

Data Package
☐ Tier II Checklist
☐ Full Data Package*
■ Phoenix Std Report
☐ Other
* SURCHARGE APPLIES

PHOENIX
Environmental Laboratories, Inc.

Monday, March 13, 2023

Attn: Mr. Scott Atkin
Barton & Loguidice, LLC
41 Sequin Drive
Glastonbury, CT 06033

Project ID: **BOWDOINHAM RECYCLING BARN**
SDG ID: **GCN51493**
Sample ID#s: CN51493 - CN51496

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

SDG Comments

March 13, 2023

SDG I.D.: GCN51493

8260 Volatile Organics:
1,2,3-Trichloropropane doesn't meet Me GW criteria, this compound is analyzed by GC/FID to achieve this criteria.

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Sample Id Cross Reference

March 13, 2023

SDG I.D.: GCN51493

Project ID: BOWDOINHAM RECYCLING BARN

Client Id	Lab Id	Matrix
PJM20230301-01	CN51493	GROUND WATER
PJM20230301-02	CN51494	GROUND WATER
PJM20230301-03	CN51495	GROUND WATER
PJM20230301-04	CN51496	GROUND WATER

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Analysis Report

March 13, 2023

FOR: Attn: Mr. Scott Atkin
Barton & Loguidice, LLC
41 Sequin Drive
Glastonbury, CT 06033

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:	PM	03/01/23	12:55
Location Code:	ANCHOR	Received by:	SR1	03/02/23	10:19
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	4583.001.001				

Laboratory Data

SDG ID: GCN51493
Phoenix ID: CN51493

Project ID: BOWDOINHAM RECYCLING BARN
Client ID: PJM20230301-01

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.001	0.001	mg/L	1	03/06/23	TH	SW6010D
Arsenic	0.228	0.004	mg/L	1	03/06/23	TH	SW6010D
Barium	1.70	0.002	mg/L	1	03/06/23	TH	SW6010D
Cadmium	0.025	0.001	mg/L	1	03/06/23	TH	SW6010D
Chromium	0.405	0.001	mg/L	1	03/06/23	TH	SW6010D
Mercury	< 0.0002	0.0002	mg/L	1	03/03/23	PM	SW7470A
Lead	0.211	0.001	mg/L	1	03/06/23	TH	SW6010D
Selenium	< 0.010	0.010	mg/L	1	03/06/23	TH	SW6010D
Mercury Digestion	Completed				03/03/23	W/W	SW7470A
Total Metals Digestion	Completed				03/02/23	AG	SW3010A
Extraction of TPH	Completed				03/02/23	X/K	SW3510C/SW3520C
Gasoline Range Hydrocarbons							
GRO (C6-C10)	ND	0.050	mg/L	1	03/03/23	V	SW8015D
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	109		%	1	03/03/23	V	70 - 130 %
TPH by GC (Extractable Products)							
Aviation Fuel/Kerosene	ND	1.3	mg/L	1	03/03/23	PS	SW8015D DRO
Fuel Oil #2/ Diesel Fuel	ND	1.3	mg/L	1	03/03/23	PS	SW8015D DRO
Fuel Oil #4	ND	1.3	mg/L	1	03/03/23	PS	SW8015D DRO
Fuel Oil #6	ND	1.3	mg/L	1	03/03/23	PS	SW8015D DRO
Motor Oil	ND	1.3	mg/L	1	03/03/23	PS	SW8015D DRO
Total TPH	1.7	1.3	mg/L	1	03/03/23	PS	SW8015D DRO
Unidentified	ND	1.3	mg/L	1	03/03/23	PS	SW8015D DRO
QA/QC Surrogates							
% Terphenyl (surr)	19		%	1	03/03/23	PS	50 - 150 % 3

Ver 1

Project ID: BOWDOINHAM RECYCLING BARN
Client ID: PJM20230301-01

Phoenix I.D.: CN51493

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	03/02/23	HM	SW8260C
1,1,2-Trichloroethane	ND	0.62	ug/L	1	03/02/23	HM	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
1,2,3-Trichloropropane	ND	0.2	ug/L	1	03/02/23	HM	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.4	ug/L	1	03/02/23	HM	SW8260C
1,2-Dibromoethane	ND	0.2	ug/L	1	03/02/23	HM	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	03/02/23	HM	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
2-Hexanone	ND	5.0	ug/L	1	03/02/23	HM	SW8260C
2-Isopropyltoluene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	03/02/23	HM	SW8260C
Acetone	ND	25	ug/L	1	03/02/23	HM	SW8260C
Acrylonitrile	ND	0.60	ug/L	1	03/02/23	HM	SW8260C
Benzene	ND	0.70	ug/L	1	03/02/23	HM	SW8260C
Bromobenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	03/02/23	HM	SW8260C
Bromoform	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Bromomethane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	03/02/23	HM	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Chloroethane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Chloroform	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Chloromethane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	03/02/23	HM	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	03/02/23	HM	SW8260C
Dibromomethane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	03/02/23	HM	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
m&p-Xylene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	03/02/23	HM	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Methylene chloride	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Naphthalene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
o-Xylene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Styrene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	03/02/23	HM	SW8260C
Toluene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Total Xylenes	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	03/02/23	HM	SW8260C
trans-1,4-dichloro-2-butene	ND	5.0	ug/L	1	03/02/23	HM	SW8260C
Trichloroethene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Vinyl chloride	ND	0.2	ug/L	1	03/02/23	HM	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	108		%	1	03/02/23	HM	70 - 130 %
% Bromofluorobenzene	88		%	1	03/02/23	HM	70 - 130 %
% Dibromofluoromethane	98		%	1	03/02/23	HM	70 - 130 %
% Toluene-d8	92		%	1	03/02/23	HM	70 - 130 %

3 = This parameter exceeds laboratory specified limits.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

The GRO (C6-C10) is quantitated using an gasoline standard.

TPH: Comment
Poor surrogate recoveries were observed for the ETPH analysis and there was insufficient sample for re-extraction.

TPH Comment:
The Petroleum hydrocarbon chromatogram did not exhibit a petroleum hydrocarbon distribution.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director

March 13, 2023

Reviewed and Released by: Phyllis Shiller, Laboratory Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 13, 2023

FOR: Attn: Mr. Scott Atkin
Barton & Loguidice, LLC
41 Sequin Drive
Glastonbury, CT 06033

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:	PM	03/01/23	12:33
Location Code:	ANCHOR	Received by:	SR1	03/02/23	10:19
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	4583.001.001				

Laboratory Data

SDG ID: GCN51493
Phoenix ID: CN51494

Project ID: BOWDOINHAM RECYCLING BARN
Client ID: PJM20230301-02

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.001	0.001	mg/L	1	03/06/23	TH	SW6010D
Arsenic	< 0.004	0.004	mg/L	1	03/06/23	TH	SW6010D
Barium	0.214	0.002	mg/L	1	03/06/23	TH	SW6010D
Cadmium	0.001	0.001	mg/L	1	03/06/23	TH	SW6010D
Chromium	< 0.001	0.001	mg/L	1	03/06/23	TH	SW6010D
Mercury	< 0.0002	0.0002	mg/L	1	03/03/23	PM	SW7470A
Lead	< 0.001	0.001	mg/L	1	03/06/23	TH	SW6010D
Selenium	< 0.010	0.010	mg/L	1	03/06/23	TH	SW6010D
Mercury Digestion	Completed				03/03/23	W/W	SW7470A
Extraction for Herbicide	Completed				03/06/23	CV/D	SW8151A
Extraction for Pest (LDL)	Completed				03/03/23	S/I/S/I	SW3510C
Total Metals Digestion	Completed				03/02/23	AG	SW3010A
Extraction of TPH	Completed				03/02/23	X/K	SW3510C/SW3520C
Gasoline Range Hydrocarbons							
GRO (C6-C10)	ND	0.050	mg/L	1	03/03/23	V	SW8015D
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	113		%	1	03/03/23	V	70 - 130 %
Chlorinated Herbicides							
2,4,5-T	ND	0.24	ug/L	1	03/07/23	JRB	SW8151A
2,4,5-TP (Silvex)	ND	0.24	ug/L	1	03/07/23	JRB	SW8151A
2,4-D	ND	0.47	ug/L	1	03/07/23	JRB	SW8151A
2,4-DB	ND	4.7	ug/L	1	03/07/23	JRB	SW8151A
Dalapon	ND	0.24	ug/L	1	03/07/23	JRB	SW8151A
Dicamba	ND	0.24	ug/L	1	03/07/23	JRB	SW8151A
Dichloroprop	ND	0.47	ug/L	1	03/07/23	JRB	SW8151A

Ver 1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Dinoseb	ND	0.47	ug/L	1	03/07/23	JRB	SW8151A
QA/QC Surrogates							
% DCAA	55		%	1	03/07/23	JRB	30 - 150 %
% DCAA (Confirmation)	73		%	1	03/07/23	JRB	30 - 150 %
Pesticides							
4,4' -DDD	ND	0.23	ug/L	5	03/06/23	AW	SW8081B
4,4' -DDE	ND	0.23	ug/L	5	03/06/23	AW	SW8081B
4,4' -DDT	ND	0.23	ug/L	5	03/06/23	AW	SW8081B
a-BHC	ND	0.009	ug/L	5	03/06/23	AW	SW8081B
Alachlor	ND	0.35	ug/L	5	03/06/23	AW	SW8081B
Aldrin	ND	0.007	ug/L	5	03/06/23	AW	SW8081B
b-BHC	ND	0.024	ug/L	5	03/06/23	AW	SW8081B
Chlordane	ND	1.4	ug/L	5	03/06/23	AW	SW8081B
d-BHC	ND	0.12	ug/L	5	03/06/23	AW	SW8081B
Dieldrin	ND	0.007	ug/L	5	03/06/23	AW	SW8081B
Endosulfan I	ND	0.23	ug/L	5	03/06/23	AW	SW8081B
Endosulfan II	ND	0.23	ug/L	5	03/06/23	AW	SW8081B
Endosulfan Sulfate	ND	0.23	ug/L	5	03/06/23	AW	SW8081B
Endrin	ND	0.23	ug/L	5	03/06/23	AW	SW8081B
Endrin Aldehyde	ND	0.23	ug/L	5	03/06/23	AW	SW8081B
Endrin ketone	ND	0.23	ug/L	5	03/06/23	AW	SW8081B
g-BHC (Lindane)	ND	0.002	ug/L	5	03/06/23	AW	SW8081B
Heptachlor	ND	0.023	ug/L	5	03/06/23	AW	SW8081B
Heptachlor epoxide	ND	0.023	ug/L	5	03/06/23	AW	SW8081B
Methoxychlor	ND	0.47	ug/L	5	03/06/23	AW	SW8081B
Toxaphene	ND	0.3	ug/L	5	03/06/23	AW	SW8081B
QA/QC Surrogates							
%DCBP (Surrogate Rec)	102		%	5	03/06/23	AW	30 - 150 %
%DCBP (Surrogate Rec) (Confirmation)	102		%	5	03/06/23	AW	30 - 150 %
%TCMX (Surrogate Rec)	74		%	5	03/06/23	AW	30 - 150 %
%TCMX (Surrogate Rec) (Confirmation)	78		%	5	03/06/23	AW	30 - 150 %
TPH by GC (Extractable Products)							
Aviation Fuel/Kerosene	ND	0.47	mg/L	1	03/03/23	JRB	SW8015D DRO
Fuel Oil #2/ Diesel Fuel	ND	0.47	mg/L	1	03/03/23	JRB	SW8015D DRO
Fuel Oil #4	ND	0.47	mg/L	1	03/03/23	JRB	SW8015D DRO
Fuel Oil #6	ND	0.47	mg/L	1	03/03/23	JRB	SW8015D DRO
Motor Oil	ND	0.47	mg/L	1	03/03/23	JRB	SW8015D DRO
Total TPH	ND	0.47	mg/L	1	03/03/23	JRB	SW8015D DRO
Unidentified	ND	0.47	mg/L	1	03/03/23	JRB	SW8015D DRO
QA/QC Surrogates							
% Terphenyl (surr)	109		%	1	03/03/23	JRB	50 - 150 %
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	03/02/23	HM	SW8260C
1,1,2-Trichloroethane	ND	0.62	ug/L	1	03/02/23	HM	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C

Project ID: BOWDOINHAM RECYCLING BARN
Client ID: PJM20230301-02

Phoenix I.D.: CN51494

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,1-Dichloroethene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
1,2,3-Trichloropropane	ND	0.2	ug/L	1	03/02/23	HM	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.4	ug/L	1	03/02/23	HM	SW8260C
1,2-Dibromoethane	ND	0.2	ug/L	1	03/02/23	HM	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	03/02/23	HM	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
2-Hexanone	ND	5.0	ug/L	1	03/02/23	HM	SW8260C
2-Isopropyltoluene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	03/02/23	HM	SW8260C
Acetone	ND	25	ug/L	1	03/02/23	HM	SW8260C
Acrylonitrile	ND	0.60	ug/L	1	03/02/23	HM	SW8260C
Benzene	ND	0.70	ug/L	1	03/02/23	HM	SW8260C
Bromobenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	03/02/23	HM	SW8260C
Bromoform	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Bromomethane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	03/02/23	HM	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Chloroethane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Chloroform	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Chloromethane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	03/02/23	HM	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	03/02/23	HM	SW8260C
Dibromomethane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	03/02/23	HM	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	03/02/23	HM	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Methylene chloride	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Naphthalene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
n-Propylbenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
o-Xylene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Styrene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	03/02/23	HM	SW8260C
Toluene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Total Xylenes	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	03/02/23	HM	SW8260C
trans-1,4-dichloro-2-butene	ND	5.0	ug/L	1	03/02/23	HM	SW8260C
Trichloroethene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Vinyl chloride	ND	0.2	ug/L	1	03/02/23	HM	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	112		%	1	03/02/23	HM	70 - 130 %
% Bromofluorobenzene	86		%	1	03/02/23	HM	70 - 130 %
% Dibromofluoromethane	99		%	1	03/02/23	HM	70 - 130 %
% Toluene-d8	92		%	1	03/02/23	HM	70 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

The GRO (C6-C10) is quantitated using an gasoline standard.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
March 13, 2023
Reviewed and Released by: Phyllis Shiller, Laboratory Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 13, 2023

FOR: Attn: Mr. Scott Atkin
Barton & Loguidice, LLC
41 Sequin Drive
Glastonbury, CT 06033

