February 12, 2021

Craig Blais, President & CEO
Worcester Business Development Corporation
89 Shrewsbury Street, Suite 300
Worcester, MA 01604

Re: Pre-Demolition Hazardous Materials Building Survey
Denholm Building
484-500 Main Street
Worcester, Massachusetts

Dear Mr. Blais,

BETA Group, Inc. (BETA) has completed a Pre-Demolition Hazardous Materials Building Survey for the Denholm Building located at 484-500 Main Street in Worcester, Massachusetts (the site). BETA understands that demolition activities are being considered for the existing site structure.

The office building is a 5.5-story, approximately 200,000 square-foot, brick and concrete structure constructed circa 1882. The structure was built on a full basement foundation and has a rubber membrane roofing system. Portions of the third, fourth, and sixth floors were built as additions. Historically, the building was used as a department store until it was converted to office condominiums in the 1980s. Most of the floors have been substantially renovated. At the time of BETA's January 2021 inspection, the structure was occupied by multiple office condominium tenants. BETA's Hazardous Materials Survey was conducted throughout interior and limited exterior portions of the site structure.

Site maintenance personnel indicated that approximately 2/3 of the building's roof was replaced with a new rubber membrane roof in 2020. The roof of the building was not inspected or sampled due to the recent upgrades and due to winter weather conditions (snow and cold temperatures), which would have prohibited application of effective roof patch / repair after sampling activities. During future demolition activities, roofing materials suspect of containing asbestos may be identified. If so, these materials should be sampled and analyzed by a certified asbestos inspector prior to disturbance or removal. In addition, due to time constraints, BETA did not survey the full exterior of the site structure, including caulking materials and ceiling overhang materials above the Main Street sidewalk. Subsurface exterior building materials were not assessed. Prior to demolition, BETA recommends an inspection of exterior building components for potential hazardous materials.

As detailed below, several building materials were identified as containing lead-based paint (LBP), asbestos, and/or polychlorinated biphenyls (PCBs). Due to the large size of the building and the non-destructive sampling methods required during the survey due to tenant occupancy, estimates of hazardous material quantities not being presented in this report. Once it is confirmed that the structure will be demolished and tenants have vacated the structure, BETA recommends selective demolition of building components followed by a comprehensive inventory of the hazardous materials identified during this survey (ex. piping insulation). This report is not intended to be used as a bidding or specification document.

1.0 Lead Based Paint (LBP)

BETA retained Brenda Eastman, Massachusetts Lead Inspector / Risk Assessor I/R-3691 to survey painted surfaces for the presence of lead-based paint. On January 20, 2021, Ms. Eastman scanned representative painted surfaces using a Heuresis X-Ray Fluorescence (XRF) Analyzer, model Pb200i. Lead concentrations exceeding 1.0 mg/cm^2 are considered high.

The LBP survey revealed the following painted surfaces that contained high detectable levels of lead:

Interior

Brick walls, brick columns, concrete columns, concrete walls, metal columns, metal doors, metal door frames, metal drain pipes, metal fire doors, metal I-beams, metal pipes metal radiator, metal sprinkler pipes, metal stair balusters, metal stair newel posts, metal stair stringer, metal tank, metal wall plate, metal wall vent, plaster column, plaster walls, wood baseboard, wood columns, wood door casings, wood door jambs, wood stair balusters, wood stair newel posts, wood walls, wood wall chair rail, wood wall trim, wood window casings, wood window sills, wood window sashes, ceramic wall tile, and vinyl baseboards.

Exterior

Metal cellar window frames, metal cellar window lintels, metal vents, wood door, wood garage over-head door, wood window casing, and wood window sills.

A copy of the Lead-Based Paint Testing Report is provided within Attachment D. The survey report includes a detailed list of individual XRF scanning locations and analytical results.

A waste material is considered to be a toxicity characteristic waste if it is able to leach toxic metals or other compounds into soil or groundwater under landfill conditions. An analytical method known as the Toxicity Characteristic Leaching Procedure (TCLP) is used to determine if a waste material will leach these chemicals into soil or groundwater. Analytical testing of actual demolition waste stream samples of demolished material, including the metal (or other substrates) and paint for TCLP Lead would be required to determine if the stream is considered a toxicity characteristic waste.

2.0 Asbestos Containing Materials (ACMs)

A non-destructive survey was conducted to identify ACMs associated with the site structure on January 20 and 21, 2021. The survey was conducted in accordance with The Massachusetts Department of Labor and Workforce Development (DLWD) – The Removal, Containment and Encapsulation of Asbestos Regulations – 453 CMR 6.00 and other applicable federal asbestos regulations. The survey was conducted and/or supervised by Matthew Alger, who is certified as an Asbestos Inspector pursuant to Title II of the Toxic Substance Control Act (TSCA), 15, U.S.C. 2646. See Attachment F for license / certification details.

Building materials observed within the survey areas primarily consisted of brick walls, concrete blocks, wood framing, concrete and wood floors, and a rubber membrane roof. Other building components include thermal system insulation (TSI), drywall, joint compound, plaster, wall coatings, sheet flooring, tile flooring, floor levelers, floor paper under wood floors, acoustic ceiling tiles, ceramic wall tiles, kitchen sink coatings, mastics, caulking, and window glazing compounds.

Please refer to Attachment C for photographic documentation. Building materials considered suspect of potentially containing asbestos were observed to be in generally fair to poor condition.

Accessible areas were assessed, inspected and/or sampled. Materials hidden or not accessible were evaluated within reasonable access limitations. Subsurface exterior building materials were not assessed. Areas behind locked doors were not assessed. As the structure was occupied throughout by multiple tenants, discreet sampling techniques were used where practical. Suspect ACMs are classified as friable or non-friable material. Friable material may be crumpled, pulverized, or reduced to powder with hand pressure. Friable materials are more hazardous than non-friable materials because they can readily release airborne asbestos fibers.

Bulk samples of suspect materials were collected into sealed plastic bags and delivered to EMSL Laboratories, LLC (EMSL) of Woburn, MA. Bulk samples were analyzed by Polarized Light Microscopy (PLM) utilizing dispersion staining (DS) techniques in accordance with EPA Method 600/R-93/116. A total of 240 samples were submitted for analysis. Table 1 in Attachment A details analytical results and the approximate quantities of the identified ACMs. The analytical laboratory reports and corresponding chain of custody (COC) forms are included in Attachment E of this report.

As detailed in Table 1, bulk material analytical results revealed evidence of friable and non-friable ACMs. The friable ACM sources include:

- TSI materials (boiler insulation, pipe insulation, pipe elbows and tees); 35-70% asbestos; located throughout building; extent/quantity of material is unknown.

The non-friable ACM sources include:

- Various 9”x9” floor tiles and associated mastics; 3-5% asbestos; located throughout building; extent/quantity of material is unknown.
- Black mastic on beige 12”x12” floor tiles; 5-8% asbestos; identified in basement and 3rd floor; extent/quantity of material is unknown.
- Leveling compound under black floor tile in basement; 10% asbestos; extent/quantity of material is unknown.
- Paper layer under wood floors; 40% asbestos; identified in 3rd floor office space; extent/quantity of material is unknown.
- Kitchen sink coating; 5% asbestos; 4th floor, 1 sink.
- Gray panels in out-of-service freight elevator (assumed to contain asbestos).
- Fire doors located throughout the building (assumed to contain asbestos).

As noted, BETA observed one out-of-service freight elevator in the site structure that was reportedly cable-driven. BETA observed multiple gray panels inside of the elevator shaft that appeared to potentially contain transite, a type of asbestos; however, the panels were not physically accessible for sampling. These panels should be assumed to contain asbestos. BETA observed multiple fire doors throughout the building and on most levels. Fire doors may contain asbestos within their metal or wood exterior; however, the interiors of the fire doors were not accessible for sampling without destructive sampling techniques. These doors should be assumed to contain asbestos.

During future renovation / demolition activities, additional building materials suspect of containing asbestos may be identified. If so, materials should be sampled and analyzed by a certified asbestos inspector prior to disturbance or removal. BETA suspects that asbestos TSI on piping is present behind walls and in other inaccessible areas throughout all floors of the building. BETA also suspects that asbestos-containing floor tiles, mastics, and other flooring materials are present beneath carpets, partition walls, wood sub-floors, ceramic / terrazzo floors, and/or other hidden or inaccessible areas.

3.0 Polychlorinated Biphenyls (PCBs)

On January 20 and 21, 2021, building materials were inspected for the potential presence of PCBs. Visual inspection revealed paints, coatings, and caulking materials that were considered to be potential PCB-containing. Refer to Attachment C – Photographic Documentation for details regarding sampling locations.

A total of 16 samples were submitted for analysis to ESS Laboratories, Inc. (ESS) and analyzed for PCBs via EPA Method 8082/3540C (Soxhlet Extraction Method). The analytical laboratory report and corresponding chain of custody (COC) forms are included in Attachment E of this report.

The attached Table 2 summarizes analytical findings. Total PCB concentrations are equal to the sum of all Aroclors detected. Concentrations of total PCBs were detected in 14 of the 16 samples collected. PCB concentrations in two of the samples exceeded the TSCA threshold for PCB Bulk Product Waste (50 mg/kg). These two materials include:

- White ceiling paint in the 1st floor attic / mechanical area; 51.6 mg/kg.
- Black coating on cork ceiling and walls; 2nd floor storage room in western part of building; 64.4 mg/kg.

PCB concentrations were not detected above laboratory reporting limits in the two window frame caulking samples analyzed.

4.0 Additional Oils and/or Hazardous Materials

BETA conducted a visual survey of the site building for other oils and hazardous materials (OHMs) that have the potential for disturbance during potential future demolition activities.

Potential PCB-Containing Equipment

Fluorescent light fixture ballasts manufactured prior to 1979 may contain small quantities of PCBs. Recently manufactured fluorescent light ballasts do not contain PCBs and those manufactured between 1978 and 1998 are required to have "No PCBs" labels. Light ballasts that do not have "No PCBs" labels, unless known to be manufactured since 1998, should be treated as PCB-containing and handled/disposed of accordingly.

BETA observed fluorescent light ballasts throughout all levels of the site structure (estimated >1,000 units). BETA observed a combination of older and newer ballasts and many were concealed within the light fixtures and/or behind suspended ceilings. Most lighting systems are intact and require removal of the ballast for proper disposal.

BETA did not attempt to disassemble light fixtures to access the ballasts and, therefore, did not observe labels indicating the presence or absence of PCBs within the ballasts. Light fixtures should be assumed to contain PCBs unless the ballast is identified as having a "No PCBs" label.

BETA observed a large electrical room in the basement of the site building; however, we did not inspect transformers or other energized equipment as part of the survey. It should be assumed that on-site transformers contain PCB oil, which will require proper disposal.

BETA observed two active hydraulic elevators in the southern portion of the site structure. Hydraulic oil may contain PCBs and should be tested prior to dismantling and disposal. BETA observed one out-of-service freight elevator in the site structure that was reportedly cable-driven; however, the lifting mechanism was not confirmed. The elevator pits were not physically accessible for inspection during BETA's survey.

Potential Mercury-Containing Equipment

Thermostats, thermometers, and pressure gauges sometimes contain mercury. BETA only observed one confirmed mercury thermostat within the site structure (Unit 330); however, a thorough inspection of all units for the presence of mercury switches was not performed. Thermostats encountered during future renovation activities should be assumed to contain mercury until inspected.

Fluorescent light bulbs typically contain mercury. BETA observed fluorescent light tubes throughout all levels of the site structure (estimated >1,000 units). The light bulbs observed at the site should be disposed of properly as universal waste.

Other OHMs

BETA observed an assortment of containers of OHMs within the site structure, particularly in the first floor maintenance shop, mechanical areas, and the boiler room area. Most of these products were being stored in a neat and orderly manner for use during normal maintenance operations; however, some waste oils were improperly stored and should be collected for off-site disposal.

The following is a list of the OHMs observed:

- (4) 55-gallon drums of waste oil (boiler room);
- (2) 55-gallon drums of corrosive liquid (boiler room);
- (5) 5-gallon buckets of waste oil (boiler room);
- (Approx. 20) 5-gallon buckets of various waste oils and/or other liquids (near generator room); and,
- (2) 55-gallon drums of hydraulic fluid (basement level near out-of-service freight elevator).

In the first floor maintenance shop (west side of the building), BETA observed shelving units stocked with paints, cleaning agents, and other products used for regular maintenance activities. Additional site survey activities would be necessary to fully inventory OHMs present within the site structure.

BETA did not observe evidence of aboveground storage tanks (ASTs) at the site. Communications with Doug Morris, a member of the facility management team, revealed that a former heating oil underground storage tank (UST) was located beneath the parking lot to the south of the building. Mr. Morris could not confirm whether this UST had been removed from the site.

5.0 Conclusions / Recommendations

Lead-Based Paint

For future demolition activities involving the disturbance of painted surfaces at the site, collection of a demolition debris waste stream composite sample (all materials, including the substrates) and analysis for lead using TCLP methodologies would be required to determine if the waste stream is considered hazardous waste or could be disposed of as general construction debris.

Renovation / demolition workers should be trained and protected in accordance with applicable OSHA regulations (29 CFR 1926.62).

ACMs

ACMs should be managed and disposed of in accordance with applicable MassDEP and OSHA regulations. BETA recommends that the identified ACMs be appropriately abated by a licensed asbestos abatement contractor in accordance with all local, state, and federal regulations prior to any potential disturbance associated with any future demolition or renovation activities.