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:	PM	03/01/23	13:37
Location Code:	ANCHOR	Received by:	SR1	03/02/23	10:19
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	4583.001.001				

Laboratory Data

SDG ID: GCN51493
Phoenix ID: CN51495

Project ID: BOWDOINHAM RECYCLING BARN
Client ID: PJM20230301-03

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Silver	< 0.001	0.001	mg/L	1	03/07/23	TH	SW6010D
Arsenic	< 0.004	0.004	mg/L	1	03/07/23	TH	SW6010D
Barium	0.066	0.002	mg/L	1	03/07/23	TH	SW6010D
Cadmium	< 0.001	0.001	mg/L	1	03/07/23	TH	SW6010D
Chromium	< 0.001	0.001	mg/L	1	03/07/23	TH	SW6010D
Mercury	< 0.0002	0.0002	mg/L	1	03/03/23	PM	SW7470A
Lead	0.002	0.001	mg/L	1	03/07/23	TH	SW6010D
Selenium	< 0.010	0.010	mg/L	1	03/07/23	TH	SW6010D
Mercury Digestion	Completed				03/03/23	W/W	SW7470A
Extraction for Herbicide	Completed				03/06/23	CV/D	SW8151A
Extraction for Pest (LDL)	Completed				03/03/23	S/I/S/I	SW3510C
Total Metals Digestion	Completed				03/02/23	AG	SW3010A
Extraction of TPH	Completed				03/02/23	X/K	SW3510C/SW3520C
Gasoline Range Hydrocarbons							
GRO (C6-C10)	ND	0.050	mg/L	1	03/03/23	V	SW8015D
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	109		%	1	03/03/23	V	70 - 130 %
Chlorinated Herbicides							
2,4,5-T	ND	0.23	ug/L	1	03/07/23	JRB	SW8151A
2,4,5-TP (Silvex)	ND	0.23	ug/L	1	03/07/23	JRB	SW8151A
2,4-D	ND	0.47	ug/L	1	03/07/23	JRB	SW8151A
2,4-DB	ND	4.7	ug/L	1	03/07/23	JRB	SW8151A
Dalapon	ND	0.23	ug/L	1	03/07/23	JRB	SW8151A
Dicamba	ND	0.23	ug/L	1	03/07/23	JRB	SW8151A
Dichloroprop	ND	0.47	ug/L	1	03/07/23	JRB	SW8151A

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Dinoseb	ND	0.47	ug/L	1	03/07/23	JRB	SW8151A
QA/QC Surrogates							
% DCAA	58		%	1	03/07/23	JRB	30 - 150 %
% DCAA (Confirmation)	71		%	1	03/07/23	JRB	30 - 150 %
Pesticides							
4,4' -DDD	ND	0.047	ug/L	1	03/06/23	AW	SW8081B
4,4' -DDE	ND	0.047	ug/L	1	03/06/23	AW	SW8081B
4,4' -DDT	ND	0.047	ug/L	1	03/06/23	AW	SW8081B
a-BHC	ND	0.024	ug/L	1	03/06/23	AW	SW8081B
Alachlor	ND	0.071	ug/L	1	03/06/23	AW	SW8081B
Aldrin	ND	0.001	ug/L	1	03/06/23	AW	SW8081B
b-BHC	ND	0.005	ug/L	1	03/06/23	AW	SW8081B
Chlordane	ND	0.28	ug/L	1	03/06/23	AW	SW8081B
d-BHC	ND	0.024	ug/L	1	03/06/23	AW	SW8081B
Dieldrin	ND	0.001	ug/L	1	03/06/23	AW	SW8081B
Endosulfan I	ND	0.047	ug/L	1	03/06/23	AW	SW8081B
Endosulfan II	ND	0.047	ug/L	1	03/06/23	AW	SW8081B
Endosulfan Sulfate	ND	0.047	ug/L	1	03/06/23	AW	SW8081B
Endrin	ND	0.047	ug/L	1	03/06/23	AW	SW8081B
Endrin Aldehyde	ND	0.047	ug/L	1	03/06/23	AW	SW8081B
Endrin ketone	ND	0.047	ug/L	1	03/06/23	AW	SW8081B
g-BHC (Lindane)	ND	0.024	ug/L	1	03/06/23	AW	SW8081B
Heptachlor	ND	0.024	ug/L	1	03/06/23	AW	SW8081B
Heptachlor epoxide	ND	0.024	ug/L	1	03/06/23	AW	SW8081B
Methoxychlor	ND	0.094	ug/L	1	03/06/23	AW	SW8081B
Toxaphene	ND	0.19	ug/L	1	03/06/23	AW	SW8081B
QA/QC Surrogates							
%DCBP (Surrogate Rec)	66		%	1	03/06/23	AW	30 - 150 %
%DCBP (Surrogate Rec) (Confirmation)	101		%	1	03/06/23	AW	30 - 150 %
%TCMX (Surrogate Rec)	58		%	1	03/06/23	AW	30 - 150 %
%TCMX (Surrogate Rec) (Confirmation)	86		%	1	03/06/23	AW	30 - 150 %
TPH by GC (Extractable Products)							
Aviation Fuel/Kerosene	ND	0.47	mg/L	1	03/03/23	JRB	SW8015D DRO
Fuel Oil #2/ Diesel Fuel	ND	0.47	mg/L	1	03/03/23	JRB	SW8015D DRO
Fuel Oil #4	ND	0.47	mg/L	1	03/03/23	JRB	SW8015D DRO
Fuel Oil #6	ND	0.47	mg/L	1	03/03/23	JRB	SW8015D DRO
Motor Oil	ND	0.47	mg/L	1	03/03/23	JRB	SW8015D DRO
Total TPH	ND	0.47	mg/L	1	03/03/23	JRB	SW8015D DRO
Unidentified	ND	0.47	mg/L	1	03/03/23	JRB	SW8015D DRO
QA/QC Surrogates							
% Terphenyl (surr)	95		%	1	03/03/23	JRB	50 - 150 %
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	03/02/23	HM	SW8260C
1,1,2-Trichloroethane	ND	0.62	ug/L	1	03/02/23	HM	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C

Project ID: BOWDOINHAM RECYCLING BARN
Client ID: PJM20230301-03

Phoenix I.D.: CN51495

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,1-Dichloroethene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
1,2,3-Trichloropropane	ND	0.2	ug/L	1	03/02/23	HM	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.4	ug/L	1	03/02/23	HM	SW8260C
1,2-Dibromoethane	ND	0.2	ug/L	1	03/02/23	HM	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	03/02/23	HM	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
2-Hexanone	ND	5.0	ug/L	1	03/02/23	HM	SW8260C
2-Isopropyltoluene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	03/02/23	HM	SW8260C
Acetone	ND	25	ug/L	1	03/02/23	HM	SW8260C
Acrylonitrile	ND	0.60	ug/L	1	03/02/23	HM	SW8260C
Benzene	ND	0.70	ug/L	1	03/02/23	HM	SW8260C
Bromobenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	03/02/23	HM	SW8260C
Bromoform	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Bromomethane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	03/02/23	HM	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Chloroethane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Chloroform	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Chloromethane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	03/02/23	HM	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	03/02/23	HM	SW8260C
Dibromomethane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	03/02/23	HM	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	03/02/23	HM	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Methylene chloride	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Naphthalene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C

Project ID: BOWDOINHAM RECYCLING BARN
Client ID: PJM20230301-03

Phoenix I.D.: CN51495

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
n-Propylbenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
o-Xylene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Styrene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	03/02/23	HM	SW8260C
Toluene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Total Xylenes	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	03/02/23	HM	SW8260C
trans-1,4-dichloro-2-butene	ND	5.0	ug/L	1	03/02/23	HM	SW8260C
Trichloroethene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Vinyl chloride	ND	0.2	ug/L	1	03/02/23	HM	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	107		%	1	03/02/23	HM	70 - 130 %
% Bromofluorobenzene	85		%	1	03/02/23	HM	70 - 130 %
% Dibromofluoromethane	90		%	1	03/02/23	HM	70 - 130 %
% Toluene-d8	89		%	1	03/02/23	HM	70 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

The GRO (C6-C10) is quantitated using an gasoline standard.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
March 13, 2023
Reviewed and Released by: Phyllis Shiller, Laboratory Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 13, 2023

FOR: Attn: Mr. Scott Atkin
Barton & Loguidice, LLC
41 Sequin Drive
Glastonbury, CT 06033

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:	PM	03/01/23	14:00
Location Code:	ANCHOR	Received by:	SR1	03/02/23	10:19
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	4583.001.001				

Laboratory Data

SDG ID: GCN51493
Phoenix ID: CN51496

Project ID: BOWDOINHAM RECYCLING BARN
Client ID: PJM20230301-04

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	03/02/23	HM	SW8260C
1,1,2-Trichloroethane	ND	0.62	ug/L	1	03/02/23	HM	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
1,2,3-Trichloropropane	ND	0.2	ug/L	1	03/02/23	HM	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.4	ug/L	1	03/02/23	HM	SW8260C
1,2-Dibromoethane	ND	0.2	ug/L	1	03/02/23	HM	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	03/02/23	HM	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
2-Hexanone	ND	5.0	ug/L	1	03/02/23	HM	SW8260C
2-Isopropyltoluene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	03/02/23	HM	SW8260C

Project ID: BOWDOINHAM RECYCLING BARN
Client ID: PJM20230301-04

Phoenix I.D.: CN51496

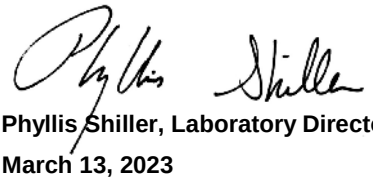
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Acetone	ND	25	ug/L	1	03/02/23	HM	SW8260C
Acrylonitrile	ND	0.60	ug/L	1	03/02/23	HM	SW8260C
Benzene	ND	0.70	ug/L	1	03/02/23	HM	SW8260C
Bromobenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	03/02/23	HM	SW8260C
Bromoform	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Bromomethane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	03/02/23	HM	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Chloroethane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Chloroform	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Chloromethane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	03/02/23	HM	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	03/02/23	HM	SW8260C
Dibromomethane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	03/02/23	HM	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	03/02/23	HM	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Methylene chloride	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Naphthalene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
o-Xylene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Styrene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	03/02/23	HM	SW8260C
Toluene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Total Xylenes	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	03/02/23	HM	SW8260C
trans-1,4-dichloro-2-butene	ND	5.0	ug/L	1	03/02/23	HM	SW8260C
Trichloroethene	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	03/02/23	HM	SW8260C
Vinyl chloride	ND	0.2	ug/L	1	03/02/23	HM	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	108		%	1	03/02/23	HM	70 - 130 %
% Bromofluorobenzene	88		%	1	03/02/23	HM	70 - 130 %
% Dibromofluoromethane	93		%	1	03/02/23	HM	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Toluene-d8	92		%	1	03/02/23	HM	70 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

March 13, 2023

Reviewed and Released by: Phyllis Shiller, Laboratory Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

QA/QC Report

March 13, 2023

QA/QC Data

SDG I.D.: GCN51493

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 666500 (mg/L), QC Sample No: CN51495 (CN51493, CN51494, CN51495)													
Mercury - Water	BRL	0.0002	<0.0002	<0.0002	NC	103			99.4			80 - 120	20
Comment:													
Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 70-130%. MS acceptance range is 75-125%.													
QA/QC Batch 666445 (mg/L), QC Sample No: CN51494 (CN51493, CN51494, CN51495)													
ICP Metals - Aqueous													
Arsenic	BRL	0.004	<0.004	<0.004	NC	91.5	92.2	0.8	95.4			80 - 120	20
Barium	BRL	0.002	0.214	0.208	2.80	103	104	1.0	107			80 - 120	20
Cadmium	BRL	0.001	0.001	0.001	NC	95.2	96.3	1.1	96.0			80 - 120	20
Chromium	BRL	0.001	<0.001	<0.001	NC	105	106	0.9	107			80 - 120	20
Lead	BRL	0.002	<0.001	0.001	NC	98.4	99.4	1.0	107			80 - 120	20
Selenium	BRL	0.010	<0.010	<0.010	NC	87.2	87.8	0.7	92.2			80 - 120	20
Silver	BRL	0.001	<0.001	<0.001	NC	96.8	98.2	1.4	103			80 - 120	20
Comment:													
Additional Criteria: LCS acceptance range is 80-120% MS acceptance range 75-125%.													

Environmental Laboratories, Inc.
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QA/QC Report

March 13, 2023

QA/QC Data

SDG I.D.: GCN51493

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 666420 (mg/L), QC Sample No: CN50998 (CN51493, CN51494, CN51495)											
TPH by GC (Extractable Products) - Ground Water											
Ext. Petroleum H.C. (C9-C36)	ND	0.10	86	88	2.3				60 - 120	30	
% Terphenyl (surr)	98	%	98	101	3.0				50 - 150	20	
Comment:											
Additional surrogate criteria: LCS acceptance range is 60-120% MS acceptance range 50-150%. The ETPH/DRO LCS has been normalized based on the alkane calibration.											
QA/QC Batch 666728 (ug/L), QC Sample No: CN51494 (CN51493, CN51494, CN51495)											
Gasoline Range Hydrocarbons - Ground Water											
GRO (C6-C10)	ND		75	76	1.3				70 - 130	30	
% 2,5-Dibromotoluene (FID)	112		105	109	3.7				70 - 130	30	
Comment:											
The MS/MSD are not reported for this batch.											
QA/QC Batch 666723 (ug/L), QC Sample No: CN51494 10X (CN51494, CN51495)											
Chlorinated Herbicides - Ground Water											
2,4,5-T	ND	2.5	100	92	8.3				40 - 140	20	
2,4,5-TP (Silvex)	ND	2.5	102	98	4.0				40 - 140	20	
2,4-D	ND	5.0	96	95	1.0				40 - 140	20	
2,4-DB	ND	50	47	42	11.2				40 - 140	20	
Dalapon	ND	2.5	84	95	12.3				40 - 140	20	
Dicamba	ND	2.5	99	101	2.0				40 - 140	20	
Dichloroprop	ND	5.0	111	111	0.0				40 - 140	20	
Dinoseb	ND	5.0	94	88	6.6				40 - 140	20	
% DCAA (Surrogate Rec)	143	%	136	140	2.9				30 - 150	20	
% DCAA (Surrogate Rec) (Confirm	156	%	157	167	6.2				30 - 150	20	l,s
Comment:											
Additional criteria: LCS acceptance range is 40-140% MS acceptance range 30-150%.											
QA/QC Batch 666563 (ug/L), QC Sample No: CN51821 (CN51494, CN51495)											
Pesticides - Ground Water											
4,4' -DDD	ND	0.003	127	104	19.9				40 - 140	20	
4,4' -DDE	ND	0.003	99	87	12.9				40 - 140	20	
4,4' -DDT	ND	0.003	95	87	8.8				40 - 140	20	
a-BHC	ND	0.002	78	82	5.0				40 - 140	20	
Alachlor	ND	0.005	NA	NA	NC				40 - 140	20	
Aldrin	ND	0.002	66	65	1.5				40 - 140	20	
b-BHC	ND	0.002	84	82	2.4				40 - 140	20	
Chlordane	ND	0.050	91	83	9.2				40 - 140	20	
d-BHC	ND	0.005	78	76	2.6				40 - 140	20	
Dieldrin	ND	0.002	91	83	9.2				40 - 140	20	
Endosulfan I	ND	0.005	82	81	1.2				40 - 140	20	
Endosulfan II	ND	0.005	88	81	8.3				40 - 140	20	

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Endosulfan sulfate	ND	0.005	88	78	12.0				40 - 140	20
Endrin	ND	0.005	83	76	8.8				40 - 140	20
Endrin aldehyde	ND	0.005	86	79	8.5				40 - 140	20
Endrin ketone	ND	0.005	79	69	13.5				40 - 140	20
g-BHC	ND	0.002	84	84	0.0				40 - 140	20
Heptachlor	ND	0.005	75	74	1.3				40 - 140	20
Heptachlor epoxide	ND	0.005	87	83	4.7				40 - 140	20
Methoxychlor	ND	0.005	94	86	8.9				40 - 140	20
Toxaphene	ND	0.20	NA	NA	NC				40 - 140	20
% DCBP	87	%	76	72	5.4				30 - 150	20
% DCBP (Confirmation)	93	%	82	78	5.0				30 - 150	20
% TCMX	60	%	53	59	10.7				30 - 150	20
% TCMX (Confirmation)	63	%	56	63	11.8				30 - 150	20

Comment:

A LCS and LCS duplicate were performed instead of a MS and MSD. Alpha and gamma chlordane were spiked and analyzed instead of technical chlordane. Gamma chlordane recovery is reported as chlordane in the LCS and LCSD

QA/QC Batch 666726 (ug/L), QC Sample No: CN51494 (CN51493, CN51494, CN51495, CN51496)

Volatiles - Ground Water

1,1,1,2-Tetrachloroethane	ND	1.0	98	104	5.9				70 - 130	30
1,1,1-Trichloroethane	ND	1.0	105	110	4.7				70 - 130	30
1,1,2,2-Tetrachloroethane	ND	0.50	106	105	0.9				70 - 130	30
1,1,2-Trichloroethane	ND	1.0	104	110	5.6				70 - 130	30
1,1-Dichloroethane	ND	1.0	100	105	4.9				70 - 130	30
1,1-Dichloroethene	ND	1.0	103	111	7.5				70 - 130	30
1,1-Dichloropropene	ND	1.0	104	115	10.0				70 - 130	30
1,2,3-Trichlorobenzene	ND	1.0	111	112	0.9				70 - 130	30
1,2,3-Trichloropropane	ND	1.0	106	106	0.0				70 - 130	30
1,2,4-Trichlorobenzene	ND	1.0	105	105	0.0				70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	112	113	0.9				70 - 130	30
1,2-Dibromo-3-chloropropane	ND	1.0	104	104	0.0				70 - 130	30
1,2-Dibromoethane	ND	1.0	104	108	3.8				70 - 130	30
1,2-Dichlorobenzene	ND	1.0	100	101	1.0				70 - 130	30
1,2-Dichloroethane	ND	1.0	105	109	3.7				70 - 130	30
1,2-Dichloropropane	ND	1.0	105	116	10.0				70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	110	114	3.6				70 - 130	30
1,3-Dichlorobenzene	ND	1.0	102	105	2.9				70 - 130	30
1,3-Dichloropropane	ND	1.0	101	110	8.5				70 - 130	30
1,4-Dichlorobenzene	ND	1.0	99	102	3.0				70 - 130	30
2,2-Dichloropropane	ND	1.0	104	108	3.8				70 - 130	30
2-Chlorotoluene	ND	1.0	102	105	2.9				70 - 130	30
2-Hexanone	ND	5.0	105	110	4.7				70 - 130	30
2-Isopropyltoluene	ND	1.0	110	112	1.8				70 - 130	30
4-Chlorotoluene	ND	1.0	102	106	3.8				70 - 130	30
4-Methyl-2-pentanone	ND	5.0	110	110	0.0				70 - 130	30
Acetone	ND	5.0	108	108	0.0				70 - 130	30
Acrylonitrile	ND	5.0	107	108	0.9				70 - 130	30
Benzene	ND	0.70	101	109	7.6				70 - 130	30
Bromobenzene	ND	1.0	96	99	3.1				70 - 130	30
Bromochloromethane	ND	1.0	102	104	1.9				70 - 130	30
Bromodichloromethane	ND	0.50	108	116	7.1				70 - 130	30
Bromoform	ND	1.0	108	113	4.5				70 - 130	30
Bromomethane	ND	1.0	78	86	9.8				70 - 130	30

QA/QC Data

SDG I.D.: GCN51493

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Carbon Disulfide	ND	1.0	107	114	6.3				70 - 130	30
Carbon tetrachloride	ND	1.0	127	115	9.9				70 - 130	30
Chlorobenzene	ND	1.0	101	108	6.7				70 - 130	30
Chloroethane	ND	1.0	95	106	10.9				70 - 130	30
Chloroform	ND	1.0	102	105	2.9				70 - 130	30
Chloromethane	ND	1.0	86	96	11.0				70 - 130	30
cis-1,2-Dichloroethene	ND	1.0	97	100	3.0				70 - 130	30
cis-1,3-Dichloropropene	ND	0.40	102	109	6.6				70 - 130	30
Dibromochloromethane	ND	0.50	103	108	4.7				70 - 130	30
Dibromomethane	ND	1.0	102	105	2.9				70 - 130	30
Dichlorodifluoromethane	ND	1.0	83	92	10.3				70 - 130	30
Ethylbenzene	ND	1.0	102	110	7.5				70 - 130	30
Hexachlorobutadiene	ND	0.40	106	112	5.5				70 - 130	30
Isopropylbenzene	ND	1.0	111	110	0.9				70 - 130	30
m&p-Xylene	ND	1.0	107	114	6.3				70 - 130	30
Methyl ethyl ketone	ND	5.0	104	110	5.6				70 - 130	30
Methyl t-butyl ether (MTBE)	ND	1.0	113	114	0.9				70 - 130	30
Methylene chloride	ND	1.0	96	100	4.1				70 - 130	30
Naphthalene	ND	1.0	122	122	0.0				70 - 130	30
n-Butylbenzene	ND	1.0	112	115	2.6				70 - 130	30
n-Propylbenzene	ND	1.0	106	110	3.7				70 - 130	30
o-Xylene	ND	1.0	108	115	6.3				70 - 130	30
p-Isopropyltoluene	ND	1.0	112	116	3.5				70 - 130	30
sec-Butylbenzene	ND	1.0	110	114	3.6				70 - 130	30
Styrene	ND	1.0	109	114	4.5				70 - 130	30
tert-Butylbenzene	ND	1.0	108	114	5.4				70 - 130	30
Tetrachloroethene	ND	1.0	102	109	6.6				70 - 130	30
Tetrahydrofuran (THF)	ND	2.5	108	108	0.0				70 - 130	30
Toluene	ND	1.0	100	108	7.7				70 - 130	30
trans-1,2-Dichloroethene	ND	1.0	100	107	6.8				70 - 130	30
trans-1,3-Dichloropropene	ND	0.40	108	115	6.3				70 - 130	30
trans-1,4-dichloro-2-butene	ND	5.0	119	117	1.7				70 - 130	30
Trichloroethene	ND	1.0	104	108	3.8				70 - 130	30
Trichlorofluoromethane	ND	1.0	102	112	9.3				70 - 130	30
Trichlorotrifluoroethane	ND	1.0	119	129	8.1				70 - 130	30
Vinyl chloride	ND	1.0	100	110	9.5				70 - 130	30
% 1,2-dichlorobenzene-d4	107	%	102	99	3.0				70 - 130	30
% Bromofluorobenzene	87	%	103	105	1.9				70 - 130	30
% Dibromofluoromethane	90	%	96	94	2.1				70 - 130	30
% Toluene-d8	95	%	100	100	0.0				70 - 130	30

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%, 25-160% for Chloroethane-HL and Trichlorofluoromethane-HL.

l = This parameter is outside laboratory LCS/LCSD specified recovery limits.
s = This parameter is outside laboratory Blank Surrogate specified recovery limits.

QA/QC Data

SDG I.D.: GCN51493

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
March 13, 2023

Monday, March 13, 2023

Criteria: ME: RAGGWCON, RAGGWRES

State: ME

Sample Criteria Exceedances Report

GCN51493 - ANCHOR

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CN51493	$8260GWR	1,2,3-Trichloropropane	ME / RAG GW / Residential	ND	0.2	0.01	0.01	ug/L
CN51493	AS-WM	Arsenic	ME / RAG GW / Residential	0.228	0.004	0.01	0.01	mg/L
CN51493	BA-WM	Barium	ME / RAG GW / Residential	1.70	0.002	1	1	mg/L
CN51493	CD-WM	Cadmium	ME / RAG GW / Residential	0.025	0.001	0.001	0.001	mg/L
CN51493	CR-WM	Chromium	ME / RAG GW / Residential	0.405	0.001	0.02	0.02	mg/L
CN51493	PB-WM	Lead	ME / RAG GW / Residential	0.211	0.001	0.01	0.01	mg/L
CN51494	$8260GWR	1,2,3-Trichloropropane	ME / RAG GW / Residential	ND	0.2	0.01	0.01	ug/L
CN51495	$8260GWR	1,2,3-Trichloropropane	ME / RAG GW / Residential	ND	0.2	0.01	0.01	ug/L
CN51496	$8260GWR	1,2,3-Trichloropropane	ME / RAG GW / Residential	ND	0.2	0.01	0.01	ug/L

REASONABLE CONFIDENCE PROTOCOL
LABORATORY ANALYSIS QA/QC CERTIFICATION FORM

Laboratory Name: Phoenix Environmental Labs, Inc. ***Client:*** Barton & Loguidice, LLC

Project Location: BOWDOINHAM RECYCLING BARN ***Project Number:***

Laboratory Sample ID(s): CN51493-CN51496 ***Sampling Date(s):*** 3/1/2023

List RCP Methods Used (e.g., 8260, 8270, et cetera) 6010, 7470/7471, 8081, 8151, 8260, ETPH

1	**For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the CT DEP method-specific Reasonable Confidence Protocol documents?**	☑ Yes ☐ No
1A	**Were the method specified preservation and holding time requirements met?**	☑ Yes ☐ No
1B	***VPH and EPH methods only:*** **Was the VPH or EPH method conducted without significant modifications (see section 11.3 of respective RCP methods)**	☐ Yes ☐ No ☑ NA
2	**Were all samples received by the laboratory in a condition consistent with that described on the associated Chain-of-Custody document(s)?**	☑ Yes ☐ No
3	**Were samples received at an appropriate temperature (< 6 Degrees C)?**	☑ Yes ☐ No ☐ NA
4	**Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents acheived? See Section: Herbicide Narration.**	☐ Yes ☑ No
5	**a) Were reporting limits specified or referenced on the chain-of-custody?**	☑ Yes ☐ No
	b) Were these reporting limits met?	☐ Yes ☑ No
6	**For each analytical method referenced in this laboratory report package, were results reported for all constituents identified in the method-specific analyte lists presented in the Reasonable Confidence Protocol documents?**	☐ Yes ☑ No
7	**Are project-specific matrix spikes and laboratory duplicates included in the data set?**	☑ Yes ☐ No

Notes: For all questions to which the response was "No" (with the exception of question #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A or 1B is "No", the data package does not meet the requirements for "Reasonable Confidence". This form may not be altered and all questions must be answered.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete.

Authorized Signature: Rashmi Makol **Position:** Project Manager

Printed Name: Rashmi Makol **Date:** Monday, March 13, 2023

Name of Laboratory Phoenix Environmental Labs, Inc.

This certification form is to be used for RCP methods only.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

RCP Certification Report

March 13, 2023

SDG I.D.: GCN51493

SDG Comments

Metals Analysis:
The client requested a shorter list of elements than the 6010 RCP list. Only the RCRA 8 Metals are reported as requested on the chain of custody.

8260 Volatile Organics:
1,2,3-Trichloropropane doesn't meet Me GW criteria, this compound is analyzed by GC/FID to achieve this criteria.

ETPH Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

Instrument:

AU-FID1 03/03/23-1 Jeff Bucko, Chemist 03/03/23

CN51493 (1X), CN51494 (1X), CN51495 (1X)

The initial calibration (ET_213AI) RSD for the compound list was less than 30% except for the following compounds: None.
As per section 7.2.3, a discrimination check standard was run (303A003A_1) and contained the following outliers: None.
The continuing calibration %D for the compound list was less than 30% except for the following compounds:None.

QC (Batch Specific):

Batch 666420 (CN50998)

CN51493, CN51494, CN51495

All LCS recoveries were within 60 - 120 with the following exceptions: None.
All LCSD recoveries were within 60 - 120 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
Additional surrogate criteria: LCS acceptance range is 60-120% MS acceptance range 50-150%. The ETPH/DRO LCS has been normalized based on the alkane calibration.

GRO Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

Instrument:

PIDFID 03/03/23-1 James Karabetsos, Chemist 03/03/23

CN51493 (1X), CN51494 (1X), CN51495 (1X)

The initial calibration (PIDFID/GRO_012323): RSD for the compound list was less than 20% except for the following compounds: None.

QC (Batch Specific):

Batch 666728 (CN51494)

CN51493(1X), CN51494(1X), CN51495(1X)

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
The MS/MSD are not reported for this batch.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

RCP Certification Report

March 13, 2023

SDG I.D.: GCN51493

Herbicide Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? No.