It should be noted that the EPA defines an asbestos-containing building material (ACBM) as a building material that contains asbestos in concentrations of 1% or greater. MassDEP considers building materials that contain any detectable amount (<1% asbestos) to be an asbestos containing waste material (ACWM). Additionally, MassDEP indicates that if any material containing any asbestos gets mixed with non-asbestos construction and demolition (C&D) debris, all must be handled as an ACWM, which will need to be disposed of at a landfill that will accept asbestos containing waste, as well as being properly manifested.

It should also be noted that OSHA requires that removal of any material with detectable asbestos including <1% must adhere to limited requirements of the construction standard for asbestos (29 CFR 1926.1101). These limited requirements include, but are not limited to the following:

- Donning of Personnel Protective Equipment (PPE);
- Material must be removed utilizing wet methods;
- Prompt cleanup and disposal of material in leak tight containers.

In addition to these removal requirements, the workers performing renovation or demolition activities for materials that contain detectable asbestos concentrations must have a minimum of 2-hour asbestos awareness training.

Materials hidden or not accessible were evaluated within reasonable access limitations. Subsurface exterior building materials were not assessed. During future demolition activities, additional building materials (currently inaccessible without destructive methods) suspect of containing asbestos will be identified.

These materials should be sampled and analyzed by a certified asbestos inspector prior to disturbance or removal. BETA suspects that asbestos TSI on piping is present behind walls and in other inaccessible areas throughout all floors of the building. BETA also suspects that asbestos-containing floor tiles, mastics, and other flooring materials are present beneath carpets, partition walls, wood sub-floors, ceramic / terrazzo floors, and/or other hidden or inaccessible areas.

PCBs

Materials containing PCBs at concentrations greater than 50 mg/kg are considered to be a PCB Bulk Product Waste and should be disposed of according to TSCA regulations. Additional assessment of materials / strata surrounding the materials containing PCBs >50 ppm would be required per TSCA regulations. Building materials with concentrations greater than 1 mg/kg but less than 50 mg/kg are considered to be Federally Excluded PCB Product if the total PCB concentration in the original material has not been modified by subsequent activities. Building materials containing PCBs at concentrations less than 1 mg/kg are not regulated and can be managed as general construction waste.

OHMs

Containers of oils and/or other hazardous materials must be disposed of properly prior to site redevelopment. Potential PCB and mercury sources were observed at the site. Lighting ballasts must be recycled / disposed of in accordance with MassDEP's *Policy for Disposal of Lighting Ballasts*, dated January 16, 1992. Fluorescent tubes and bulbs, along with thermostats must be recycled / disposed of in accordance with MassDEP's *Universal Waste Rule,* dated October 17, 1997. Non-PCB and potential / assumed PCB containing light ballasts can be readily separated / managed during demolition activities.

Based upon BETA's survey efforts and the presence of OHMs and a potentially abandoned UST adjacent to the site, it is highly recommended that a Phase I & II Environmental Site Assessment is conducted prior to a future owner acquiring the site to assess subsurface conditions.

If we can be of any further assistance regarding this matter, please contact us at our office.

Very truly yours,
BETA Group, Inc.

Matthew Alger
Project Manager

Job No: 21.07453.00

Attachments:

A Tables:
Table 1 - Summary of 1.2021 Asbestos Analytical Results
Table 2 - Summary of 1.2021 PCB Analytical Results

B Figures:
Figure 1 - First Floor
Figure 2 - Second Floor
Figure 3 - Third Floor
Figure 4 - Fourth Floor
Figure 5 - Fifth Floor
Figure 6 - Sixth Floor
Figure 7 - Basement

C Photographic Documentation

D Lead-Based Paint Testing Report

E Laboratory Analytical Reports

F Asbestos Inspector Certification

Attachment A

Table 1 - Summary of 1.2021 Asbestos Analytical Results
Table 2 - Summary of 1.2021 PCB Analytical Results

TABLE 1 - Summary of 1.2021 Asbestos Analytical Results
Denholm Building
Worcester, MA

SAMPLE ID	SAMPLE DESCRIPTION	SAMPLE LOCATION	RESULTS (% ASBESTOS)
1A	Skim Coat Plaster	Basement	NAD
1B	Skim Coat Plaster	Basement	NAD
1C	Skim Coat Plaster	Basement	NAD
1D	Skim Coat Plaster	2nd Floor	NAD
1E	Skim Coat Plaster	3rd Floor	NAD
1F	Skim Coat Plaster	1st Floor	NAD
1G	Skim Coat Plaster	5th Floor	NAD
2A	Base Coat Plaster	Basement	NAD
2B	Base Coat Plaster	Basement	NAD
2C	Base Coat Plaster	Basement	NAD
2D	Base Coat Plaster	2nd Floor	NAD
2E	Base Coat Plaster	3rd Floor	NAD
2F	Base Coat Plaster	1st Floor	NAD
2G	Base Coat Plaster	5th Floor	NAD
3A	Drywall	Basement	NAD
3B	Drywall	Basement	NAD
3C	Drywall	Basement	NAD
3D	Drywall	2nd Floor	NAD
3E	Drywall	3rd Floor	NAD
3F	Drywall	3rd Floor	NAD
3G	Drywall	4th Floor	NAD
3H	Drywall	1st Floor	NAD
4A	Joint Compound	Basement	NAD
4B	Joint Compound	Basement	NAD
4C	Joint Compound	Basement	NAD
4D	Joint Compound	2nd Floor	NAD
4E	Joint Compound	3rd Floor	NAD
4F	Joint Compound	3rd Floor	NAD
4G	Joint Compound	4th Floor	NAD
4H	Joint Compound	4th Floor	NAD
4I	Joint Compound	1st Floor	NAD
4J	Joint Compound	5th Floor	NAD
5A	**Air Cell Pipe Insulation**	**Basement**	**70%**
5B	**Air Cell Pipe Insulation**	**Basement**	**PS**
5C	**Air Cell Pipe Insulation**	**Basement**	**PS**
6A	**Elbow on Air Cell Insulation**	**Basement**	**35%**
6B	**Elbow on Air Cell Insulation**	**Basement**	**PS**
6C	**Elbow on Air Cell Insulation**	**Basement**	**PS**
7A	**Layered Paper Pipe Insulation**	**Basement**	**50%**
7B	**Layered Paper Pipe Insulation**	**Basement**	**PS**
7C	**Layered Paper Pipe Insulation**	**Basement**	**PS**
8A	**Elbow on Layered Paper Pipe Insulation**	**Basement**	**45%**
8B	**Elbow on Layered Paper Pipe Insulation**	**Basement**	**PS**
8C	**Elbow on Layered Paper Pipe Insulation**	**Basement**	**PS**
9A	**Boiler Insulation**	**Basement**	**40%**
9B	**Boiler Insulation**	**Basement**	**PS**
9C	**Boiler Insulation**	**Basement**	**PS**
10A	**MAG TSI**	**Basement**	**35%**

Notes:
1. NAD - No asbestos detected
2. PS - Positive stop (assumed to contain asbestos)

TABLE 1 - Summary of 1.2021 Asbestos Analytical Results
Denholm Building
Worcester, MA

SAMPLE ID	SAMPLE DESCRIPTION	SAMPLE LOCATION	RESULTS (% ASBESTOS)
10B	**MAG TSI**	**Basement**	**PS**
10C	**MAG TSI**	**Basement**	**PS**
11A	**Elbow on MAG**	**Basement**	**70%**
11B	**Elbow on MAG**	**Basement**	**PS**
11C	**Elbow on MAG**	**Basement**	**PS**
12A	Beige 9x9 Floor Tile	Basement	NAD
12B	Beige 9x9 Floor Tile	Basement	NAD
12C	Beige 9x9 Floor Tile	Basement	NAD
13A	Mastic on Beige Tile	Basement	NAD
13B	Mastic on Beige Tile	Basement	NAD
13C	Mastic on Beige Tile	Basement	NAD
14A	**Green 9x9 Floor Tile**	**Basement**	**3%**
14B	**Green 9x9 Floor Tile**	**Basement**	**PS**
15A	Mastic on Green Tile	Basement	NAD
15B	Mastic on Green Tile	Basement	NAD
16A	**Black 9x9 Floor Tile**	**Basement**	**3%**
16B	**Black 9x9 Floor Tile**	**Basement**	**PS**
16C	**Black 9x9 Floor Tile**	**Basement**	**PS**
17A	Mastic on Black Tile	Basement	NAD
17B	Mastic on Black Tile	Basement	NAD
17C	Mastic on Black Tile	Basement	NAD
18A	**Soft Leveling Compound Under Black Tile**	**Basement**	**10%**
18B	**Soft Leveling Compound Under Black Tile**	**Basement**	**PS**
19A	Cementitious Gray Wall Plaster	Basement	NAD
19B	Cementitious Gray Wall Plaster	Basement	NAD
20A	Beige 12x12 Floor Tile	Basement	NAD
20B	Beige 12x12 Floor Tile	Basement	NAD
21A	**Mastic on Beige 12x12 Floor Tile**	**Basement**	**8%**
21B	**Mastic on Beige 12x12 Floor Tile**	**Basement**	**PS**
22A	Brown Glue on Columns That Have Fiber Board	Basement	NAD
22B	Brown Glue on Columns That Have Fiber Board	Basement	NAD
23A	White 2'x2' Ceiling Tile	Basement	NAD
23B	White 2'x2' Ceiling Tile	Basement	NAD
23C	White 2'x2' Ceiling Tile	Basement	NAD
24A	Brown Fiber Paper Ceiling Tile with Holes	Basement	NAD
24B	Brown Fiber Paper Ceiling Tile with Holes	Basement	NAD
24C	Brown Fiber Paper Ceiling Tile with Holes	Basement	NAD
25A	Ceiling Plaster - Skim Coat	Basement	NAD
25B	Ceiling Plaster - Skim Coat	Basement	NAD
26A	Ceiling Plaster	Basement	NAD
26B	Ceiling Plaster	Basement	NAD
27A	2'x4' Decorative Acousitic Ceiling Tile	Basement	NAD
27B	2'x4' Decorative Acousitic Ceiling Tile	Basement	NAD
28A	Pink 12"x12" Floor Tile	2nd Floor, Near Escalator	NAD
29A	Mastic on Pink 12"x12" Floor Tile	2nd Floor, Near Escalator	NAD
30A	Concrete Under Pink Tile	2nd Floor, hallway & offices	NAD
30B	Concrete Under Pink Tile	2nd Floor, hallway & offices	NAD
31A	Rose 12"x12" Floor Tile	2nd Floor - Room 203	NAD

Notes:
1. NAD - No asbestos detected
2. PS - Positive stop (assumed to contain asbestos)

TABLE 1 - Summary of 1.2021 Asbestos Analytical Results
Denholm Building
Worcester, MA

SAMPLE ID	SAMPLE DESCRIPTION	SAMPLE LOCATION	RESULTS (% ASBESTOS)
32A	Mastic on Rose 12"x12" Floor Tile	2nd Floor, Room 203	NAD
33A	Tan 12"x12" Floor Tile	2nd Floor, Room 203	NAD
34A	Mastic on Tan 12"x12" Floor Tile	2nd Floor, Room 203	NAD
35A	Gray Floor Tile	2nd Floor, Bathrooms	NAD
36A	Mastic on Gray Floor Tile	2nd Floor, Bathrooms	NAD
37A	Deteriorated Flooring Brick Pattern	2nd Floor, garbage room	NAD
38A	Deteriorated Flooring Brown	2nd Floor, garbage room	NAD
39A	Deteriorated Flooring Red	2nd Floor, garbage room	NAD
40A	Pyro Block	2nd Floor, garbage room	NAD
40B	Pyro Block	2nd Floor, garbage room	NAD
41A	**Tan 9"x9" Floor Tile**	**2nd Floor, storage room on west side**	**5%**
41B	**Tan 9"x9" Floor Tile**	**2nd Floor, storage room on west side**	**PS**
42A	Mastic on Tan 9"x9" Floor Tile	2nd Floor, storage room on west side	NAD
42B	Mastic on Tan 9"x9" Floor Tile	2nd Floor, storage room on west side	NAD
43A	Ceiling Plaster	2nd Floor, storage room on west side	NAD
43B	Ceiling Plaster	2nd Floor, storage room on west side	NAD
44A	Black Coating on Ceiling Layer	2nd Floor, storage room on west side	NAD
44B	Black Coating on Ceiling Layer	2nd Floor, storage room on west side	NAD
45A	Gray Floor Leveler Under Carpet	3rd Floor, hallway	NAD
46A	White Floor Leveler Under Carpet	3rd Floor, hallway	NAD
47A	Black/Green Floor Leveler Under Carpet	3rd Floor, hallway	NAD
48A	**Red 9"x9" Floor Tile**	**Floors 1-5 South Stairwell**	**5%**
49A	Mastic on Red 9"x9" Floor Tile	Floors 1-5 South Stairwell	NAD
50A	**Black 9"x9" Floor Tile**	**Floors 1-5 South Stairwell**	**5%**
51A	Mastic on Black 9"x9" Floor Tile	Floors 1-5 South Stairwell	NAD
52A	**Tan 9"x9" Floor Tile**	**1st Floor South Stairwell**	**5%**
53A	Mastic on Tan 9"x9" Floor Tile	1st Floor South Stairwell	NAD
54A	**Green Stair Tread**	**1st Floor South Stairwell**	**5%**
55A	**Mastic on Stair Tread**	**1st Floor South Stairwell**	**5%**
56A	Terrazzo Floor	1st Floor South Stairwell	NAD
56B	White Terrazzo Floor	1st Floor Crawl Space/Attic	NAD
57A	**Sand 9"x9" Floor Tile**	**4th Floor Landing in South Stairwell**	**5%**
58A	Mastic on Sand 9"x9" Floor Tile	4th Floor Landing in South Stairwell	NAD
59A	Pink Floor Tile	5th Floor South Stairwell	NAD
60A	**Mastic on Pink Floor Tile**	**5th Floor South Stairwell**	**5%**
61A	Gray Floor Tile	5th Floor South Stairwell	NAD
62A	**Mastic on Gray Floor Tile**	**5th Floor South Stairwell**	**5%**
63A	Burlap-Backed Floor	5th Floor South Stairwell	NAD
64A	Beige Floor Tile	3rd Floor, hallway	NAD
64B	Beige Floor Tile	4th Floor, hallway	NAD
65A	**Mastic on Beige Floor Tile**	3rd Floor, hallway	**5%**
65B	Mastic on Beige Floor Tile	4th Floor	NAD
66A	3/4 Addition Drywall	3rd Floor - 3/4 addition	NAD
66B	3/4 Addition Drywall	3rd Floor - 3/4 addition	NAD
27C	Decorative Acoustic Tile	4th Floor	NAD
67A	3/4 Addition Joint Compound	3rd Floor - 3/4 addition	NAD
67B	3/4 Addition Joint Compound	3rd Floor - 3/4 addition	NAD
68A	Beige Floor Tile	3rd Floor - 3/4 addition	NAD

Notes:
1. NAD - No asbestos detected
2. PS - Positive stop (assumed to contain asbestos)

TABLE 1 - Summary of 1.2021 Asbestos Analytical Results
Denholm Building
Worcester, MA

SAMPLE ID	SAMPLE DESCRIPTION	SAMPLE LOCATION	RESULTS (% ASBESTOS)
68B	Beige Floor Tile	3rd Floor - 3/4 addition	NAD
69A	Yellow Mastic on Beige Floor Tile	3rd Floor - 3/4 addition	NAD
69B	Yellow Mastic on Beige Floor Tile	3rd Floor - 3/4 addition	NAD
70A	**TSI Paper Under Hardwood Floor in Closet**	**3rd Floor Office 345**	**40%**
70B	**TSI Paper Under Hardwood Floor in Closet**	**3rd Floor Office 320**	**PS**
70C	**Gray TSI Paper Under Hardwood Floor in Closet**	**4th Floor, Utility Closet**	**PS**
63B	Burlap-Backed Floor	4th Floor, Utility Closet	NAD
66C	Drywall	4th Floor, Unit 430 (Church)	NAD
67C	Joint Compound	4th Floor, Unit 430 (Church)	NAD
71A	White 12"x12"VFT	3rd Floor Office 345	NAD
72A	Mastic on White 12"x12" VFT	3rd Floor Office 345	NAD
73A	Beige 9"x 9" Floor Tile	3rd Floor Office 320	NAD
74A	Mastic on Beige 9"x 9" Tile	3rd Floor Office 320	NAD
75A	Black Paper Under 9"x 9" Floor Tile	3rd Floor Office 320	NAD
75B	Black Paper Under 9"x 9" Floor Tile	3rd Floor Electrical Room	NAD
75C	Black Paper Under 9"x 9" Floor Tile	4th Floor Utility Closet	NAD
76A	White Linoleum	3rd Floor Office 320, Closet	NAD
77A	Duct Sealant	3rd Floor Office 320	NAD
78A	Wall Plaster on Wood Lathe	3rd Floor Office 360	NAD
78B	Wall Plaster on Wood Lathe	4th Floor Office 480	NAD
79A	Tan 12"x 12" Floor Tile	3rd Floor Office 360	NAD
80A	Mastic on Tan 12"x 12" Floor Tile	3rd Floor Office 360	NAD
81A	Black 12"x 12" Floor Tile	3rd Floor Mail Room	NAD
82A	Mastic on Black 12"x 12" Floor Tile	3rd Floor Mail Room	NAD
83A	**Brown/Green 9"x9" Floor Tile**	**3rd Floor Telephone Room**	**5%**
84A	Mastic on Brown/Green 9"x9" Floor Tile	3rd Floor Telephone Room	NAD
85A	Beige/Pink 12"x 12" Floor Tile	3rd Floor Telephone Room	NAD
86A	Mastic on Beige/Pink 12"x 12" Floor Tile	3rd Floor Telephone Room	NAD
87A	Blue Linoleum in Kitchen	4th Floor Office 480	NAD
88A	**Kitchen Sink Coating**	**4th Floor Office 480**	**5%**
89A	White 12"x 12" Floor Tile	4th Floor Office 400	NAD
90A	Mastic on White 12"x 12" Floor Tile	4th Floor Office 400	NAD
91A	Beige 12"x 12" Floor Tile	4th Floor Office 400	NAD
92A	Mastic on Beige 12"x 12" Floor Tile	4th Floor Office 400	NAD
93A	**2nd Layer Floor Tile Under New Wood Flooring**	**4th Floor, Unit 430 (Church)**	**3%**
94A	Mastic on 2nd Layer Tile	4th Floor, Unit 430 (Church)	NAD
95A	Tan 12"x 12" Floor Tile	4th Floor, Unit 430 (Church)	NAD
96A	Mastic on Tan Tile	4th Floor, Unit 430 (Church)	NAD
97A	Black 2nd Layer Tile Under Tan Tile	4th Floor, Unit 430 (Church)	NAD
98A	Mastic on Black Tile	4th Floor, Unit 430 (Church)	NAD
99A	Black Paper Under Black Tile	4th Floor, Unit 430 (Church)	NAD
100A	Gray Floor Leveling Compound	4th Floor, Unit 430 (Church)	NAD
101A	Skim Coat Plaster	4th Floor, Unit 430 (Church)	NAD
102A	Base Coat Plaster	4th Floor, Unit 430 (Church)	NAD
103A	Plaster on Lathe	4th Floor, Unit 430 (Church)	NAD
104A	Brown Exterior Window Frame Caulk	4th Floor, Unit 430 (Church)	NAD
105A	**Tan 9"x 9" Floor Tile**	**1st Floor Attic / Mechanical Room**	**3%**
106A	Mastic on Floor Tile	1st Floor Attic / Mechanical Room	NAD

Notes:
1. NAD - No asbestos detected
2. PS - Positive stop (assumed to contain asbestos)

TABLE 1 - Summary of 1.2021 Asbestos Analytical Results
Denholm Building
Worcester, MA

SAMPLE ID	SAMPLE DESCRIPTION	SAMPLE LOCATION	RESULTS (% ASBESTOS)
107A	Yellow Linoleum	1st Floor Attic / Mechanical Room	NAD
108A	Green Linoleum	1st Floor Attic / Mechanical Room	NAD
109A	Black Floor Paper	1st Floor Attic / Mechanical Room	NAD
110A	Gray Troweled-on Wall Plaster	1st Floor Attic / Mechanical Room	NAD
105B	**Tan 9"x 9" Floor Tile**	**1st Floor Post Office**	**PS**
106B	Mastic on 9"x9" Floor Tile	1st Floor, Post Office	NAD
111A	**White Insulation on Ducts/Air Handler**	**1st Floor Post Office**	**55%**
111B	**White Insulation on Ducts/Air Handler**	**1st Floor Post Office**	**PS**
111C	**White Insulation on Ducts/Air Handler**	**1st Floor Post Office**	**PS**
112A	Brown Insulation on Ducts/Air Handler	1st Floor, Post Office	NAD
112B	Brown Insulation on Ducts/Air Handler	1st Floor, Post Office	NAD
112C	Brown Insulation on Ducts/Air Handler	1st Floor, Post Office	NAD
113A	Gray 12"x 12" Floor Tile	1st Floor, Post Office	NAD
114A	Mastic on Gray 12"x 12" Floor Tile	1st Floor, Post Office	NAD
115A	Yellow Flooring Below Stairwell in Post Office Closet	1st Floor, Post Office	NAD
116A	Mastic on Yellow Flooring	1st Floor, Post Office	NAD
117A	Gray Leveling Compound Under Carpet	5th Floor, Offices 560 & 580	NAD
118A	Blue 12"x 12" Floor Tile	5th Floor, Office 560	NAD
119A	Mastic on Blue 12"x 12" Floor Tile	5th Floor, Office 560	NAD
120A	White 12"x 12" Floor Tile	5th Floor	NAD
121A	Mastic on White 12"x 12" Floor Tile	5th Floor	NAD
122A	2'x2' Acousitc Ceiling Tile	5th Floor, Office 535	NAD
123A	Linoleum on Kitchen Step	5th Floor, Office 520	NAD
124A	Tan+Brown 12"x 12" Floor Tile	6th Floor	NAD
124B	Tan+Brown 12"x 12" Floor Tile	6th Floor	NAD
125A	Mastic on Tan+Brown 12"x 12" Floor Tile	6th Floor	NAD
125B	Mastic on Tan+Brown 12"x 12" Floor Tile	6th Floor	NAD
126A	Drywall	6th Floor	NAD
126B	Drywall	6th Floor	NAD
126C	Drywall	6th Floor	NAD
127A	Joint Compound	6th Floor	NAD
127B	Joint Compound	6th Floor	NAD
127C	Joint Compound	6th Floor	NAD
128A	Skim Coat Plaster	6th Floor	NAD
128B	Skim Coat Plaster	6th Floor	NAD
128C	Skim Coat Plaster	6th Floor	NAD
129A	Base Coat Plaster	6th Floor	NAD
129B	Base Coat Plaster	6th Floor	NAD
129C	Base Coat Plaster	6th Floor	NAD
130A	Brown Exterior Window Frame Caulk	6th Floor	NAD
130B	Brown Exterior Window Frame Caulk	6th Floor	NAD
131A	White Floor Tile	6th Floor, Computer Room	NAD
132A	Mastic on White Floor Tile	6th Floor, Computer Room	NAD
133A	Black Paper in Attic	6th Floor Attic	NAD
134A	Mortar on Terracotta Wall Blocks in Attic	6th Floor Attic	NAD
135A	Floor Paper Below Hardwood	Garage - 2nd Floor	NAD
3I	Drywall	5th Floor	NAD
78C	Plaster on Wood Lathe	1st Floor	NAD

Notes:
1. NAD - No asbestos detected
2. PS - Positive stop (assumed to contain asbestos)

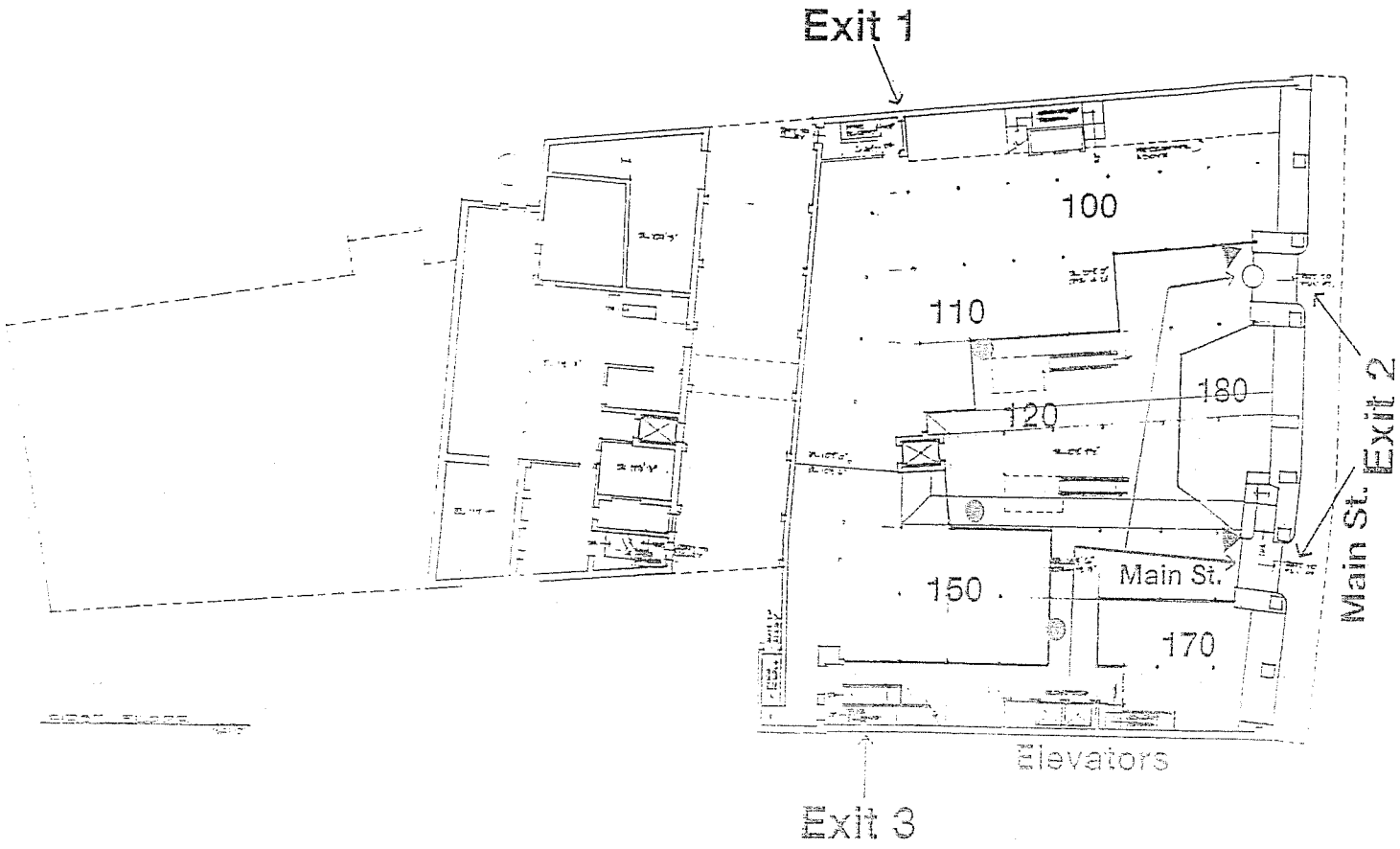
TABLE 1 - Summary of 1.2021 Asbestos Analytical Results
Denholm Building
Worcester, MA