QC Batch 666723 (Samples: CN51494, CN51495): -----

One or more surrogates is outside of criteria. (% DCAA (Surrogate Rec) (Confirmation))

The blank surrogate was above criteria. (% DCAA (Surrogate Rec) (Confirmation)(CN51494))

Instrument:

AU-ECD12 03/07/23-1 Jeff Bucko, Chemist 03/07/23

CN51494 (1X, 10X), CN51495 (1X)

The initial calibration (HRB306AI) RSD for the compound list was less than 20% except for the following compounds: None.
The initial calibration (HRB306BI) RSD for the compound list was less than 20% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 15% except for the following compounds:None.

QC (Batch Specific):

Batch 666723 (CN51494)

CN51494, CN51495

All LCS recoveries were within 40 - 140 with the following exceptions: % DCAA (Surrogate Rec) (Confirmation)(157%)
All LCSD recoveries were within 40 - 140 with the following exceptions: % DCAA (Surrogate Rec) (Confirmation)(167%)
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.
Additional criteria: LCS acceptance range is 40-140% MS acceptance range 30-150%.

Mercury Narration

Were all QA/QC performance criteria specified in the analytical method achieved? Yes.

Instrument:

MERLIN 03/03/23 13:08 Paul Marshall, Chemist 03/03/23

CN51493, CN51494, CN51495

The method preparation blank, ICB, and CCBs contain all of the acids and reagents as the samples.
The initial calibration met all criteria including a standard run at or below the reporting level.
All calibration verification standards (ICV, CCV) met criteria.
All calibration blank verification standards (ICB, CCB) met criteria.
The matrix spike sample is used to identify spectral interference for each batch of samples, if within 85-115%, no interference is observed and no further action is taken.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.

QC (Site Specific):

Batch 666500 (CN51495)

CN51493, CN51494, CN51495

All LCS recoveries were within 80 - 120 with the following exceptions: None.
All MS recoveries were within 75 - 125 with the following exceptions: None.
Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 70-130%. MS acceptance range is 75-125%.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Certification Report

March 13, 2023

SDG I.D.: GCN51493

Mercury Narration

ICP Metals Narration

Were all QA/QC performance criteria specified in the analytical method achieved? Yes.

Instrument:

BLUE 03/06/23 11:17 Tina Hall, Chemist 03/06/23

CN51493, CN51494, CN51495

The initial calibration met criteria.
The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.
The continuing calibration blanks were less than the reporting level for the elements reported.
The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

QC (Site Specific):

Batch 666445 (CN51494)

CN51493, CN51494, CN51495

All LCS recoveries were within 80 - 120 with the following exceptions: None.
All LCSD recoveries were within 80 - 120 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.
All MS recoveries were within 75 - 125 with the following exceptions: None.
Additional Criteria: LCS acceptance range is 80-120% MS acceptance range 75-125%.

PEST Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

Instrument:

AU-ECD33 03/06/23-1 Adam Werner, Chemist 03/06/23

CN51494 (5X), CN51495 (1X)

The initial calibration (PS0303AI) RSD for the compound list was less than 20% except for the following compounds: None.
The initial calibration (PS0303BI) RSD for the compound list was less than 20% except for the following compounds: None.
The Endrin and DDT breakdown does not exceed 15% except for the following compounds:None.
The Endrin and DDT breakdown does not exceed the maximum of 20% except for the following compounds:None.
The continuing calibration %D for the compound list was less than 20% except for the following compounds:
Samples: CN51494, CN51495
Preceding CC 306B010 - % DCBP 21%H (20%), Methoxychlor -27%L (20%)
Succeeding CC 306B021 - None.
A low "1A" standard was run after the samples to demonstrate capability to detect any compounds outside of the CC acceptance criteria. All reported samples were ND for the affected compounds.

QC (Batch Specific):

Batch 666563 (CN51821)

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RCP Certification Report

March 13, 2023

SDG I.D.: GCN51493

PEST Narration

CN51494, CN51495

All LCS recoveries were within 40 - 140 with the following exceptions: None.
All LCSD recoveries were within 40 - 140 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.
A LCS and LCS duplicate were performed instead of a MS and MSD. Alpha and gamma chlordane were spiked and analyzed instead of technical chlordane. Gamma chlordane recovery is reported as chlordane in the LCS and LCSD

VOA Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

Instrument:

CHEM15 03/02/23-1 Harry Mullin, Chemist 03/02/23

CN51493 (1X), CN51494 (1X), CN51495 (1X), CN51496 (1X)

Initial Calibration Evaluation (CHEM15/VOA15-022223):
91% of target compounds met criteria.
The following compounds had %RSDs >20%: 1,2,4-Trimethylbenzene 22% (20%), 1,3,5-Trimethylbenzene 21% (20%), Isopropylbenzene 21% (20%), Naphthalene 28% (20%), o-Xylene 24% (20%), p-Isopropyltoluene 22% (20%), Styrene 24% (20%), trans-1,4-dichloro-2-butene 22% (20%)
The following compounds did not meet Table 4 recommended minimum response factors: None.
The following compounds did not meet the minimum response factor of 0.05: None.

Continuing Calibration Verification (CHEM15/0302_07-VOA15-022223):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet Table 4 recommended minimum response factors: None.

CHEM15 03/02/23-2 Harry Mullin, Chemist 03/02/23

CN51495

Initial Calibration Evaluation (CHEM15/VOA15-022223):
91% of target compounds met criteria.
The following compounds had %RSDs >20%: 1,2,4-Trimethylbenzene 22% (20%), 1,3,5-Trimethylbenzene 21% (20%), Isopropylbenzene 21% (20%), Naphthalene 28% (20%), o-Xylene 24% (20%), p-Isopropyltoluene 22% (20%), Styrene 24% (20%), trans-1,4-dichloro-2-butene 22% (20%)
The following compounds did not meet Table 4 recommended minimum response factors: None.
The following compounds did not meet the minimum response factor of 0.05: None.

Continuing Calibration Verification (CHEM15/0302_30-VOA15-022223):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet Table 4 recommended minimum response factors: None.

QC (Batch Specific):

Batch 666726 (CN51494) CHEM15 3/2/2023-1

Environmental Laboratories, Inc.
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Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

RCP Certification Report

March 13, 2023

SDG I.D.: GCN51493

VOA Narration

CN51493(1X), CN51494(1X), CN51495(1X), CN51496(1X)

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.
Additional 8260 criteria: 10% of LCS/LCSD compounds can be outside of acceptance criteria as long as recovery is 40-160%, 25-160% for Chloroethane-HL and Trichlorofluoromethane-HL.

Temperature Narration

The samples were received at 1.1C with cooling initiated.
(Note acceptance criteria for relevant matrices is above freezing up to 6°C)

Cooler: Yes [X] No [ ]
Coolant: IPK [ ] ICE [X] No [ ]

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Temp 1.1 °C Pg of

Data Delivery:
[ ] Fax #:
[■] Email:

Customer: Barton & Loguidice, LLC
Address: 41 Sequin Drive
Glastonbury, CT 06033

Project: Bowdoinham Recycling Barn
Report to: Scott Atkin, Barton & Loguidice, LLC
Invoice to: AP, Barton & Loguidice, LLC
Phone #: (860) 633-8770
Fax #: (860) 633-5971

Project P.O: 4583.001.001

This section MUST be completed with Bottle Quantities.

Sampler's Signature: Patrick J McKay / Patrick McKay Date: 3/2/23

Client Sample - Information - Identification

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe
OIL=Oil **B**=Bulk **L**=Liquid

Analysis Request

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	VOCs by 8260	TPH by GRO	TPH by DRO	Total RCRA 8 metals	pesticides	herbicides	+	+	+	Soil VOA Vials [3] methanol [2] H2O	GL Soil container (8) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [x] HCl	GL Amber 1000ml [x] As is [ ] H2SO4	PL As is [ ] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [ ] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle
51493	PJM20230301-01	GW	3/1/23	1255	x	x	x	x	■	■					5	1			1				
51494	PJM20230301-02	↓	↓	1237	x	x	x	x	x	x					5	3			1				
51495	PJM20230301-03			1337	x	x	x	x	x	x					5	3			1				
51496	PJM20230301-04			1400	x										2								

Relinquished by:	Accepted by:	Date:	Time:
Patrick J McKay		3/2/23	10:19

Comments, Special Requirements or Regulations:

PLEASE HOLD SAMPLE FOR POSSIBLE FUTURE

ADDITONAL ANALYSIS

Municipal Client NO TAX

Limited Volume for Sample PJM20230301-01 no pesticide/herbicide analysis for this sample

Please include Maine RAG in report

Tumaround:
[ ] 1 Day*
[ ] 2 Days*
[ ] 3 Days*
[■] Standard
[ ] Other
* SURCHARGE APPLIES

RI
[ ] Direct Exposure (Residential)
[ ] GW
[ ] Other

CT
[■] RCP Cert
[ ] GW Protection
[ ] SW Protection
[ ] GA Mobility
[ ] GB Mobility
[ ] Residential DEC
[ ] I/C DEC
[ ] Other

MA
[ ] MCP Certification
[ ] GW-1
[ ] GW-2
[ ] GW-3
[ ] S-1
[ ] S-2
[ ] S-3
[ ] MWRA eSMART
[ ] Other

State where samples were collected: ME

Data Format
[■] Excel
[■] PDF
[ ] GIS/Key
[ ] EQuIS
[ ] Other

Data Package
[ ] Tier II Checklist
[ ] Full Data Package*
[■] Phoenix Std Report
[ ] Other
* SURCHARGE APPLIES

ATTACHMENT C
RECORD PHOTOGRAPHS

Photo #1: A view of drillers installing upgradient monitoring well along Post Road facing north.

Photo #2: A view of waste glass material dumped on site facing west. Note: This material waste dumped on site during the first day of field work (material placed on top of snow).

Photo #3: A view of the buried waste observed in Test Pit 3 in the “Paint Dump” area on the northern side of the Recycling Barn.

Photo #4: Another view of Test Pit 3 in the “Paint Dump” area on the northern side of the Recycling Barn. Note: waste material buried below grade.

Photo #5: A view of Test Pit 4 in the “Antifreeze Pit” area of the site. Note: the machine was not able to break through densely packed and frozen material to examine this area and collect a sample.

Photo #6: A view of Test Pit 1 (former UST location) on the southern side of the Recycling Barn facing east. Note: boiler located in cinder block room in background.

Photo #7: Another view of Test Pit 1, note: shallow water and floating sheen.

Photo #8: A view of Test Pit 6 at waste glass dumping location facing east.

Photo #9: Another view of Test Pit 6. Note: buried waste not identified at this location.

Photo #10: A view of the machine digging in the burn pit, approximately 150 feet south southwest of the loading dock of the Recycling Barn. Note: proposed test pit in "Former Septic Leach Field" to the immediate left of the loading dock. This test pit was not installed at the direction of Town Manager due to concerns that this leach field is actually in use.

Photo #11: Buried waste material excavated from the “Burn Pit”.

Photo #12: Another view of waste material excavated from the burn pit. Note: remnants of a metal drum.

Photo #13: A view of paint sample collection location on painted office door near first floor boiler room. Note: paint removed down to bare substrate (wood) for sampling.

Photo #14: A view of paint sampling location on exterior of building.

ATTACHMENT D
MOLD TESTING REPORT

Mold Testing Report

243 Post Rd, Route 138, Bowdoinham, ME 04008
Inspection prepared for: Barton & Loguidice
Date of Inspection: 1/25/2023 Time: 12:00 PM Size: 0
Order ID: 30967

Inspector: Bradley Peters
1071 Ellington Road, South Windsor, CT 06074
Phone: 860-646-9983
Email: bradley@sherwoodinspection.com

Table Of Contents

Testing Summary

Mold Testing Results Summary

- Test Site #1, AIR SAMPLE #1, Location First Floor East RESULTS: ELEVATED - Laboratory analysis when compared to the control sample contained was ELEVATED.
- Test Site #2, AIR SAMPLE #1, Location First Floor Center RESULTS: ELEVATED - Laboratory analysis when compared to the control sample contained was ELEVATED.
- Test Site #3, AIR SAMPLE #1, Location First Floor West RESULTS: ELEVATED- Laboratory analysis when compared to the control sample contained was ELEVATED.
- Test Site #4, AIR SAMPLE #1, Location Second Floor East and West RESULTS: ELEVATED East / ELEVATED West - Laboratory analysis when compared to the control sample contained was ELEVATED East/ ELEVATED West.
- Test Site #5, AIR SAMPLE #1, Location Third Floor East RESULTS: ELEVATED - Laboratory analysis when compared to the control sample contained was ELEVATED.
- Test Site #6, AIR SAMPLE #1, Location Third Floor West RESULTS: ELEVATED - Laboratory analysis when compared to the control sample contained was ELEVATED.
- Test Site #1, SURFACE SAMPLE #1, Location First Floor East
RESULTS: POSITIVE FOR MOLD - Laboratory analysis of is positive for the presence of mold.
- Test Site #2, SURFACE SAMPLE #1, Location First Floor Center
RESULTS: POSITIVE FOR MOLD - Laboratory analysis of is positive for the presence of mold.
- Test Site #4, SURFACE SAMPLE #1, Location Second Floor East / Second Floor West
RESULTS: POSITIVE FOR MOLD - Laboratory analysis of is positive for the presence of mold.
- Test Site #5, SURFACE SAMPLE #1, Location Third Floor East
RESULTS: POSITIVE FOR MOLD - Laboratory analysis of is positive for the presence of mold.
- Test Site #6, SURFACE SAMPLE #1, Location Third Floor West
RESULTS: POSITIVE FOR MOLD - Laboratory analysis of is positive for the presence of mold.
- , SURFACE SAMPLE , Location
RESULTS: POSITIVE FOR MOLD - Laboratory analysis of is positive for the presence of mold.
- Test Site #3, SURFACE SAMPLE #1, Location First Floor West
RESULTS: None detected - Laboratory analysis of surface sample(s) determined that no viable/detectable mold spores were present

Remediation

REMEDIATION

RESOLVE MOISTURE ISSUES: As mold requires elevated moisture or humidity to grow and reproduce, the first step in resolving a mold issue is to correct any identified moisture/humidity issues. If remediation for mold is performed and moisture/water issues are not corrected, it is highly likely that mold growth (possibly a different species) will reoccur.