SAMPLE ID	PAINT-1	PAINT-2	PAINT-3	PAINT-4	PAINT-5	PAINT-6	PAINT-7	PAINT-8	PAINT-9	PAINT-10	PAINT-11	PAINT-12	PAINT-13	COATING-1	CAULK-1	CAULK-2	TSCA PCB BULK PRODUCT WASTE
SAMPLE DATE	1/20/2021	1/20/2021	1/20/2021	1/20/2021	1/20/2021	1/20/2021	1/20/2021	1/20/2021	1/20/2021	1/20/2021	1/20/2021	1/21/2021	1/21/2021	1/20/2021	1/21/2021	1/21/2021	
SAMPLE LOCATION	Basement Mechanical Rooms	Basement Mechanical Rooms	Basement Mechanical Rooms	Basement Mechanical Rooms	1st Floor Near Generator Room	1st Floor Near Generator Room	2nd Floor	2nd Floor	2nd Floor Stairwell (West)	2nd Floor Stairwell (West)	1st Floor Stairwell (South)	1st Floor Attic / Mechanical Area	6th Floor Attic	2nd Floor Storage Room (West)	4th Floor Addition - Exterior	6th Floor - Exterior	
SAMPLE MATERIAL	Red Wall Paint	White/Yellow Wall Paint	Black Wall Paint	Green/Beige Wall Paint	Green Paint	Silver Paint	Green Wall Paint	White Ceiling Paint	Green Wall Paint	Beige Wall Paint	White Wall Paint	White Ceiling Paint	White Ceiling Paint	Black Coating on Cork Ceiling	Brown Window Frame Caulk	Brown Window Frame Caulk	
UNITS	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
PCBs																	
Aroclor 1016	BRL(<0.09)	BRL(<0.1)	BRL(<0.1)	BRL(<0.1)	BRL(<0.1)	BRL(<0.1)	BRL(<0.2)	BRL(<0.2)	BRL(<0.1)	BRL(<0.09)	BRL(<0.1)	BRL(<2)	BRL(<2)	BRL(<0.2)	BRL(<0.5)	BRL(<0.2)	50
Aroclor 1221	BRL(<0.09)	BRL(<0.1)	BRL(<0.1)	BRL(<0.1)	BRL(<0.1)	BRL(<0.1)	BRL(<0.2)	BRL(<0.2)	BRL(<0.1)	BRL(<0.09)	BRL(<0.1)	BRL(<2)	BRL(<2)	BRL(<0.2)	BRL(<0.5)	BRL(<0.2)	50
Aroclor 1232	BRL(<0.09)	BRL(<0.1)	BRL(<0.1)	BRL(<0.1)	BRL(<0.1)	BRL(<0.1)	BRL(<0.2)	BRL(<0.2)	BRL(<0.1)	BRL(<0.09)	BRL(<0.1)	BRL(<2)	BRL(<2)	BRL(<0.2)	BRL(<0.5)	BRL(<0.2)	50
Aroclor 1242	7.3	6.4	1.5	BRL(<0.1)	2.2	1	3.2	1.8	3	1.3	1.6	BRL(<2)	BRL(<2)	BRL(<0.2)	BRL(<0.5)	BRL(<0.2)	50
Aroclor 1248	BRL(<0.09)	BRL(<0.1)	BRL(<0.1)	BRL(<0.1)	0.1	BRL(<0.1)	BRL(<0.2)	BRL(<0.2)	BRL(<0.1)	BRL(<0.09)	BRL(<0.1)	BRL(<2)	BRL(<2)	**64.4**	BRL(<0.5)	BRL(<0.2)	50
Aroclor 1254	17	14.5	8.6	15.4	12.7	2.2	13.9	4.6	11	8.5	9.8	28	34.2	BRL(<0.2)	BRL(<0.5)	BRL(<0.2)	50
Aroclor 1260	1.3	2	1.5	1.7	6.7	2.1	11.9	BRL(<0.2)	BRL(<0.1)	2.3	4.1	23.6	7	BRL(<0.2)	BRL(<0.5)	BRL(<0.2)	50
Aroclor 1262	BRL(<0.09)	BRL(<0.1)	BRL(<0.1)	BRL(<0.1)	BRL(<0.1)	BRL(<0.1)	BRL(<0.2)	5	BRL(<0.1)	BRL(<0.09)	BRL(<0.1)	BRL(<2)	BRL(<2)	BRL(<0.2)	BRL(<0.5)	BRL(<0.2)	50
Aroclor 1268	BRL(<0.09)	BRL(<0.1)	BRL(<0.1)	BRL(<0.1)	BRL(<0.1)	BRL(<0.1)	BRL(<0.2)	BRL(<0.2)	2.1	BRL(<0.09)	BRL(<0.1)	BRL(<2)	BRL(<2)	BRL(<0.2)	BRL(<0.5)	BRL(<0.2)	50
Total PCBs	25.6	22.9	11.6	17.1	21.6	5.3	29	11.4	16.1	12.1	15.5	**51.6**	41.2	**64.4**	BRL(<0.5)	BRL(<0.2)	50

Notes:
1. BRL - Below laboratory method reporting limit
2. mg/kg - milligrams per kilogram or parts per million (ppm)
3. Materials containing PCBs at concentrations greater than or equal to 50 mg/kg are classified as PCB Bulk Waste and are regulated by TSCA
4. Materials containing PCBs at concentrations greater than 1 mg/kg and less that 50 mg/kg are considered to be a Federally Excluded PCB Product if the total PCB concentration in the original material has not been modified by subsequent activities
5. Materials containing PCBs at concentrations less than 1 mg/kg are not regulated and can be managed as general construction waste

Attachment B

Figure 1 - First Floor
Figure 2 - Second Floor
Figure 3 - Third Floor
Figure 4 - Fourth Floor
Figure 5 - Fifth Floor
Figure 6 - Sixth Floor
Figure 7 - Basement



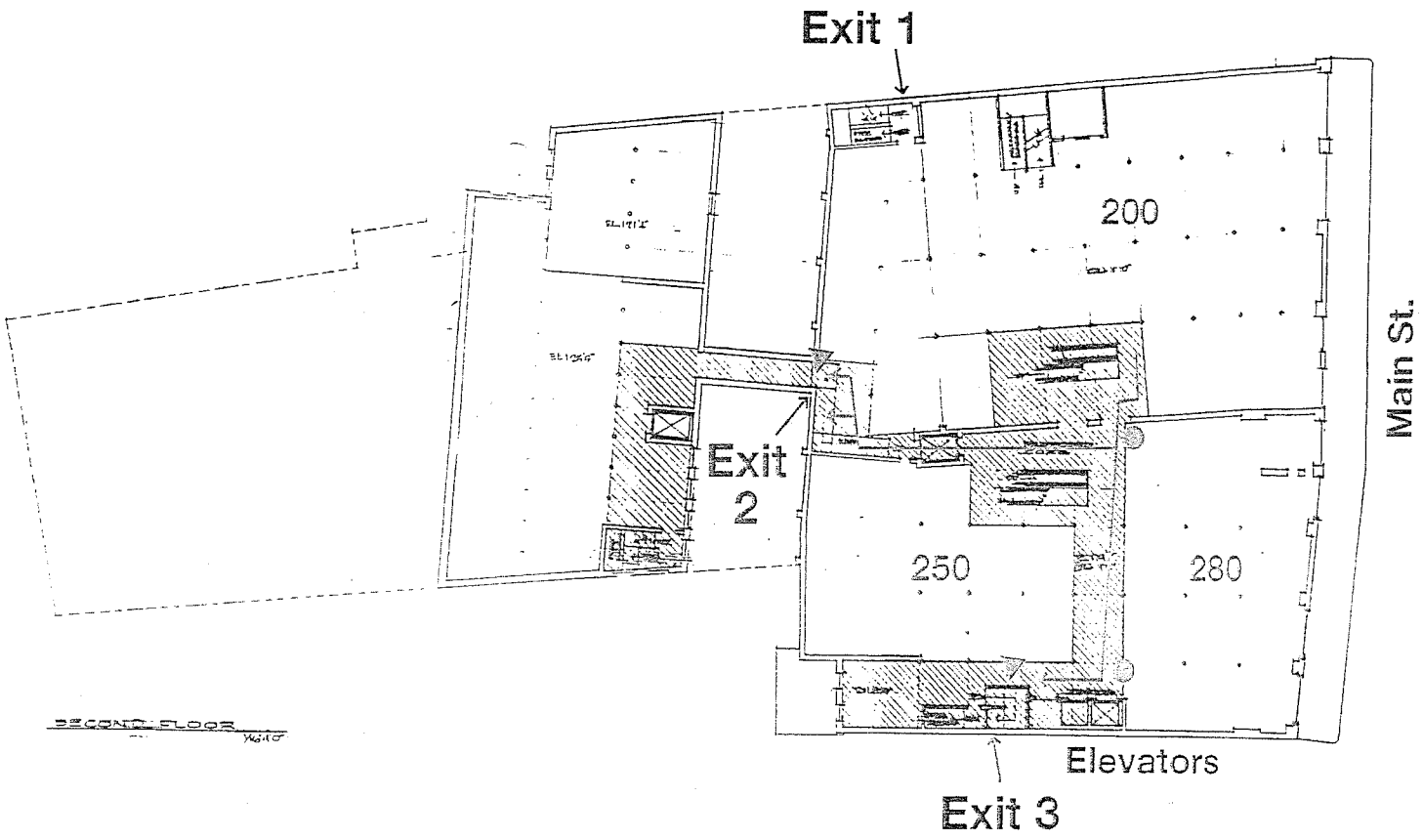
KEY
- FIRE EXTINGUISHER
- PULL STATION
- EVACUATION ROUTE

UNIT 100. PROCEED TO EXIT THROUGH THE MAIN STREET DOORS OR THROUGH EXIT 1. THE MAIN STREET DOORS ARE THE QUICKEST MEANS OF EGRESS FROM THE BUILDING.

UNIT 150. PROCEED TO EXIT THROUGH EITHER THE MAIN STREET DOORS OR STAIRWELL 3. THE MAIN STREET DOOR IS THE PREFERRED MEANS OF EGRESS AS IT IS THE QUICKEST AND MOST OPEN MEANS OF EGRESS.

UNITS 110, 120, 170, 180. PROCEED DIRECTLY OUT OF THE BUILDING VIA EITHER MAIN STREET DOOR.

FIGURE 1: FIRST FLOOR



KEY

● FIRE EXTINGUISHER

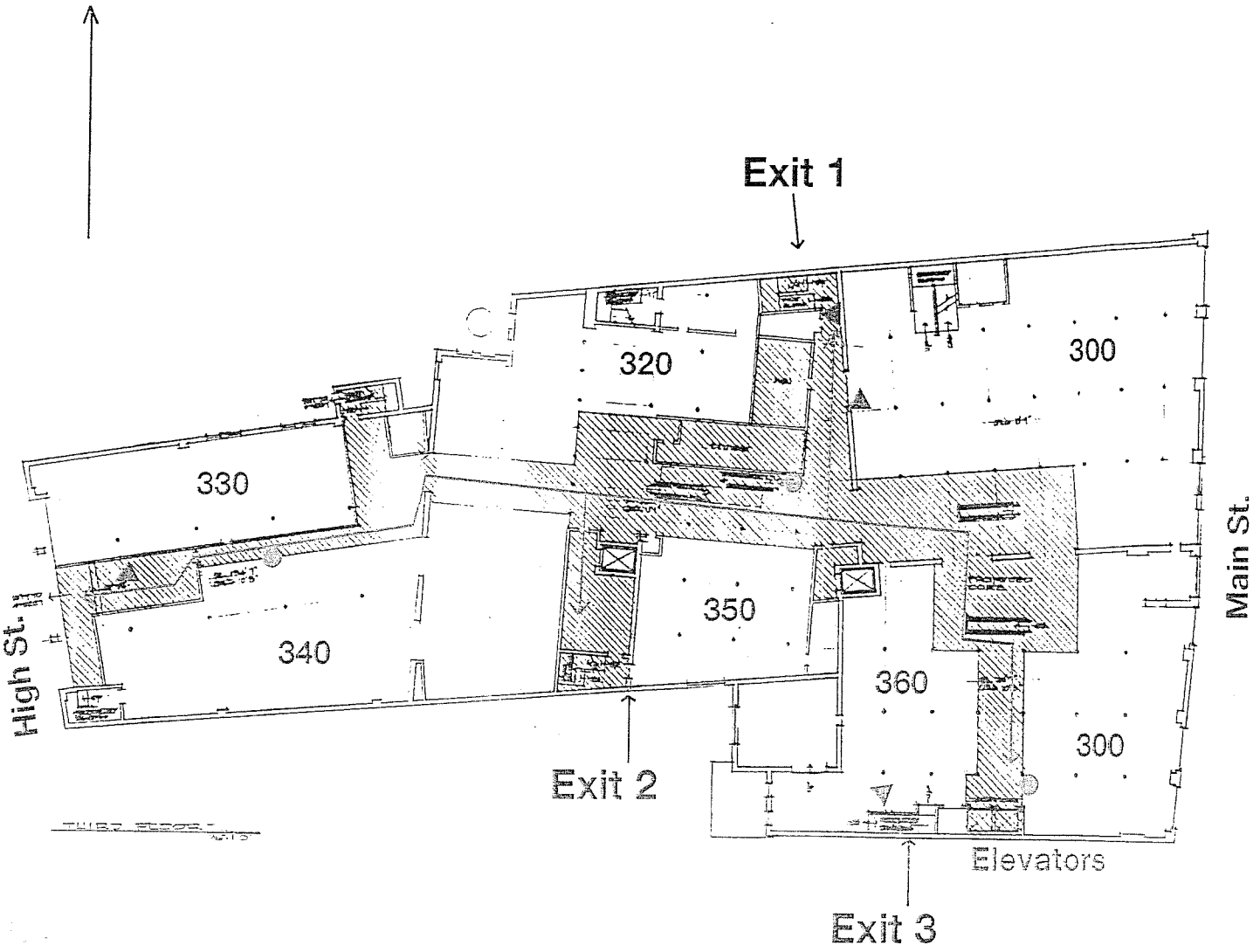
▼ PULL STATION

– EVACUATION ROUTE

UNIT 200. USE EXIT 1 OR 2. EXIT 1 IS THE PREFERRED MEANS OF EGRESS AS THIS IS THE QUICKEST WAY OUT OF THE BUILDING. YOU MAY ALSO USE EXIT 2 THROUGH THE LOADING DOCK DOORS TO THE ALLEY.