REMEDIATION RECOMMENDED: As a result of the laboratory results listed above, remediation by a qualified mold remediation by a professional is recommended. Once remediation measures have been completed, it is highly recommended that a "clearance test" be performed wherein an independent testing professional takes a set of post - remediation samples, has them analyzed by a qualified laboratory, and then compares clearance test results to pre-remediation mold testing results. This helps to confirm efficacy of remediation measures. Contact our office as needed for post remediation testing.

Location: First Floor East/Center/West, Second Floor East/West, Third Floor East/West

The following are recommended guidelines for remediation by a professional remediation company:

- Build containment as needed

- Remove affected building materials
- Air scrubber
- Dehumidification properly sized for the square footage
- Repair any moisture intrusion IE... roof leaks
- HEPA vacuum all surfaces with visible mold growth
- Wipe visible mold with an EPA approved antimicrobial wipe
- Fog/spritz with an EPA approved antimicrobial enzyme
- Have a post test to ensure remediation was successful
- Remove containment as needed
- Replace building materials

Test Conditions

Precipitation

Cloudy • Snow cover at grade
Light Breeze

Testing Notes

Observations OBSERVATIONS: Multiple areas of water intrusion water stains from the roof, ceiling water leaks and wood siding water leaks • OBSERVATIONS: Building is set where the side closest to Post Road is West • This test was conducted as a pretest - This means that this test is being performed prior to any remediation attempts

Exterior Photo

Bowdoinham Recycling Barn


243 Post Road, Bowdoinham, ME

Building layout interior sign

Control Sample

Control Air Sample

Observations:
• Control Sample Location: Stairway First Floor East side
• The control sample was taken inside due to:Snow Pack at Exterior
• Temperature: 34 degrees
• Humidity: Greater than 55%

Stairway Control Sample location East

Test Areas

Location & Environmental 1

Observations: Location: First Floor East
Temperature: 35 degrees
Humidity: Greater than 55%

First Floor East

Indicators 1

Observations:
• Suspected fungal growth
• Surface Discoloration Description: multiple areas of discoloration, differing density and color

First Floor East Wall A

First Floor East Wall B

First Floor East Ceiling

Type of Test 1

Observations:
• Air Sample 1
• Swab Test 1
• This test area was chosen by Client in consultation with the inspector based on the presence of one or more "red flags" which indicate either suspected visual evidence of fungal growth or a suspected risk factor for mold growth.

Location & Environmental 2

Observations: Location: First Floor Center
Temperature: 33 degrees
Humidity: Greater than 55%

First Floor Center ceiling

Indicators 2

Observations:
• Suspected fungal growth
• Surface Discoloration Description: multiple areas of discoloration, differing density and color

First Floor Center ceiling joists

First Floor Center ceiling

First Floor Center cardboard box

Type of Test 2

Observations:
• Air Sample 1
• Swab Test 1
• This test area was chosen by Client in consultation with the inspector based on the presence of one or more "red flags" which indicate either suspected visual evidence of fungal growth or a suspected risk factor for mold growth.

Location & Environmental 3

Observations: Location: First Floor West
Temperature: 33 degrees
Humidity: Greater than 55%

First Floor West

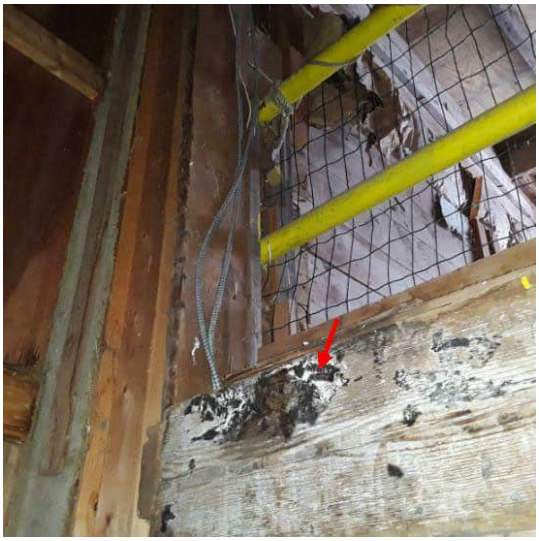
Indicators 3

Observations:
• Suspected fungal growth
• Surface Discoloration Description: multiple areas of discoloration, differing density and color

First Floor West ceiling A

First Floor West ceiling B

First Floor West ceiling C



First Floor West interior wall

Type of Test 3

Observations:
• Air Sample 1
• Swab Test 1
• This test area was chosen by Client in consultation with the inspector based on the presence of one or more "red flags" which indicate either suspected visual evidence of fungal growth or a suspected risk factor for mold growth.

Location & Environmental 4

Observations: Location: Second Floor East and West
Temperature: 34 degrees
Humidity: Greater than 55%

Second Floor East

Second Floor West

Indicators 4

Observations:
• Suspected fungal growth
• Surface Discoloration Description: multiple areas of discoloration, differing density and color

Second Floor West ceiling A

Second Floor Wesr ceiling B

Second Floor West C

Type of Test 4

Observations:
• Air Sample 1
• Air Sample 2
• Swab Test 1
• Swab Test 2
• This test area was chosen by Client in consultation with the inspector based on the presence of one or more "red flags" which indicate either suspected visual evidence of fungal growth or a suspected risk factor for mold growth.

Location & Environmental 5

Observations: Location: Third Floor East
Temperature: 35 degrees
Humidity: Greater than 55%

Third Floor East

Indicators 5

Observations:
• Suspected fungal growth
• Surface Discoloration Description: multiple areas of discoloration, differing density and color

Third Floor East ceiling joists A

Third Floor East ceiling joists B

Third Floor East ceiling joists C

Type of Test 5

Observations:
• Air Sample 1
• Swab Test 1
• This test area was chosen by Client in consultation with the inspector based on the presence of one or more "red flags" which indicate either suspected visual evidence of fungal growth or a suspected risk factor for mold growth.

Location & Environmental 6

Observations: Location: Third Floor West
Temperature: 37 degrees
Humidity: Greater than 55%

Third Floor West

Indicators 6

Observations:
• Suspected fungal growth
• Surface Discoloration Description: multiple areas of discoloration, differing density and color

Third Floor West ceiling

Third Floor West ceiling and wall

Third Floor West wood beam

Third Floor West ceiling and wall

Third Floor West ceiling joists

Third Floor West ceiling and wall B

Type of Test 6

Observations:
• Air Sample 1
• Swab Test 1
• This test area was chosen by Client in consultation with the inspector based on the presence of one or more "red flags" which indicate either suspected visual evidence of fungal growth or a suspected risk factor for mold growth.

LAB TEST RESULTS

Newton Report ID
CAE20230127010R

NML-20230127-243 Post Road - Barton and Loguidice

Spore Analysis Completed for

1071 Ellington Rd, South Windsor, CT 6074
860-646-9983
inspections@sherwoodinspection.com;david@sherwoodinspection.com

Collected Date	1/25/2023
Collected Street Address	243 Post Road
Collected & Relinquished by	Brad Peters
# of Sample Sent	15
# of Sample Received & Accepted	15
Sample/s Received & Accepted on	01/27/2023
Sample/s Received & Accepted by	Molly Chester
Sample/s Analyzed on	01/27/2023
Sample/s Analyzed by	Bong Jeoung
Report Approved by	Molly Chester
Report/Test Type	Pretest

Thank you for using Newton Microbial Laboratory for your microbial analysis. Currently there are no Federal regulations for fungal contamination or remediation. This document was designed to follow current industry guidelines for the interpretation of microbial sampling, analysis, and remediation. Newton Microbial Laboratory bears no responsibility for sample collection, analytical methods, or the use of test results. All samples listed on this report were received in acceptable condition unless otherwise stated. The client is solely responsible for the use or interpretation. The results in this analysis pertain to only this analysis on the stated date collected, and should not be used in the interpretation of any other job. Due to the subjective nature of fungal analysis, Newton Microbial Laboratory makes no express or implied warranties as to the health of the tested property. Newton Microbial Laboratory reserves the right to properly dispose of all samples after the testing of the samples are completed. Newton Microbial Laboratory or its employees are not liable for incidental or consequential damages arising out of the use of these test results.

Spore Analysis Completed by

Minoti Asher
Laboratory Director, M.S. in Biology

Molly Chester
Quality Director, B.S. in Biology

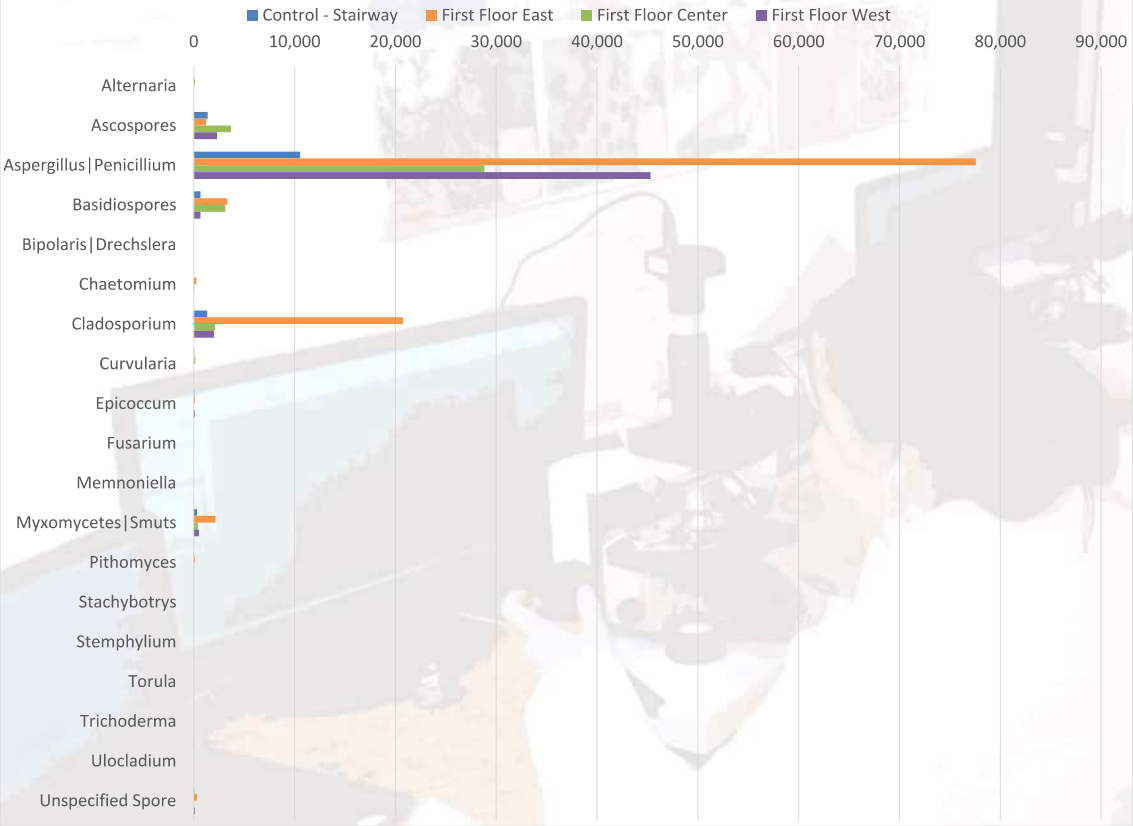
810 Dutch Square Blvd Suite 204, Columbia, SC 29210

Newton Report ID
CAE20230127010R

Property/Customer Name	Site Street Address	Site City	Site State	Site Zip
243 Post Road - Barton and Loguidice	243 Post Road	Bowdoinham	ME	04008
Company Email	**Company Phone Number**	**Date Collected**	**Date Received**	
inspections@sherwoodinspection.com;david@sherwoodinspection.com	860-646-9983	1/25/2023	01/27/2023	
Company Address	**Company Name**	**Sample Collected by**	**Date Analyzed**	
1071 Ellington Rd, South Windsor, CT 6074	Sherwood Inspection Services	Brad Peters	01/27/2023	

Newton ML Sample ID	CAE20230127010RA001			CAE20230127010RA002			CAE20230127010RA003			CAE20230127010RA004		
Sample Name/Location	Control - Stairway			First Floor East			First Floor Center			First Floor West		
Volume (L)	75			75			75			75		
Background	3			4			4			4		
Analytical Sensitivity (Cts/M³)	51			51			51			51		
Cassette Type	Air-O-Cell®			Air-O-Cell®			Air-O-Cell®			Air-O-Cell®		
Sample Type	Spore Trap			Spore Trap			Spore Trap			Spore Trap		
Organism	Counted	Cts/M³	% of Total	Counted	Cts/M³	% of Total	Counted	Cts/M³	% of Total	Counted	Cts/M³	% of Total
Alternaria	Not Detected			2	102	0.10%	Not Detected			Not Detected		
Ascospores	27	1,382	9.61%	24	1,229	1.16%	72	3,686	9.64%	45	2,304	4.52%
Aspergillus|Penicillium	206	10,547	73.31%	1,515	77,568	73.15%	563	28,826	75.37%	885	45,312	88.86%
Basidiospores	13	666	4.63%	65	3,328	3.14%	61	3,123	8.17%	13	666	1.31%
Bipolaris|Drechslera	Not Detected			Not Detected			Not Detected			Not Detected		
Chaetomium	Not Detected			5	256	0.24%	1	51	0.13%	Not Detected		
Cladosporium	26	1,331	9.25%	405	20,736	19.56%	41	2,099	5.49%	39	1,997	3.92%
Curvularia	1	51	0.36%	3	154	0.14%	Not Detected			Not Detected		
Epicoccum	1	51	0.36%	2	102	0.10%	Not Detected			2	102	0.20%
Fusarium	Not Detected			Not Detected			Not Detected			Not Detected		
Memnoniella	Not Detected			Not Detected			Not Detected			Not Detected		
Myxomycetes|Smuts	6	307	2.14%	42	2,150	2.03%	8	410	1.07%	10	512	1.00%
Pithomyces	Not Detected			2	102	0.10%	1	51	0.13%	Not Detected		
Stachybotrys	Not Detected			Not Detected			Not Detected			Not Detected		
Stemphylium	Not Detected			Not Detected			Not Detected			Not Detected		
Torula	Not Detected			Not Detected			Not Detected			Not Detected		
Trichoderma	Not Detected			Not Detected			Not Detected			Not Detected		
Ulocladium	Not Detected			Not Detected			Not Detected			Not Detected		
Unspecified Spore	1	51	0.36%	6	307	0.29%	Not Detected			2	102	0.20%
Total	281	14,387	100.00%	2,071	106,035	100.00%	747	38,246	100.00%	996	50,995	100.00%
Hyphal Fragment	20	1024	-	27	1382	-	19	973	-	31	1587	-
Comments												

Newton Report ID
CAE20230127010R



Newton Report ID
CAE20230127010R

Property/Customer Name	Site Street Address	Site City	Site State	Site Zip
243 Post Road - Barton and Loguidice	243 Post Road	Bowdoinham	ME	04008

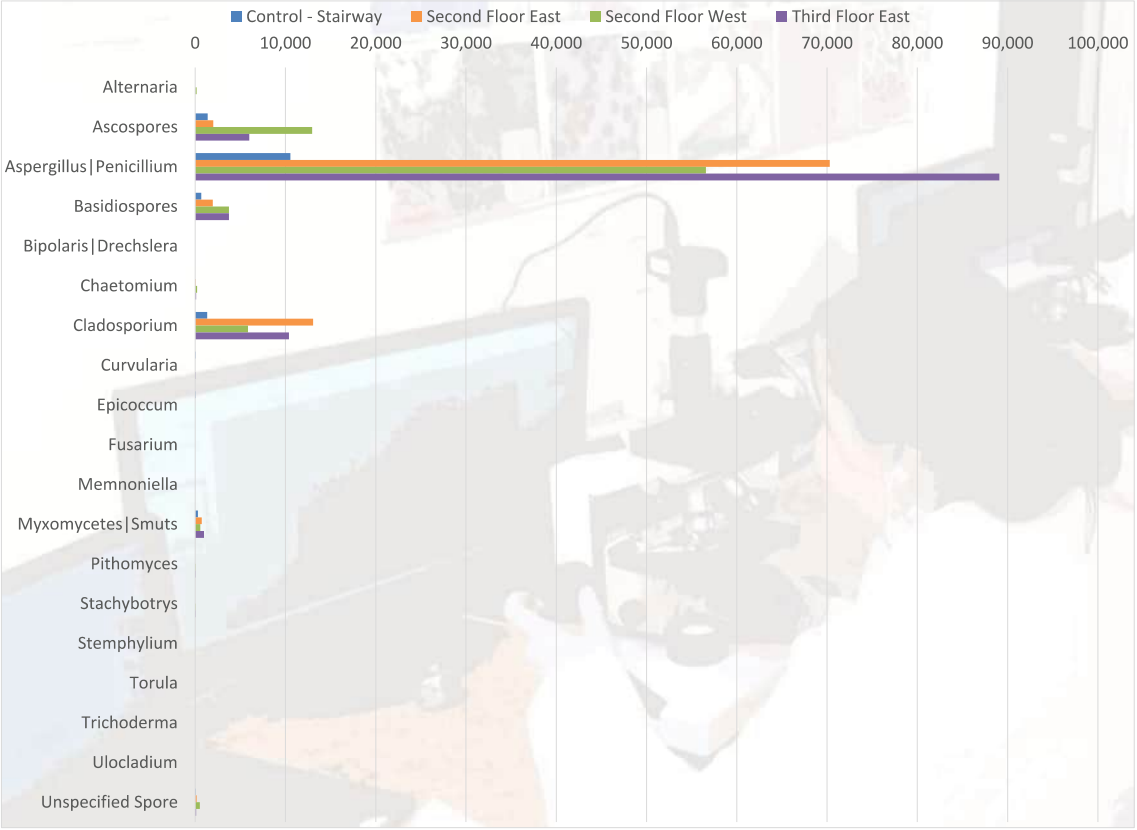
Company Email	Company Phone Number	Date Collected	Date Received
inspections@sherwoodinspection.com;david@sherwoodinspection.com	860-646-9983	1/25/2023	01/27/2023

Company Address	Company Name	Sample Collected by	Date Analyzed
1071 Ellington Rd, South Windsor, CT 6074	Sherwood Inspection Services	Brad Peters	01/27/2023

Newton ML Sample ID	CAE20230127010RA001	CAE20230127010RA005	CAE20230127010RA006	CAE20230127010RA007
Sample Name/Location	Control - Stairway	Second Floor East	Second Floor West	Third Floor East
Volume (L)	75	75	75	75
Background	3	4	4	4
Analytical Sensitivity (Cts/M³)	51	51	51	51
Cassette Type	Air-O-Cell®	Air-O-Cell®	Air-O-Cell®	Air-O-Cell®
Sample Type	Spore Trap	Spore Trap	Spore Trap	Spore Trap

Organism	Counted	Cts/M³	% of Total	Counted	Cts/M³	% of Total	Counted	Cts/M³	% of Total	Counted	Cts/M³	% of Total
Alternaria	Not Detected			Not Detected			3	154	0.19%	Not Detected		
Ascospores	27	1,382	9.61%	39	1,997	2.26%	253	12,954	16.06%	117	5,990	5.42%
Aspergillus|Penicillium	206	10,547	73.31%	1,373	70,298	79.69%	1,105	56,576	70.16%	1,740	89,088	80.59%
Basidiospores	13	666	4.63%	38	1,946	2.21%	73	3,738	4.63%	73	3,738	3.38%
Bipolaris|Drechslera	Not Detected			Not Detected			Not Detected			Not Detected		
Chaetomium	Not Detected			1	51	0.06%	4	205	0.25%	2	102	0.09%
Cladosporium	26	1,331	9.25%	255	13,056	14.80%	114	5,837	7.24%	203	10,394	9.40%
Curvularia	1	51	0.36%	Not Detected			Not Detected			1	51	0.05%
Epicoccum	1	51	0.36%	Not Detected			Not Detected			Not Detected		
Fusarium	Not Detected			Not Detected			Not Detected			Not Detected		
Memnoniella	Not Detected			Not Detected			Not Detected			Not Detected		
Myxomycetes|Smuts	6	307	2.14%	14	717	0.81%	11	563	0.70%	19	973	0.88%
Pithomyces	Not Detected			Not Detected			1	51	0.06%	1	51	0.05%
Stachybotrys	Not Detected			Not Detected			1	51	0.06%	1	51	0.05%
Stemphylium	Not Detected			Not Detected			Not Detected			Not Detected		
Torula	Not Detected			Not Detected			Not Detected			Not Detected		
Trichoderma	Not Detected			Not Detected			Not Detected			Not Detected		
Ulocladium	Not Detected			Not Detected			Not Detected			Not Detected		
Unspecified Spore	1	51	0.36%	3	154	0.17%	10	512	0.63%	2	102	0.09%
Total	281	14,387	100.00%	1,723	88,218	100.00%	1,575	80,640	100.00%	2,159	110,541	100.00%
Hyphal Fragment	20	1024	-	48	2458	-	37	1894	-	28	1434	-
Comments												

Newton Report ID
CAE20230127010R



Newton Report ID
CAE20230127010R

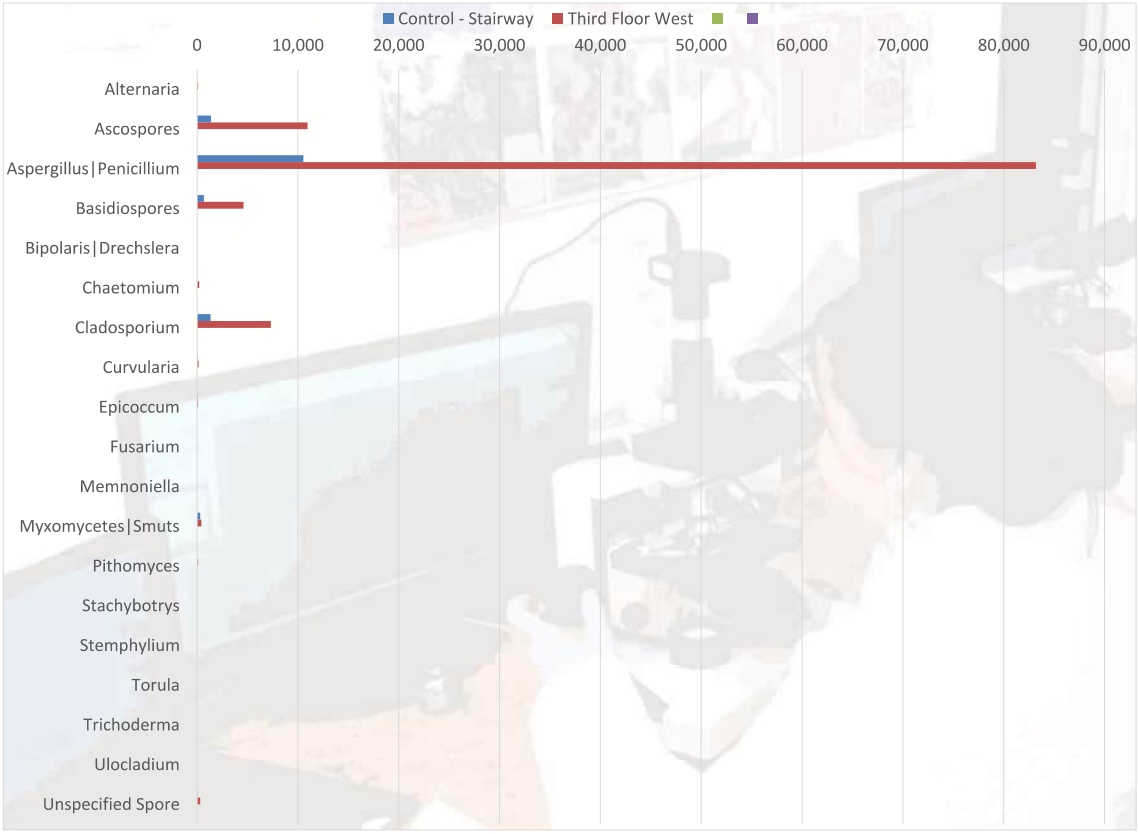
Property/Customer Name	Site Street Address	Site City	Site State	Site Zip
243 Post Road - Barton and Loguidice	243 Post Road	Bowdoinham	ME	04008

Company Email	Company Phone Number	Date Collected	Date Received
inspections@sherwoodinspection.com;david@sherwoodinspection.com	860-646-9983	1/25/2023	01/27/2023

Company Address	Company Name	Sample Collected by	Date Analyzed
1071 Ellington Rd, South Windsor, CT 6074	Sherwood Inspection Services	Brad Peters	01/27/2023

Newton ML Sample ID	CAE20230127010RA001			CAE20230127010RA008									
Sample Name/Location	Control - Stairway			Third Floor West									
Volume (L)	75			75									
Background	3			4									
Analytical Sensitivity (Cts/M³)	51			51									
Cassette Type	Air-O-Cell®			Air-O-Cell®									
Sample Type	Spore Trap			Spore Trap									
Organism	Counted	Cts/M³	% of Total	Counted	Cts/M³	% of Total							
Alternaria	Not Detected			2	102	0.10%							
Ascospores	27	1,382	9.61%	214	10,957	10.20%							
Aspergillus|Penicillium	206	10,547	73.31%	1,625	83,200	77.42%							
Basidiospores	13	666	4.63%	90	4,608	4.29%							
Bipolaris|Drechslera	Not Detected			Not Detected									
Chaetomium	Not Detected			4	205	0.19%							
Cladosporium	26	1,331	9.25%	143	7,322	6.81%							
Curvularia	1	51	0.36%	3	154	0.14%							
Epicoccum	1	51	0.36%	2	102	0.10%							
Fusarium	Not Detected			Not Detected									
Memnoniella	Not Detected			Not Detected									
Myxomycetes|Smuts	6	307	2.14%	8	410	0.38%							
Pithomyces	Not Detected			2	102	0.10%							
Stachybotrys	Not Detected			Not Detected									
Stemphylium	Not Detected			Not Detected									
Torula	Not Detected			Not Detected									
Trichoderma	Not Detected			Not Detected									
Ulocladium	Not Detected			Not Detected									
Unspecified Spore	1	51	0.36%	6	307	0.29%							
Total	281	14,387	100.00%	2,099	107,469	100.00%							
Hyphal Fragment	20	1024	-	40	2048	-							
Comments													

Newton Report ID
CAE20230127010R



Newton Report ID
CAE20230127010R

Spore Trap Analysis Explanation

Volume	Flow Rate * Flow Rate Minute
Background	None: Recollect 1: <5% 2: 5% ≤ Background Coverage < 25% 3: 25% ≤ Background Coverage < 70% 4: 70% ≤ Background Coverage < 90% 5: 90% ≤ Background Coverage < 100%, Recollect
Cts/M³	Spore Counts per Cubic Meter
Hyphal Fragment	Fragments of hyphae. Can be an additional indicator of possible mold presences
Unspecified Spore	Less commonly identified spore types, other than those listed on the report
Limit of Detection	1 spore count per coverage examined area
Sample Type	
Spore Count	Spore Trap Cassettes Identification & Enumeration of Fungal Spores
Spore Count+	Spore Trap Cassettes Identification & Enumeration of Fungal Spores + Total Dander, Fiber, and Pollen Count
Spore Trap Analytical Report Method	
	NML-SAM-1611, adapted from ASTM D7391-9

* Uncertainty available upon request

Newton Microbial Laboratory

Newton Report ID
CAE20230127010R

Site Name	Site Address Site Address	Site City	Site State	Site Zip
243 Post Road - Barton and Loguidice	243 Post Road	Bowdoinham	ME	04008

Company Email	Company Phone Number	Date Collected	Date Received
inspections@sherwoodinspection.com;david@sherwoodinspection.com	860-646-9983	1/25/2023	01/27/2023

Company Address	Company Na Company Name	Sample Collected by	Date Reported
1071 Ellington Rd, South Windsor, CT 6074	Sherwood Inspection Services	Brad Peters	01/27/2023

Newton ML Sample ID	CAE20230127010RS001	CAE20230127010RS002	CAE20230127010RS003	CAE20230127010RS004
Sample Name / Location	First Floor East	First Floor Center	First Floor West	Second Floor East
Sample Type	Direct ID - Swab	Direct ID - Swab	Direct ID - Swab	Direct ID - Swab