UNITS 250 AND 280. PROCEED EITHER TO EXIT 2 OR EXIT 3.

FIGURE 2: SECOND FLOOR

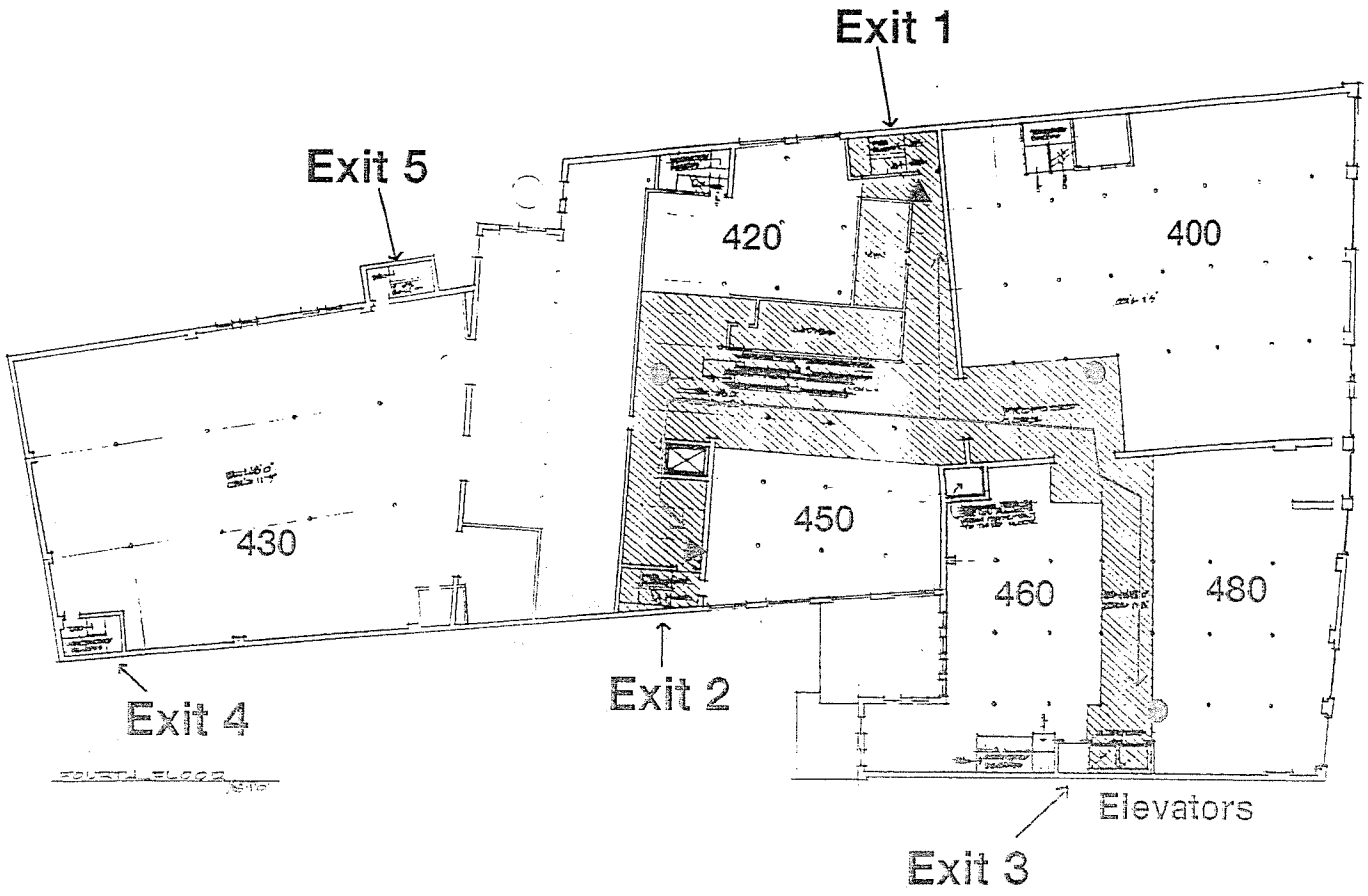


KEY
- FIRE EXTINGUISHER
- PULL STATION
- EVACUATION ROUTE

UNIT 320, 330, 340, 350. PROCEED DIRECTLY TO HIGH STREET DOORS IF UNABLE TO PROCEED TO HIGH ST. GO TO EXITS 1 OR 2 AND GO DOWN TO ALLEY.

UNITS 300 AND 360. PROCEED TO EXITS 1 OR 3. IF UNABLE TO USE EXITS 1 OR 3 PROCEED TO HIGH STREET.

FIGURE 3: THIRD FLOOR



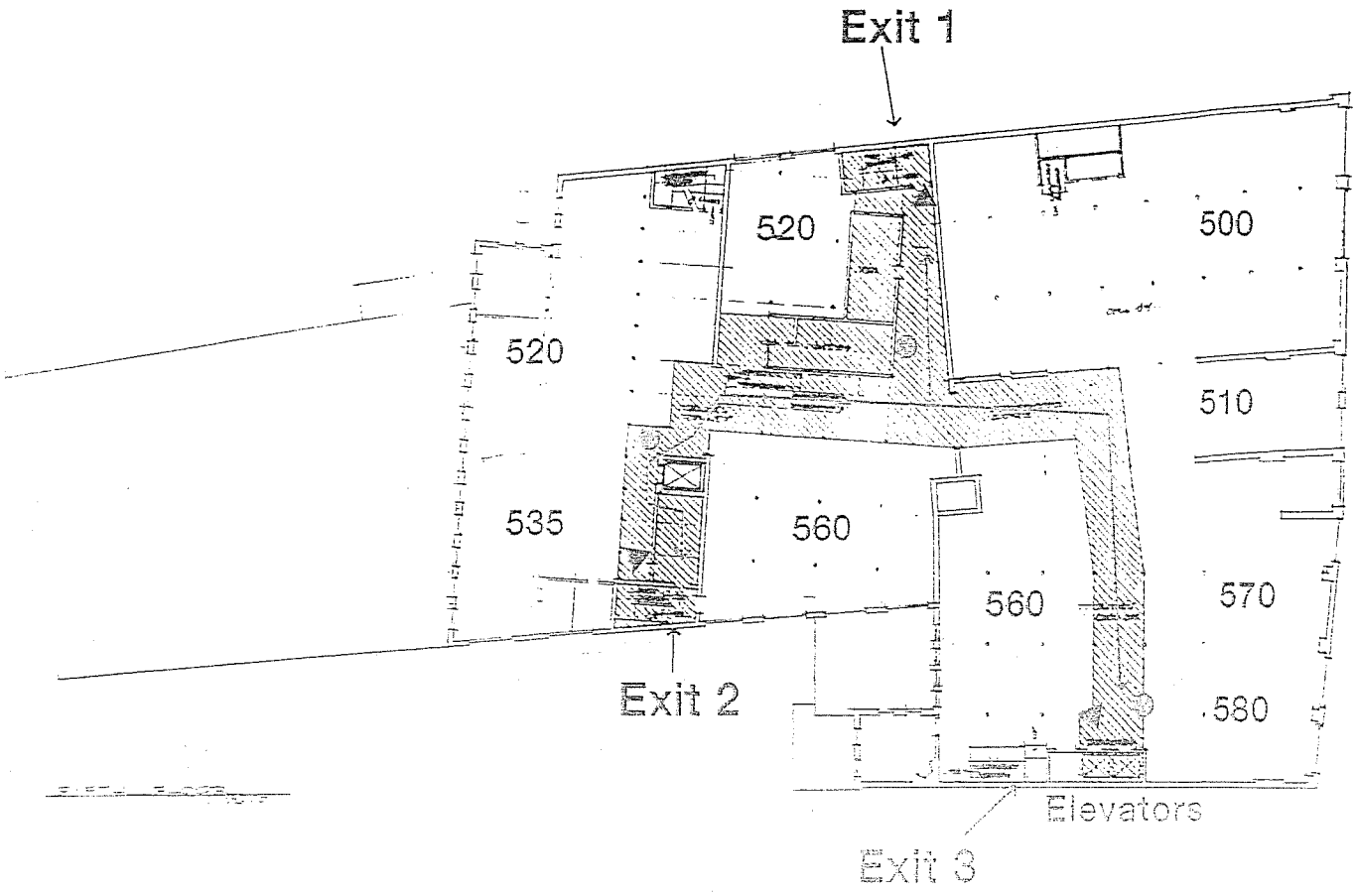
KEY
- FIRE EXTINGUISHER
- PULL STATION
- EVACUATION ROUTE

UNIT 400, 460, AND 480. PROCEED TO EITHER EXITS 1 OR 3. IF UNABLE TO USE EXITS 1 OR 3 PROCEED TO EXIT 2.

UNITS 420 AND 450. PROCEED TO EXITS 1 OR 2. BOTH EXITS LEAD TO THE ALLEY.

UNIT 430. PROCEED TO EXITS 4 OR 5. BOTH EXITS LEAD TO HIGH ST.

FIGURE 4: FOURTH FLOOR

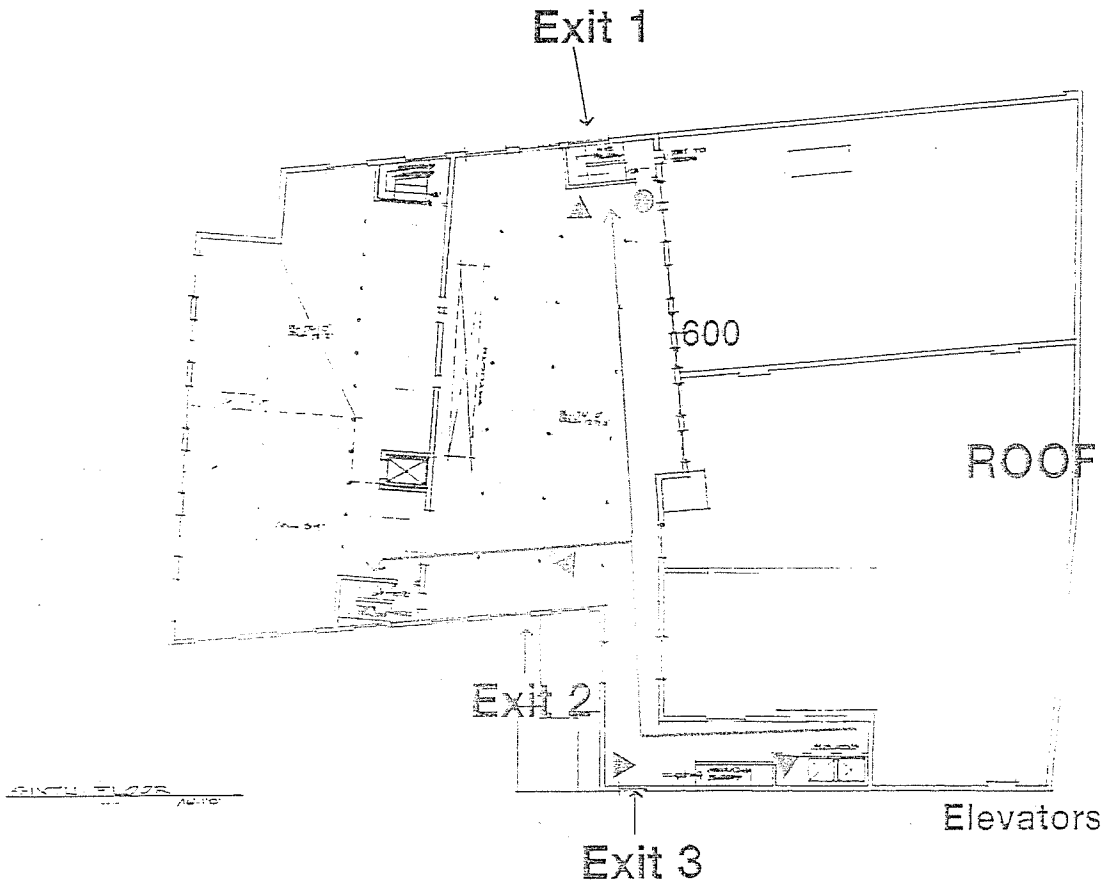


KEY
- FIRE EXTINGUISHER
- PULL STATION
- EVACUATION ROUTE

UNITS 500, 510, 560, 570 AND 580. PROCEED TO EXITS 1 AND 3. IF UNABLE TO USE EXITS 1 OR 3 PROCEED TO EXIT 2.

UNITS 520 AND 535. PROCEED TO EXITS 1 OR 2 BOTH EXITS LEAD TO THE ALLEY.

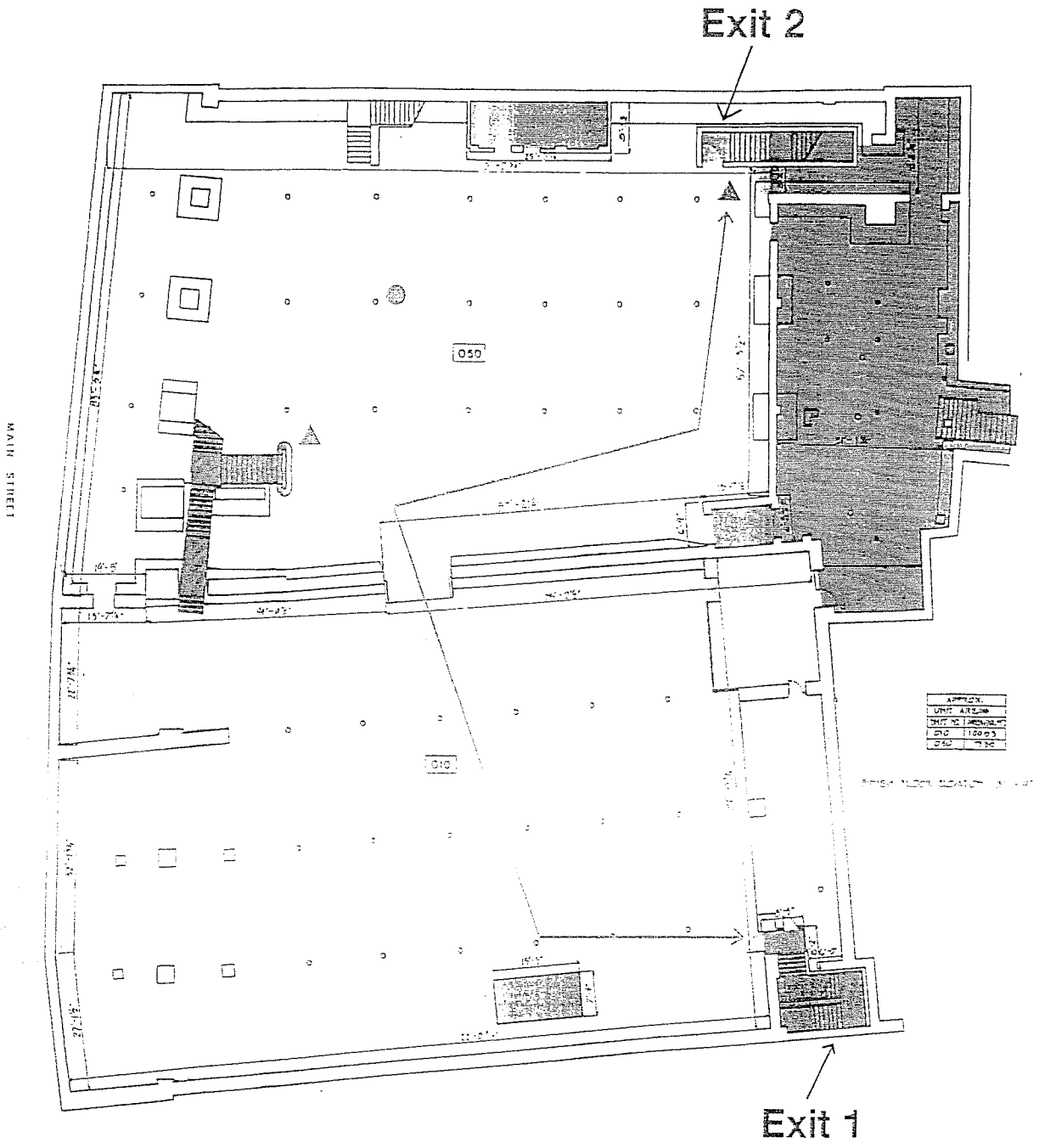
FIGURE 5: FIFTH FLOOR



KEY
- FIRE EXTINGUISHER
- PULL STATION
- EVACUATION ROUTE

UNIT 600. PROCEED TO EXITS 1, 2 OR 3 AND DOWN STAIRWELL TO ALLEY.

FIGURE 6: SIXTH FLOOR



BASEMENT. PROCEED TO EITHER EXIT 1 OR EXIT 2 AND PROCEED TO THE ALLEY.

KEY
- FIRE EXTINGUISHER
- PULL STATION
- EVACUATION ROUTE

FIGURE 7: BASEMENT

BUILDING OR FLOOR EVACUATION PLAN

Attachment C

Photographic Documentation

Site structure, looking north along Main Street

One of two steam boilers on-site; boiler jacket 40% asbestos

TSI on piping above boilers

TSI on piping at ceiling and along walls; 35-70% asbestos

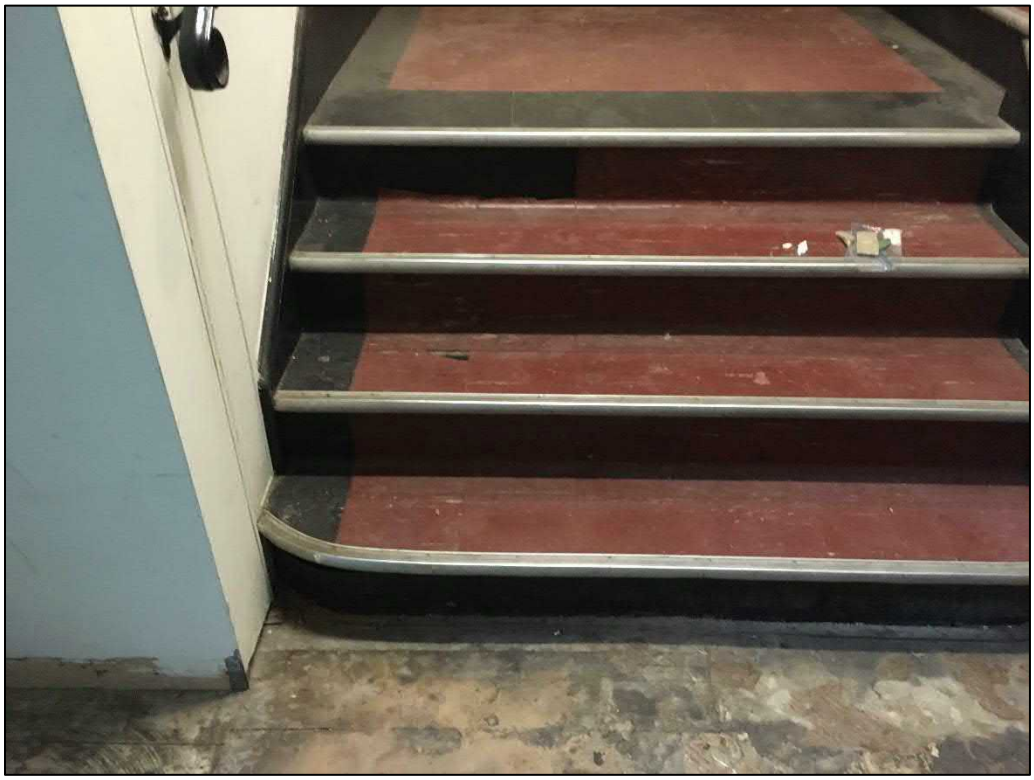
TSI along ceiling; 35-70% asbestos

TSI along ceiling; 35-70% asbestos

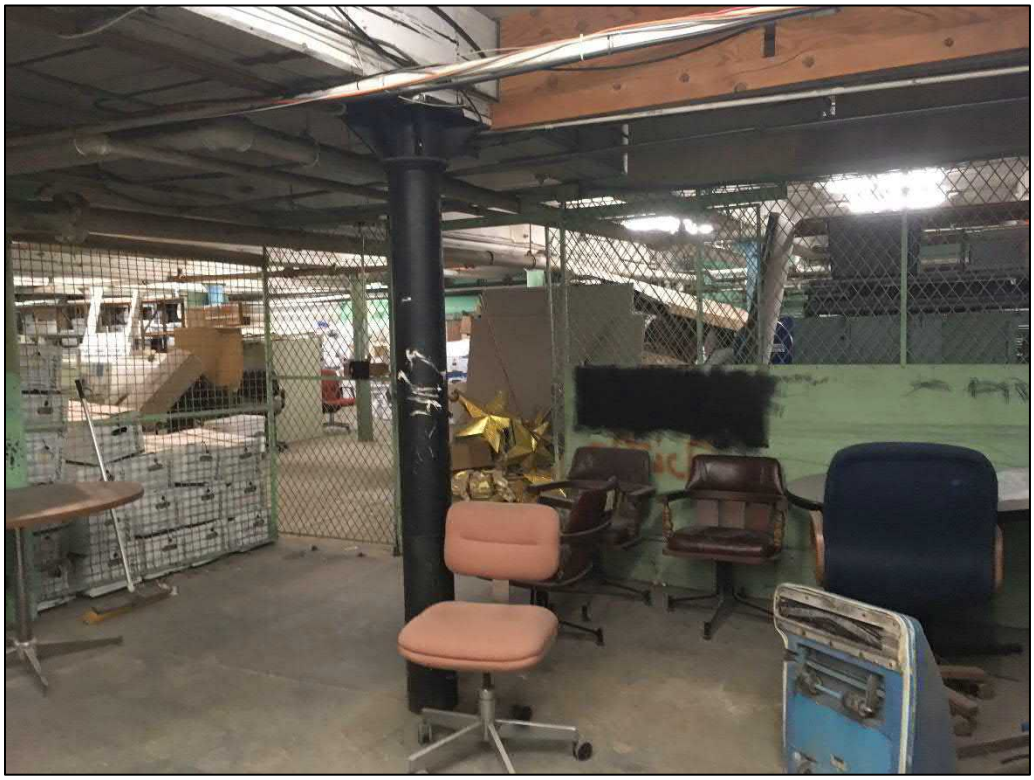
Black 9”x9” floor tiles in basment; 3% asbestos

Beige 12”x12” tiles w. mastic (8% asbestos) over black 9”x9” tiles (3% asbestos) over gray leveler (10% asbestos)