Organism	Category	Trace 1-10	Light 11-100	Med 101-1000	High 1001+	Category	Trace 1-10	Light 11-100	Med 101-1000	High 1001+	Category	Trace 1-10	Light 11-100	Med 101-1000	High 1001+	Category	Trace 1-10	Light 11-100	Med 101-1000	High 1001+
Alternaria	ND					ND					ND					ND				
Ascospores	Trace					ND					ND					ND				
Aspergillus|Penicillium	Light					Trace					Trace					ND				
Basidiospores	Trace					ND					Trace					ND				
Bipolaris|Drechslera	ND					ND					ND					ND				
Chaetomium	ND					ND					ND					ND				
Cladosporium	Trace					Medium					Trace					Light				
Curvularia	ND					ND					ND					ND				
Epicoccum	ND					ND					ND					ND				
Fusarium	ND					ND					ND					ND				
Memnoniella	ND					ND					ND					ND				
Myxomycetes|Smuts	ND					Trace					ND					ND				
Pithomyces	ND					ND					ND					ND				
Stachybotrys	ND					ND					ND					ND				
Stemphylium	ND					ND					ND					ND				
Torula	ND					ND					ND					ND				
Trichoderma	ND					ND					ND					ND				
Ulocladium	ND					ND					ND					ND				
Unspecified Spore	ND					ND					ND					ND				
	ND = Not Detected					ND = Not Detected					ND = Not Detected					ND = Not Detected				

Hyphal Fragment	Light	Moderate	Light	Light
Background Debris	Moderate	Moderate	Moderate	Light
Comments				
Color Code	Common Outdoor	Common Indoor	Water Damage Indicator	Color Code

Newton Microbial Laboratory

Newton Report ID
CAE20230127010R

Site Name	Site Address	Site City	Site State	Site Zip
243 Post Road - Barton and Loguidice	243 Post Road	Bowdoinham	ME	04008

Company Email	Company Phone Number	Date Collected	Date Received
inspections@sherwoodinspection.com;david@sherwoodinspection.com	860-646-9983	1/25/2023	01/27/2023

Company Address	Company Name	Sample Collected by	Date Reported
1071 Ellington Rd, South Windsor, CT 6074	Sherwood Inspection Services	Brad Peters	01/27/2023

Newton ML Sample ID	CAE20230127010RS005	CAE20230127010RS006	CAE20230127010RS007	
Sample Name / Location	Second Floor West	Third Floor East	Third Floor West	
Sample Type	Direct ID - Swab	Direct ID - Swab	Direct ID - Swab	

Organism	Category	Trace 1-10	Light 11-100	Med 101-1000	High 1001+	Category	Trace 1-10	Light 11-100	Med 101-1000	High 1001+	Category	Trace 1-10	Light 11-100	Med 101-1000	High 1001+
Alternaria	ND					ND					ND				
Ascospores	Trace					Trace					Light				
Aspergillus|Penicillium	Light					Light					Light				
Basidiospores	Trace					Trace					Trace				
Bipolaris|Drechslera	ND					ND					ND				
Chaetomium	ND					ND					ND				
Cladosporium	Trace					Trace					Light				
Curvularia	ND					ND					ND				
Epicoccum	ND					ND					ND				
Fusarium	ND					ND					ND				
Memnoniella	ND					ND					ND				
Myxomycetes|Smuts	ND					Trace					ND				
Pithomyces	ND					ND					ND				
Stachybotrys	ND					ND					ND				
Stemphylium	ND					ND					ND				
Torula	ND					ND					ND				
Trichoderma	ND					ND					ND				
Ulocladium	ND					ND					ND				
Unspecified Spore	ND					ND					ND				

ND = Not Detected | ND = Not Detected | ND = Not Detected

Hyphal Fragment	Light	Light	Light	
Background Debris	Moderate	Light	Moderate	
Comments				
Color Code	Common Outdoor	Common Indoor	Water Damage Indicator	Color Code

Newton Report ID
CAE20230127010R

Direct Identification Explanation

Direct ID

Trace	Spore Count less than 10
Light	Estimated Spore Counts between 11 and 100
Medium	Estimated Spore Counts between 101 and 1000
High	Estimated Spore Counts above 1000

Hyphal Fragment/Background Debris

Not Detected	Not Found in the Sample
Light	Found Traces throughout the Sample
Moderate	Found Some throughout the Sample
Heavy	Found All throughtout the Sample

Unspecified Spore Less commonly identified spore types, other than those listed on the report

Sample Type

Direct ID-Swab	Swab for ID only	ID and Semi-Quantitative Enumeration of Spores
Direct ID-Swab+	Swab for ID + Spore Count	ID and Enumeration with Spore Count
Direct ID-Tape	Swab for ID only	ID and Semi-Quantitative Enumeration of Spores
Direct ID-Tape+	Swab for ID + Spore Count	ID and Enumeration with Spore Count
Direct ID-Bulk	Swab for ID only	ID and Semi-Quantitative Enumeration of Spores
Direct ID-Bulk+	Swab for ID + Spore Count	ID and Enumeration with Spore Count

Direct Analytical Report Method

NML-SAM-1611

Newton Report ID
CAE20230127010R

Alternaria

Growth & Distribution

- Alternaria is one of the most common and widely distributed molds on the planet (2). The reproductive spores become airborne easily and are prolific in the atmosphere worldwide.
- **Growth Rate:** Rapid Mature with 0.5 to 8 days (34)
- **Water activity:** 0.85-0.88 (1)
- **Outdoors:** In the outdoor environment, Alternaria is found in soil, water and plant material- it plays an important role in vegetable matter decomposition (1) . Airborne Alternaria spore counts are often higher around farming and agricultural operations, particularly during harvesting processes when spores are released into the air in large numbers. (3) It is well studied as a plant pathogen having saprophytic effects on a wide variety of vegetation and is often the source of early blights in crops (2). It reaches peak concentrations during late summer and fall (2).
- **Indoors:** Alternaria can be found growing indoors on textiles, dust, wood, carpeting, flooring, drywall or gypsum board, wall paper, furniture, and other cellulose materials. It can be found in humidifiers, heating and air conditioning units, inside of ductwork, and surrounding damp areas i.e. sinks, showers, and windows(1).

Health Effects

- **Allergenic**
  - Considered by some to be among the most common mold allergens in the US (1).
  - Alternaria can cause allergy symptoms following ingestion, inhalation, injection or direct contact.
  - Alternaria spores are airborne allergens (1). Reactions due to inhalation may increase during peak concentration times in late summer and early fall.
  - Inhalation of high concentrations by sensitive individuals may manifest in Type I and Type III hypersensitivity reactions. These include allergic asthma, conjunctivitis (redness of the eye), rhinitis (hay fever), anaphylaxis, angioedema (dermal swelling), urticarial (hives) or hypersensitivity pneumonitis (Type III).
- **Pathogen**
  - Invasion is rare but can occur, particularly in immunocompromised individuals. Cases of onychomycosis (nail infection), sinusitis, ulcerated cutaneous infections, keratitis, phaeohyphomycosis, as well as osteomyelitis and peritonitis in patients undergoing peritoneal dialysis have been reported (1,4).
  - Can occasionally cause phaeohyphomycosis (fungal infection), usually in subcutaneous tissue (6).
- **Toxins/ Metabolites**
  - Alternariol (antifungal uses), AME (alternariol monomethylether), tenuazonic acid, & altertoxins (1)

Found in Sample(s) ( ) List of references can be found at http://newtonlaboratory.com/glossary

AIR	••First Floor East••••Second Floor West••Third Floor West••••••
DIRECT	••••••••••••••••

Newton Report ID
CAE20230127010R

Ascospores

Growth and Distribution

Ascospores refers to spores produced in a sac-like structure known as an ascus (plural asci). These spores are specific to fungi of the phylum Ascomycota. Ascomycota is a broad division containing a large number of genera and individual species. Identification of the genus and/or species based on spore morphology alone is not always possible, therefore these spores are often given the more general classification of "Ascospores" in microscopic analysis.

- Ascospores are found worldwide with prevalence and distribution depending on particular genus and species.
- **Outdoors:** Ascospores are found ubiquitously in outdoor environments; often found on dead and decaying plant material. Many types are known to have pathogenic or parasitic properties in plants.
- **Indoors:** Common substrates include damp building materials such as gypsum or lumber, carpeting, dust, and other organic materials.

Health Effects

- **Allergen**
  - Ascospores can be allergenic to sensitive individuals, most often producing Type I or Type III hypersensitivity reactions. These include allergic asthma, conjunctivitis (redness of the eye), rhinitis (hay fever), anaphylaxis, angioedema (dermal swelling), urticarial (hives) or hypersensitivity pneumonitis (Type III). (5)
  - Reactions due to spore inhalation may increase following rain or high humidity. (5)
  - Unlike some fungi which rely on air currents for spore dispersal, ascomycetes are capable of a more active form of spore dispersal that utilizes water droplets to catapult their spores into the air. Various species of Ascospores are known to use this method to liberate spores every single day, regardless of air flow. Subsequently, exposure to ascospores may be more consistent from day to day than exposure to other spores which are only dispersed with adequate air currents. For this reason these spores may be of particular interest in cases of chronic respiratory disease such as asthma and rhinitis (5).
- **Pathogen**
  - Some types can be pathogenic; dependent upon genus and species.
- **Toxins\Metabolites**
  - Vary greatly depending on genus and species.

( ) List of references can be found at http://newtonlaboratory.com/glossary

Found in Sample(s)	
AIR	•Control - Stairway•First Floor East•First Floor Center•First Floor West•Second Floor East•Second Floor West•Third Floor East•Third Floor West••••••
DIRECT	•First Floor East••••Second Floor West•Third Floor East•Third Floor West••••••••••

Newton Report ID
CAE20230127010R

Aspergillus/Penicillium

Growth & Distribution (7):

- Aspergillus & Penicillium are incredibly adaptive and abundant organisms. Their distribution is world-wide with many species possessing abilities to tolerate environmental conditions that challenge other molds (i.e. extreme temperatures & pH levels, restricted water availability and exposure to radiation). Colony growth rates are rapid for many species. Mature colonies are capable of quickly producing large numbers of spores. Because of the morphological similarity of the spores, the two genera are typically grouped together as "Aspergillus-Penicillium."

- **Growth Rate:** Usually Rapid – Mature within 3-4 days; however, some species are slower(6).
- **Water Activity:** Aspergillus: 0.93-0.97 & Penicillium: 0.88 – 0.99 (33, 35)
- **Outdoors:** Both can be found outdoors on a variety of substrates- particularly plant materials such as cereals, grains, decaying wood, and soil (7).
- **Indoors:** Found indoors on organic materials such as wood, textiles, cellulose materials, carpeting, painted surfaces, and food stuffs such as cheeses, butter/margarine meats, breads, fruits and vegetables. Halotolerant species may be found growing on refrigerated foods (7). Penicillium is used in cheese production and is responsible for the veins in blue cheese.

Health Effects

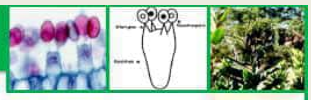
- **Allergen:**
  - Because these spores are so abundant, daily exposure to Aspergillus/Penicillium is very common in both indoor and outdoor environments. Often this exposure occurs without any noticeable reaction or symptoms. However, sensitivities may develop in some instances- especially with prolonged exposure to high spore concentrations. This can result in allergic responses.
  - Spores may progress further into the respiratory system than other common spores due to their small aerodynamic diameter.
  - Penicillium is the mold from which the antibiotic Penicillin was first derived. Penicillin is now made synthetically. It does not contain the mold Penicillium. Allergy to one does not necessarily imply allergy to the other.
- **Pathogen** (6,7):
  - There are approximately 175 species of Aspergillus, only about 20 of which are known to cause disease in humans.
  - Diseases caused by Aspergillus are known as aspergillosis and include invasive infection, colonization, & toxicosis.
  - Certain species of Penicillium are considered pathogens. Infection may occur in skin, blood, bone marrow, internal organs or lymph nodes. (6). In the immunocompromised (particularly HIV patients or those who have recently been in Southeast Asia) | *P. marnefei* can cause severe infection capable of affecting respiratory, lymphatic, and nervous systems.
- **Toxins/Metabolites:**
  - Different species of Aspergillus/Penicillium are associate with an array of mycotoxins and metabolites, some of which are medically significant in humans. The importance of these toxins can vary from species to species and depends largely on the prevalence of that species.

Found in Sample(s) ( ) List of references can be found at http://newtonlaboratory.com/glossary

AIR	•Control - Stairway•First Floor East•First Floor Center•First Floor West•Second Floor East•Second Floor West•Third Floor East•Third Floor West••••••
DIRECT	•First Floor East•First Floor Center•First Floor West••Second Floor West•Third Floor East•Third Floor West•••••••••

Newton Report ID
CAE20230127010R

Basidiospores



Growth & Distribution:

- Basidiospores are spores produced by the division of Fungi known as Basidiomycota. These spores are unique for lacking septation, containing bilateral symmetry, and often having a visible pore at the site of detachment from the basidium (7). This is a large group of organisms consisting of a large number of individual genera & species. Distribution is world-wide with the prevalence in any given area varying for each genus and species. Like ascospores, basidiospores disperse using water droplets. Therefore, airborne spore concentrations are often higher following rain or high humidity. This division includes edible mushrooms.
- **Outdoors:** Basidiospores are found growing on plant material, organic debris, and soil. Many species of basidiospores are known to be plant pathogens.
- **Indoors:** Basidiospores may be found growing on damp materials. Colonies may grow given sufficient access to water (leaks, flooding, high humidity, or surrounding plumbing, heating/air conditioning components, appliances, house plants, etc.).