Green 9”x9” floor tiles in basement; 3% asbestos

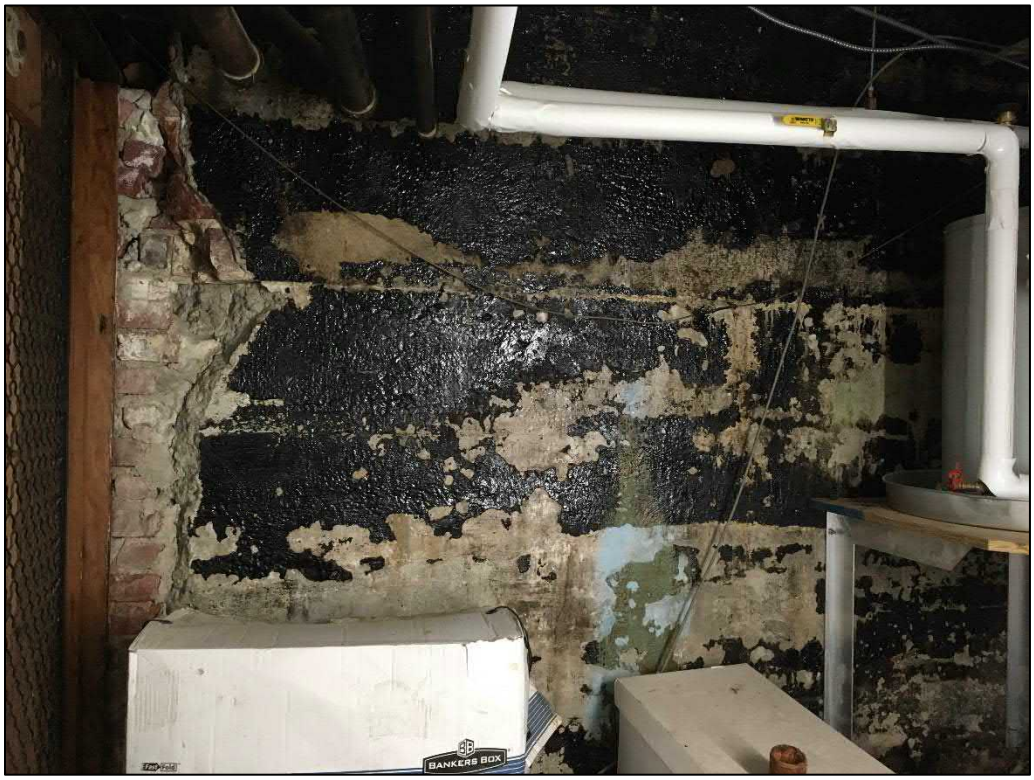


Black & red floor tiles in south stairwell; 5% asbestos



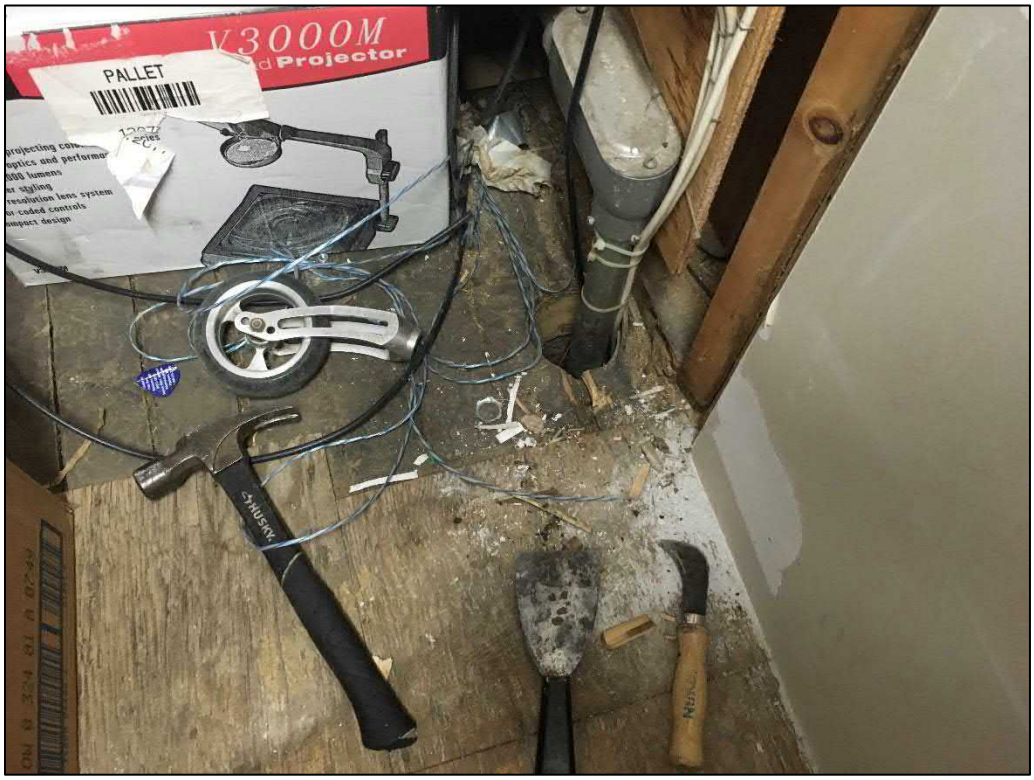
Second floor storage room, west side of building with cork roof & walls

Black coating on cork ceiling, second floor storage room; PCBs 64.4 mg/kg



Black coating on walls, second floor storage room; PCBs 64.4 mg/kg

Black coating on cork wallboard, second floor storage room; PCBs 64.4 mg/kg



Paper layer identified beneath wood floor (3rd & 4th floors); 40% asbestos

Possible transite panel in freight elevator shaft

Portion of roof not recently replaced

Portion of roof replaced in 2020

Fire door (possible asbestos inside)

OHMs in boiler room

OHMs in boiler room

OHMs in boiler room

OHMs near generator room

OHMs near generator room

OHMs near generator room s

OHMs near freight elevator shaft

Attachment D

Lead-Based Paint Testing Report

ENVIRONMENTAL LEAD DETECTION, INC.

LEAD-BASED PAINT TESTING

PERFORMED AT:
Denholm Building
484-500 Main St.
Worcester, MA

PREPARED FOR:
BETA Group, Inc.
701 George Washington Hwy.
Lincoln, RI 02865

PREPARED BY:

Brenda Eastman
Massachusetts Lead Inspector/Risk Assessor
I/R-3691
Environmental Lead Detection
436 Gardners Neck Road
Swansea, MA 02777
TEL. (774) 526-8223
ELD1988@comcast.net

Attachment E

Laboratory Analytical Reports

EMSL Analytical, Inc.

5 Constitution Way, Unit A Woburn, MA 01801

Tel/Fax: (781) 933-8411 / (781) 933-8412

http://www.EMSL.com / bostonlab@emsl.com

EMSL Order:	132100753
Customer ID:	BETA25
Customer PO:	
Project ID:	

Attention:	Matt Alger	**Phone:**	(401) 333-2382
	Beta Group	**Fax:**	
	701 George Washington Highway	**Received Date:**	01/27/2021 9:45 AM
	Lincoln, RI 02865	**Analysis Date:**	02/03/2021 - 02/04/2021
		Collected Date:	01/20/2021 - 01/21/2021
Project:	Denholm - Worcester 7453		

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
1A *132100753-0001*	Basement - Skim Coat Plaster	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
1B *132100753-0002*	Basement - Skim Coat Plaster	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
1C *132100753-0003*	Basement - Skim Coat Plaster	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
1D *132100753-0004*	2nd Floor - Skim Coat Plaster	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
1E *132100753-0005*	3rd Floor - Skim Coat Plaster	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
1F *132100753-0006*	1st Floor - Skim Coat Plaster	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
1G *132100753-0007*	5th Floor - Skim Coat Plaster	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
2A *132100753-0008*	Basement - Base Coat Plaster	Gray Fibrous Homogeneous	2% Cellulose	98% Non-fibrous (Other)	None Detected
2B *132100753-0009*	Basement - Base Coat Plaster	Gray Non-Fibrous Homogeneous	2% Cellulose	98% Non-fibrous (Other)	None Detected
2C *132100753-0010*	Basement - Base Coat Plaster	Gray Fibrous Homogeneous	2% Cellulose	98% Non-fibrous (Other)	None Detected
2D *132100753-0011*	2nd Floor - Base Coat Plaster	Gray Fibrous Homogeneous	3% Hair	97% Non-fibrous (Other)	None Detected
2E *132100753-0012*	3rd Floor - Base Coat Plaster	Gray Fibrous Homogeneous	3% Hair	97% Non-fibrous (Other)	None Detected
2F *132100753-0013*	1st Floor - Base Coat Plaster	Gray Non-Fibrous Homogeneous	2% Hair	98% Non-fibrous (Other)	None Detected
2G *132100753-0014*	5th Floor - Base Coat Plaster	Gray Fibrous Homogeneous	2% Hair	98% Non-fibrous (Other)	None Detected
3A *132100753-0015*	Basement - Drywall	Brown/White Fibrous Homogeneous	12% Cellulose	88% Non-fibrous (Other)	None Detected
3B *132100753-0016*	Basement - Drywall	Brown/White Fibrous Homogeneous	15% Cellulose	85% Non-fibrous (Other)	None Detected

Initial report from: 02/04/2021 12:08:20

EMSL Analytical, Inc.
5 Constitution Way, Unit A Woburn, MA 01801
Tel/Fax: (781) 933-8411 / (781) 933-8412
http://www.EMSL.com / bostonlab@emsl.com

EMSL Order: 132100753
Customer ID: BETA25
Customer PO:
Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
3C *132100753-0017*	Basement - Drywall	Brown/White Fibrous Homogeneous	15% Cellulose	85% Non-fibrous (Other)	None Detected
3D *132100753-0018*	2nd Floor - Drywall	Brown/White Fibrous Homogeneous	12% Cellulose	88% Non-fibrous (Other)	None Detected
3E *132100753-0019*	3rd Floor - Drywall	Brown/White Fibrous Homogeneous	12% Cellulose	88% Non-fibrous (Other)	None Detected
3F *132100753-0020*	3rd Floor - Drywall	Brown/White Fibrous Homogeneous	12% Cellulose	88% Non-fibrous (Other)	None Detected
3G *132100753-0021*	4th Floor - Drywall	Brown/White Fibrous Homogeneous	12% Cellulose	88% Non-fibrous (Other)	None Detected
3H *132100753-0022*	1st Floor - Drywall	Brown/White Fibrous Homogeneous	10% Cellulose	90% Non-fibrous (Other)	None Detected
4A *132100753-0023*	Basement - Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
4B *132100753-0024*	Basement - Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
4C *132100753-0025*	Basement - Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
4D *132100753-0026*	2nd Floor - Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
4E *132100753-0027*	3rd Floor - Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
4F *132100753-0028*	3rd Floor - Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
4G *132100753-0029*	4th Floor - Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
4H *132100753-0030*	4th Floor - Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
4I *132100753-0031*	1st Floor - Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
4J *132100753-0032*	5th Floor - Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
5A *132100753-0033*	Basement - Air Cell Pipe Insulation	Gray Non-Fibrous Homogeneous	20% Cellulose	10% Non-fibrous (Other)	70% Chrysotile
5B *132100753-0034*	Basement - Air Cell Pipe Insulation				Positive Stop (Not Analyzed)
5C *132100753-0035*	Basement - Air Cell Pipe Insulation				Positive Stop (Not Analyzed)

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
6A *132100753-0036*	Basement - Elbow on Air Cell Insulation	Gray Non-Fibrous Homogeneous		65% Non-fibrous (Other)	5% Amosite 30% Chrysotile
6B *132100753-0037*	Basement - Elbow on Air Cell Insulation				Positive Stop (Not Analyzed)
6C *132100753-0038*	Basement - Elbow on Air Cell Insulation				Positive Stop (Not Analyzed)
7A *132100753-0039*	Basement - Layered Paper Pipe Insulation	Gray Fibrous Homogeneous	40% Cellulose	10% Non-fibrous (Other)	50% Chrysotile
7B *132100753-0040*	Basement - Layered Paper Pipe Insulation				Positive Stop (Not Analyzed)
7C *132100753-0041*	Basement - Layered Paper Pipe Insulation				Positive Stop (Not Analyzed)
8A *132100753-0042*	Basement - Elbow on Layered Paper Pipe Insulation	White Non-Fibrous Homogeneous		55% Non-fibrous (Other)	45% Chrysotile
8B *132100753-0043*	Basement - Elbow on Layered Paper Pipe Insulation				Positive Stop (Not Analyzed)
8C *132100753-0044*	Basement - Elbow on Layered Paper Pipe Insulation				Positive Stop (Not Analyzed)
9A *132100753-0045*	Basement - Boiler Insulation	Gray Fibrous Homogeneous		60% Non-fibrous (Other)	40% Chrysotile
9B *132100753-0046*	Basement - Boiler Insulation				Positive Stop (Not Analyzed)
9C *132100753-0047*	Basement - Boiler Insulation				Positive Stop (Not Analyzed)
10A *132100753-0048*	Basement - MAG TSI	White Fibrous Homogeneous		65% Non-fibrous (Other)	10% Amosite 25% Chrysotile
10B *132100753-0049*	Basement - Boiler Insulation				Positive Stop (Not Analyzed)
10C *132100753-0050*	Basement - Boiler Insulation				Positive Stop (Not Analyzed)
11A *132100753-0051*	Basement - Elbow on MAG	Gray Non-Fibrous Homogeneous		30% Non-fibrous (Other)	70% Chrysotile
11B *132100753-0052*	Basement - Elbow on MAG				Positive Stop (Not Analyzed)
11C *132100753-0053*	Basement - Elbow on MAG				Positive Stop (Not Analyzed)
12A *132100753-0054*	Basement - Beige 9x9 Floor Tile	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

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			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
12B *132100753-0055*	Basement - Beige 9x9 Floor Tile	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
12C *132100753-0056*	Basement - Beige 9x9 Floor Tile	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
13A *132100753-0057*	Basement - Mastic on Beige Tile	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
13B *132100753-0058*	Basement - Mastic on Beige Tile	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
13C *132100753-0059*	Basement - Mastic on Beige Tile	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
14A *132100753-0060*	Basement - Green 9x9 Floor Tile	Green Non-Fibrous Homogeneous		97% Non-fibrous (Other)	3% Chrysotile
14B *132100753-0061*	Basement - Green 9x9 Floor Tile				Positive Stop (Not Analyzed)
15A *132100753-0062*	Basement - Mastic on Green Tile	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
15B *132100753-0063*	Basement - Mastic on Green Tile	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
16A *132100753-0064*	Basement - Black 9x9 Floor Tile	Black Non-Fibrous Homogeneous		97% Non-fibrous (Other)	3% Chrysotile
16B *132100753-0065*	Basement - Black 9x9 Floor Tile				Positive Stop (Not Analyzed)
16C *132100753-0066*	Basement - Black 9x9 Floor Tile				Positive Stop (Not Analyzed)
17A *132100753-0067*	Basement - Mastic on Black Tile	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
17B *132100753-0068*	Basement - Mastic on Black Tile	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
17C *132100753-0069*	Basement - Mastic on Black Tile	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
18A *132100753-0070*	Basement - Soft Levelilng Compound Under Black Tile	White Non-Fibrous Homogeneous		90% Non-fibrous (Other)	10% Chrysotile
18B *132100753-0071*	Basement - Soft Levelilng Compound Under Black Tile				Positive Stop (Not Analyzed)
19A *132100753-0072*	Basement - Cementitious Gray Wall Plaster	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
19B *132100753-0073*	Basement - Cementitious Gray Wall Plaster	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