Health Effects:

- **Allergenic:**
  - Exposure to these spores is commonplace in both indoor and outdoor environments. Nonetheless they are also potentially allergenic. Allergic responses may occur following inhalation, ingestion, or direct contact. Reactions due to inhalation may be increased following rain or high humidity when spore concentrations are often elevated.
  - In sensitive individuals, typically manifest Type I or Type III hypersensitivity reactions. These include allergic asthma, conjunctivitis (redness of the eye), rhinitis (hay fever), anaphylaxis, angioedema (dermal swelling), urticarial (hives) or hypersensitivity pneumonitis & allergic sinusitis (Type III). (5)
- **Pathogenic:**
  - Invasion is not typical but can occur, particularly in the immunocompromised or immunosuppressed. These infections can includes sinitus, keratitis, phaeohyphomycosis, & peritonitist.
- **Toxins\Metabolites:**
  - Mycotoxins vary depending on genus and species. They are especially relevant in edible fungi of this division such as mushrooms.
    - Common sources of mushroom poisoning include *Amnita, Lepiota, Coprinus, & Psilocybe*

Found in Sample(s) ( ) List of references can be found at http://newtonlaboratory.com/glossary

AIR	•Control - Stairway•First Floor East•First Floor Center•First Floor West•Second Floor East•Second Floor West•Third Floor East•Third Floor West••••••
DIRECT	•First Floor East••First Floor West••Second Floor West•Third Floor East•Third Floor West••••••••••

Newton Report ID
CAE20230127010R

Chaetomium

Growth & Distribution

- Chaetomium is a common mold with worldwide distribution; however, airborne spore concentrations are generally low in outdoor air (1). Identification is usually successful due to unique spore morphology with spores exhibiting a distinctive lemon-shape & olive-brown color. (7) There are approximately 80-150 species described; taxonomic data varies greatly for the genus (1). Some species are thermotolerant or thermophilic (able to tolerate or thrive in high heat). Spores themselves can be highly resistant to dry circumstances and UV radiation (7).

- **Growth Rate**: Rapid – Mature within 5 days (6)
- **Water Activity**: 0.91-0.94 (1)
- **Outdoors:** These molds are found commonly in soil, on plant remains, and on softwood and hardwood timber (where it is known as "soft- rot fungus")(7).
- **Indoors:** These molds are often found on water damaged cellulosic materials such as wood, sheetrock paper, cardboard, wall paper, & textiles. Like many molds, Chaetomium is cellulolytic- it degrades cellulose materials. Growth may result in damage to building materials, paper documents, textiles, etc. (4)

Health Effects:

- **Allergen:**
  - Spores of these molds are somewhat less common in the air in but are considered to be allergenic (1).
  - In sensitive individuals, typically manifest Type I or Type III hypersensitivity reactions. These include allergic asthma, conjunctivitis (redness of the eye), rhinitis (hay fever), anaphylaxis, angioedema (dermal swelling), urticarial (hives) or hypersensitivity pneumonitis & allergic sinusitis (Type III)(5).
- **Pathogen:**
  - Very occasionally pathogenic in humans- mostly in the immunocompromised. Reportedly the cause of systemic and cutaneous phaeohyphomycosis (6), onychomycosis (nail infection), peritonitis, cutaneous lesions (2) and extremely rare cases of fatal disseminated cerebral disease in the immunocompromised and intravenous drug users (1).
  - Very rare cases of toenail or fingernail infection in people with normal immunity (2).
- **Toxins/Metabolites:**
  - Include chaetoglobosin, chetomin, chaetochromin, chaetosin, cochliodinol, sterigmatocystin (potentially carcinogenic) (12)
  - Several species do produce mycotoxins when growing on water damaged building materials in specific growth conditions (1).
  - Mycotoxicosis in humans is poorly studied; however, some animals studies have shown contaminated cereals to be toxic and even fatal in animals following ingestion of contaminated feed (1).
  - Toxicosis has been seen in mice spleen, liver, and kidney.(1)

Found in Sample(s) ( ) List of references can be found at http://newtonlaboratory.com/glossary

AIR	••First Floor East•First Floor Center••Second Floor East•Second Floor West•Third Floor East•Third Floor West••••••
DIRECT	••••••••••••••••

Newton Report ID
CAE20230127010R

Cladosporium

Growth & Distribution:

- Cladosporium are found in air and soil worldwide. Cladosporium are among the most common airborne fungi (4). Spores are produced in abundance and easily disperse through the air. Extremely common on decaying organic matter. These mold are common plant pathogens. Molds of this genus are dematiaceous with over 40 named species (1).
- **Growth Rate:** Moderately Rapid – Mature within 7 days. (6)
- **Water Activity:** 0.85-0.88 (1)
- **Outdoors:** Cladosporium can be found on food sources such as cereals, fruit, vegetables. Commonly found on dead plants and shrubs in temperate regions. Halotolerant (salt tolerant) species exist. (7) The most common species isolated from plant materials & soils (*C. cladosporiodides*) experiences peak airborne spore concentrations between June/July and September/October in temperate climates (2).
- **Indoors:** Cladosporium can be found on water damaged materials (i.e. plaster, paint, textiles, gypsum, wall paper, wood, moist window sills). May affect food sources such as cheeses, butter/margarine, vegetables, fruits and vegetables(7). Often found on the surface of fiberglass duct liners, in bathroom showers, and on basement walls (2). Some studies have reported Cladosporium in 70% of homes examined in the US & 100% of homes examined in Canada (1).

Health Effects:

- **Allergen:**
  - Allergic reaction to airborne spores are of particular importance because these spores exist in in such high concentrations in the air. Symptoms may increase during peak concentrations from June-October. Sensitization may occur. (1)
  - In sensitive individuals typically manifest Type I or Type III hypersensitivity reactions. These include allergic asthma, conjunctivitis (redness of the eye), rhinitis (hay fever), anaphylaxis, angioedema (dermal swelling), urticarial (hives) or hypersensitivity pneumonitis & allergic sinusitis (Type III). (5)
- **Pathogen:**
  - Is pathogenic in humans very rarely, reported cases include skin lesions, keratitis, onychomycosis, sinusitis, pulmonary infections (1).
- **Mycotoxins/Metabolites:**
  - Cladosporic acid (12)
  - Gibberellin (hormone influencing developmental processes in plants) & ergosterol (precursor to vitamin D2 which may have anti-tumor properties). (1)
  - Toxic effects have been seen in animals (chicken embryos & horses) but not known to be reported in humans to date (1,2).

( ) List of references can be found at http://newtonlaboratory.com/glossary

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Curvularia

Growth & Distribution

- Curvularia is found world-wide with a particular preference for the tropics and warmer climates (7). Spores usually have a unique curved shape caused by an enlarged central cell (2). Airborne spores are common in both indoor and outdoor environments worldwide.

- **Growth Rate:** Moderately rapid - 4 to 12 days (32)
- **Water activity:** 0.80 (this is a generalized number for common molds) (26)
- **Outdoors:** Curvularia is typically seen growing on plant material. They are weakly pathogenic to plants and are the cause of leaf spots, seedling blight, and failing of seedling germination (2).
- **Indoors:** Curvularia may be found growing on materials containing cellulose such as woods and grains. Growth is less frequent indoors but may be seen on food.(7)

Health Effects:

- **Allergen:**
  - Poorly studied but believed to be an allergen and irritant (13).
  - In sensitive individuals typically manifest Type I or Type III hypersensitivity reactions. These include allergic asthma, conjunctivitis (redness of the eye), rhinitis (hay fever), anaphylaxis, angioedema (dermal swelling), urticarial (hives) or hypersensitivity pneumonitis &allergic sinusitis (Type III). (5)
- **Pathogen:**
  - Believed to cause corneal infections in the immunocompromised (14)
  - Opportunistic infections of cornea and sinuses, nails, subcutaneous tissue, and systemic organs. Dissemination to the brain can occur rarely. (6)
  - Can be causal agent in mycetoma (6):
    - Infections of subcutaneous tissue and skin. Untreated, chronic infections may progress to involve muscle, fascia & bone. Typically seen on the lower leg or foot, rarely disseminated.
    - Fungi enters the skin via wound, a nodule slowly develops into a tumor or abnormal tissue mass beneath the skin, cavities are formed within the mass and discharge occurs.
    - This is a rare condition which is not contagious. (6) Most infections occur in immunocompromised hosts. (2)
- **Toxins/Metabolites:**
  - Some toxins produced- mainly studied in plants.

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Epicoccum

Growth & Distribution

- Epicoccum is found worldwide. Spores are large with distinctive, highly septate morphology and dark brown color (7). Spores are dispersed easily by the wind. Airborne concentrations are generally higher on dry, windy days with higher counts occurring later in the day (1). Spores are common in both outdoor and indoor air.

- **Growth Rate:** Moderately Rapid – Mature within 7 days (6)
- **Water Activity:** 0.86-0.90 (1)
- **Outdoors:** Epicoccum is most often found on aging or decaying plants. It is known to invade various parts of dead plants such as the seeds of corn, barley, oats, & wheat as wells as beans and surrounding soil. Can also invade insects. (7)
- **Indoors:** Found on cellulose materials (e.g. gypsum boards, floors, paper, woods, cardboard) and other organic materials (e.g. house plants, dust, and occasionally human skin and sputum(7)).

Health Effects:

- **Allergen:**
  - Believed to be an important spore in inducing fungi-related respiratory allergy disorders. Increases in outdoor spore concentrations may exacerbate asthma attacks in children.(1)
  - In sensitive individuals, typically manifests Type I or Type III hypersensitivity reactions. These include allergic asthma, conjunctivitis (redness of the eye), rhinitis (hay fever), anaphylaxis, angioedema (dermal swelling), urticarial (hives) or hypersensitivity pneumonitis & allergic sinusitis (Type III). (5)
- **Pathogen:**
  - Not believed to be infectious in humans (1).
    - 1 reported case of fatal haematogenous mycosis in a severely immunosuppressed allogenenic hematopoietic stem cell transplant recipient possibly attributed to Epicoccum (1).
- **Toxins/Metabolites:**
  - No toxins or metabolite reported to be harmful to humans.
  - Produces secondary metabolites and mycotoxins which may be useful as biocontrol agents against bacteria, fungi, & viruses (1).
    - E.g. *E nigrum* against *Monilinia* spp. on fruit (7).

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Myxomycetes

Growth & Distribution

- Myxomycetes is a large class with approximately 500 individual species and worldwide distribution (25). Interestingly, these organisms are no longer considered to be true fungi like other molds, but have been reclassified as protozoans. These organisms belong to group commonly called "slime molds" that exhibit an amoeba-like stage. Spores are common in both indoor and outdoor environments worldwide (15). Spores can be dispersed by air, arthropods and other animals due to their small size (4 – 20 µm)(25).

- **Growth Rate:** Generally Rapid – Mature within 2 to 4 day; however, specific growth rate does depend on species (24).
- **Water Activity:** 0.80 (this is a generalized number for common molds)(26).
- **Outdoors**
  - Found in soil, decaying plant material (especially damp wood), and dung. Species of Myxomycetes are not as geographically constricted as most organisms; most Myxomycetes species can be found world wide. (15)
- **Indoors**
  - Can be found growing indoors on damp building materials such as cardboard, wallpaper, gypsum board, wood, etc.

Health Effects:

- **Allergen:**
  - These spores are very common in both indoor and outdoor air. They are small, foreign particles which may be inhaled deep into the respiratory system and may cause allergic responses.
  - In sensitive individuals, typically manifests Type I or Type III hypersensitivity reactions. These include allergic asthma, conjunctivitis (redness of the eye), rhinitis (hay fever), anaphylaxis, angioedema (dermal swelling), urticarial (hives) or hypersensitivity pneumonitis & allergic sinusitis (Type III). (5)
- **Pathogen:**
  - Unknown
- **Toxins/Metabolites:**
  - Unknown

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Pithomyces

Growth & Distribution:

The colonies grow fairly fast, usually dark (grey to black) in color, while occasionally being yellowish white in color, suede- like to downy, with multicellular conidia (phragmo- or dictyoconidia) forming on peg- like extensions. The conidia extensions are oblong, segmented, verrucose and light brown in color. (4, 29) These spores can be distributed by light winds, rain, and by grazing sheep (27).

- **Growth Rate:** Rapid – Mature within 5 days (6)
- **Water Activity:** 0.80 – 0.89 (28)
- **Outdoors**
  - Can be found on soil and litter (4). During sheep grazing can be found on herbage due to dry litter. (27)
- **Indoors**
  - Can be found on paper (30).

Health Effects:

- **Allergen:**
  - In sensitive individuals, typically manifests Type I or Type III hypersensitivity reactions. These include allergic asthma, conjunctivitis (redness of the eye), rhinitis (hay fever), anaphylaxis, angioedema (dermal swelling), urticarial (hives) or hypersensitivity pneumonitis & allergic sinusitis (Type III). (5)
- **Pathogen:**
  - Can very rarely cause infection in the immunocompromised (6).
  - Can cause onychomycosis (29).
  - One case of peritonitis reported in a patient with vulvar cancer. (29)
- **Toxins/Metabolites:**
  - Sporidesmin (a mycotoxin which causes facial eczema in sheep)(31).

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Stachybotrys

Growth & Distribution

- Stachybotrys is found worldwide. One species in particular, *Stachybotrys chatarum* (sometimes called "black mold" or "toxic mold"), has gained attention recently following concerns about indoor air quality and mold contamination.

- **Growth Rate:** Moderately Rapid – Usually mature with 7 days. Growth may be slower on medias that are not high in cellulose.
- **Water Activity:** Minimal 0.94; Optimal >0.98 (1)
- **Outdoors**
  - Found on decaying plant material and in soil. May contaminate grains, tobacco, wood pulp, and other plant debris. Spore concentrations are generally low in outside air.
- **Indoors**
  - Typically found growing indoors on materials containing cellulose with high water content. This can include water damaged building materials such as wood, gypsum board, wall paper, textiles, carpeting, and cardboard. Stachybotrys does not generally grow without prolonged access to moisture, usually lasting days or weeks. It is also not well suited for competition against other molds. Spores do not become airborne easily and generally settle out of the air quickly. For this reason, airborne spores are often the result of recent physical disturbance of colonies. (1)

Health Effects:

- **Allergen:**
  - In sensitive individuals, typically manifests Type I or Type III hypersensitivity reactions. These include allergic asthma, conjunctivitis (redness of the eye), rhinitis (hay fever), anaphylaxis, angioedema (dermal swelling), urticarial (hives) or hypersensitivity pneumonitis & allergic sinusitis (Type III). (5)
- **Pathogen:**
  - No reported cases of human or animal infection (1).
- **Toxins/Metabolites:**
  - May be associated with pulmonary hemorrhage & hemosiderosis in infants (6).
  - Has frequently been suggested as a contributing agent in a variety of illnesses reported by occupants of water damaged buildings; however, establishing a firm causal relationship requires further study (6).
  - The species *S. chartarum* produces several mycotoxins that may affect humans and animals after ingestion, inhalation, or absorption (1).
  - Griseofulvin, trichothecenes (isosatratoxin, roridin, satratoxin, trichodermol, trichoverrol (12)

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