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			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
20A *132100753-0074*	Basement - Beige 12x12 Floor Tile	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
20B *132100753-0075*	Basement - Beige 12x12 Floor Tile	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
21A *132100753-0076*	Basement - Mastic on Beige 12x12 Floor Tile	Black/Yellow Non-Fibrous Homogeneous		92% Non-fibrous (Other)	8% Chrysotile
21B *132100753-0077*	Basement - Mastic on Beige 12x12 Floor Tile				Positive Stop (Not Analyzed)
22A *132100753-0078*	Basement - Brown Glue on Columns That Have Fiberboard	Brown Non-Fibrous Homogeneous	3% Fibrous (Other)	97% Non-fibrous (Other)	None Detected
22B *132100753-0079*	Basement - Brown Glue on Columns That Have Fiberboard	Brown Non-Fibrous Homogeneous	3% Fibrous (Other)	97% Non-fibrous (Other)	None Detected
23A *132100753-0080*	Basement - White2'x2' Ceiling Tile	White Fibrous Homogeneous	85% Min. Wool	15% Non-fibrous (Other)	None Detected
23B *132100753-0081*	Basement - White2'x2' Ceiling Tile	White Fibrous Homogeneous	85% Min. Wool	15% Non-fibrous (Other)	None Detected
23C *132100753-0082*	Basement - White2'x2' Ceiling Tile	White Fibrous Homogeneous	85% Min. Wool	15% Non-fibrous (Other)	None Detected
24A *132100753-0083*	Basement - Brown Fiber Paper Ceiling Tile with Holes	Brown/Tan Fibrous Homogeneous	95% Cellulose	5% Non-fibrous (Other)	None Detected
24B *132100753-0084*	Basement - Brown Fiber Paper Ceiling Tile with Holes	Brown/Tan Fibrous Homogeneous	95% Cellulose	5% Non-fibrous (Other)	None Detected
24C *132100753-0085*	Basement - Brown Fiber Paper Ceiling Tile with Holes	Brown/Tan Fibrous Homogeneous	95% Cellulose	5% Non-fibrous (Other)	None Detected
25A *132100753-0086*	Basement - Ceiling Plaster Skim Coat	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
25B *132100753-0087*	Basement - Ceiling Plaster Skim Coat	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26A *132100753-0088*	Basement - Ceiling Plaster	Gray Fibrous Homogeneous	2% Cellulose	98% Non-fibrous (Other)	None Detected
26B *132100753-0089*	Basement - Ceiling Plaster	Gray Non-Fibrous Homogeneous	2% Cellulose	98% Non-fibrous (Other)	None Detected
27A *132100753-0090*	Basement - 2'x4' Decorative Acoustic Ceiling Tile	Gray/White Fibrous Homogeneous	45% Cellulose 40% Min. Wool	15% Non-fibrous (Other)	None Detected
27B *132100753-0091*	Basement - 2'x4' Decorative Acoustic Ceiling Tile	Gray/White Fibrous Homogeneous	45% Cellulose 40% Min. Wool	15% Non-fibrous (Other)	None Detected
28A *132100753-0092*	2nd Floor - Pink 12x12 Floor Tile	Pink Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

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			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
29A *132100753-0093*	2nd Floor - Mastic on Pink 12x12 Floor Tile	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
30A *132100753-0094*	2nd Floor - Concrete Under Pink Tile	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
30B *132100753-0095*	2nd Floor - Concrete Under Pink Tile	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
31A *132100753-0096*	2nd Floor - Room 203 - Rose 12x12 Floor Tile	Pink Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
32A *132100753-0097*	2nd Floor - Room 203 - Mastic on Rose 12x12 Floor Tile	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
33A *132100753-0098*	2nd Floor - Room 203 - Tan 12x12 Floor Tile	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
34A *132100753-0099*	2nd Floor - Room 203 - Mastic on Tan 12x12 Floor Tile	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
35A *132100753-0100*	2nd Floor - Bathrooms - Gray Floor Tile	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
36A *132100753-0101*	2nd Floor - Bathrooms - Mastic on Gray Floor Tile	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
37A *132100753-0102*	2nd Floor - Deteriorated Flooring Brick Pattern	Gray/Red Fibrous Homogeneous	20% Cellulose	80% Non-fibrous (Other)	None Detected
38A *132100753-0103*	2nd Floor - Deteriorated Flooring Brown	Gray Fibrous Homogeneous	20% Cellulose	80% Non-fibrous (Other)	None Detected
39A *132100753-0104*	2nd Floor - Deteriorated Flooring Red	Gray/Red Fibrous Homogeneous	3% Cellulose	97% Non-fibrous (Other)	None Detected
40A *132100753-0105*	2nd Floor - Pyro Block	Gray/Tan Fibrous Homogeneous	5% Cellulose	95% Non-fibrous (Other)	None Detected
40B *132100753-0106*	2nd Floor - Pyro Block	Gray/Tan Fibrous Homogeneous	2% Cellulose	98% Non-fibrous (Other)	None Detected
41A *132100753-0107*	2nd Floor - Tan 9x9 Floor Tile	Tan Non-Fibrous Homogeneous		95% Non-fibrous (Other)	5% Chrysotile
41B *132100753-0108*	2nd Floor - Tan 9x9 Floor Tile				Positive Stop (Not Analyzed)
42A *132100753-0109*	2nd Floor - Mastic on Tan 9x9 Floor Tile	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
42B *132100753-0110*	2nd Floor - Mastic on Tan 9x9 Floor Tile	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
43A *132100753-0111*	2nd Floor - Ceiling Plaster	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

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			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
43B *132100753-0112*	2nd Floor - Ceiling Plaster	Gray/White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
44A *132100753-0113*	2nd Floor - Black Coating on Cork Ceiling Layer	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
44B *132100753-0114*	2nd Floor - Black Coating on Cork Ceiling Layer	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
45A *132100753-0115*	3rd Floor - Gray Floor Leveler Under Carpet	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
46A *132100753-0116*	3rd Floor - White Floor Leveler Under Carpet	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
47A *132100753-0117*	3rd Floor - Black/Green Floor Leveler Under Carpet	Tan/Green Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
48A *132100753-0118*	Floors 1-5 South Stairwell - Red 9x9 Floor Tile	Red Non-Fibrous Homogeneous		95% Non-fibrous (Other)	5% Chrysotile
49A *132100753-0119*	Floors 1-5 South Stairwell - Mastic on Red 9x9 Floor Tile	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
50A *132100753-0120*	Floors 1-5 South Stairwell - Black 9x9 Floor Tile	Black Non-Fibrous Homogeneous		95% Non-fibrous (Other)	5% Chrysotile
51A *132100753-0121*	Floors 1-5 South Stairwell - Mastic on Black 9x9 Floor Tile	Black Fibrous Homogeneous	10% Cellulose	90% Non-fibrous (Other)	None Detected
52A *132100753-0122*	1st Floor South Stairwell - Tan 9x9 Floor Tile	Tan Non-Fibrous Homogeneous		95% Non-fibrous (Other)	5% Chrysotile
53A *132100753-0123*	1st Floor South Stairwell - Mastic on Tan 9x9 Floor Tile	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
54A *132100753-0124*	1st Floor South Stairwell - Green Stair Tread	Green Non-Fibrous Homogeneous		95% Non-fibrous (Other)	5% Chrysotile
55A *132100753-0125*	1st Floor South Stairwell - Mastic on Green Stair Tread	Brown/Black Fibrous Homogeneous		95% Non-fibrous (Other)	5% Chrysotile
56A *132100753-0126*	1st Floor South Stairwell - Terrazzo Floor	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
56B *132100753-0127*	1st Floor Crawlspace/Attic - White Terrazzo Floor	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
57A *132100753-0128*	4th Floor Landing in South Stairwell - Sand 9x9 Floor Tile	Tan Non-Fibrous Homogeneous		95% Non-fibrous (Other)	5% Chrysotile
58A *132100753-0129*	4th Floor Landing in South Stairwell - Mastic on Sand 9x9 Floor Tile	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

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			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
59A *132100753-0130*	5th Floor South Stairwell - Pink Floor Tile	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
60A *132100753-0131*	5th Floor South Stairwell - Mastic on Pink Floor Tile	Brown/Tan Non-Fibrous Homogeneous		95% Non-fibrous (Other)	5% Chrysotile
61A *132100753-0132*	5th Floor South Stairwell - Gray Floor Tile	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
62A *132100753-0133*	5th Floor South Stairwell - Mastic on Gray Floor Tile	Brown/Tan Non-Fibrous Homogeneous		95% Non-fibrous (Other)	5% Chrysotile
63A *132100753-0134*	5th Floor South Stairwell - Burlap Backed Floor	Gray/Red Fibrous Homogeneous	15% Cellulose	85% Non-fibrous (Other)	None Detected
64A *132100753-0135*	3rd Floor - Beige Floor Tile	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
64B *132100753-0136*	4th Floor - Beige Floor Tile	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
65A *132100753-0137*	3rd Floor - Mastic on Beige Floor Tile	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
65B *132100753-0138*	4th Floor - Mastic on Beige Floor Tile	Brown Non-Fibrous Homogeneous		95% Non-fibrous (Other)	5% Chrysotile
66A *132100753-0139*	3rd Floor - 3/4 Addition Drywall	Tan/White Fibrous Homogeneous	10% Cellulose	90% Non-fibrous (Other)	None Detected
66B *132100753-0140*	3rd Floor - 3/4 Addition Drywall	Tan/White Fibrous Homogeneous	10% Cellulose	90% Non-fibrous (Other)	None Detected
27C *132100753-0141*	4th Floor - Decorative Acoustic Tile	Gray Fibrous Homogeneous	45% Cellulose 40% Min. Wool	15% Non-fibrous (Other)	None Detected
67A *132100753-0142*	3rd Floor - 3/4 Addition Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
67B *132100753-0143*	3rd Floor - 3/4 Addition Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
68A *132100753-0144*	3rd Floor - 3/4 Addition - Beige Floor Tile	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
68B *132100753-0145*	3rd Floor - 3/4 Addition - Beige Floor Tile	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
69A *132100753-0146*	3rd Floor - 3/4 Addition - Yellow Mastic on Beige Floor Tile	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
69B *132100753-0147*	3rd Floor - 3/4 Addition - Yellow Mastic on Beige Floor Tile	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

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			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
70A *132100753-0148*	3rd Floor Office 345 - TSI Paper Under Hardwood Floor in Closet	Gray/Tan Fibrous Homogeneous	40% Cellulose	20% Non-fibrous (Other)	40% Chrysotile
70B *132100753-0149*	3rd Floor Office 320 - TSI Paper Under Hardwood Floor in Closet				Positive Stop (Not Analyzed)
70C *132100753-0150*	4th Floor - Gray TSI Paper Under Hardwood Floor in Closet				Positive Stop (Not Analyzed)
63B *132100753-0151*	4th Floor - Burlap Backed Floor	Gray Fibrous Homogeneous	15% Cellulose	85% Non-fibrous (Other)	None Detected
66C *132100753-0152*	4th Floor - Drywall	Tan/White Fibrous Homogeneous	15% Cellulose	85% Non-fibrous (Other)	None Detected
67C *132100753-0153*	4th Floor - Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
71A *132100753-0154*	3rd Floor Office 345 - White 12x12 VFT	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
72A *132100753-0155*	3rd Floor Office 345 - Mastic on White 12x12 VFT	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
73A *132100753-0156*	3rd Floor Office 320 - Beige 9x9 Floor Tile	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
74A *132100753-0157*	3rd Floor Office 320 - Mastic on Beige 9x9 Floor Tile	Tan/Black Non-Fibrous Homogeneous	15% Cellulose	85% Non-fibrous (Other)	None Detected
75A *132100753-0158*	3rd Floor - Black Paper Under 9x9 Floor Tile	Black Fibrous Homogeneous	60% Cellulose	40% Non-fibrous (Other)	None Detected
75B *132100753-0159*	3rd Floor - Black Paper Under 9x9 Floor Tile	Black Fibrous Homogeneous	70% Cellulose	30% Non-fibrous (Other)	None Detected
75C *132100753-0160*	4th Floor - Black Paper Under 9x9 Floor Tile	Black Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
76A *132100753-0161*	3rd Floor - White Linoleum	Gray/White Fibrous Homogeneous	5% Cellulose 2% Glass	93% Non-fibrous (Other)	None Detected
77A *132100753-0162*	3rd Floor - Duct Sealant	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
78A *132100753-0163*	3rd Floor - Wall Plaster on Wood Lathe	Gray Fibrous Homogeneous	2% Hair	98% Non-fibrous (Other)	None Detected
78B *132100753-0164*	4th Floor - Wall Plaster on Wood Lathe	Gray Fibrous Homogeneous	3% Hair	97% Non-fibrous (Other)	None Detected
79A *132100753-0165*	3rd Floor - Tan 12x12 Floor Tile	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

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EMSL Order: 132100753
Customer ID: BETA25
Customer PO:
Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
80A *132100753-0166*	3rd Floor - Mastic on Tan 12x12 Floor Tile	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
81A *132100753-0167*	3rd Floor - Black 12x12 Floor Tile	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
82A *132100753-0168*	3rd Floor - Mastic on Black 12x12 Floor Tile	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
83A *132100753-0169*	3rd Floor - Brown/Green 9x9 Floor Tile	Tan Fibrous Homogeneous		95% Non-fibrous (Other)	5% Chrysotile
84A *132100753-0170*	3rd Floor - Mastic on Brown/Green 9x9 Floor Tile	Black Fibrous Homogeneous	5% Cellulose	95% Non-fibrous (Other)	None Detected
85A *132100753-0171*	3rd Floor - Beige/Pink 12x12 Floor Tile	Pink/Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
86A *132100753-0172*	3rd Floor - Mastic on eige/Pink 12x12 Floor Tile	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
87A *132100753-0173*	4th Floor - Blue Linoleum in Kitchen	Gray Fibrous Homogeneous	35% Cellulose 5% Glass	60% Non-fibrous (Other)	None Detected
88A *132100753-0174*	4th Floor - Kitchen Sink Coating	Pink Non-Fibrous Homogeneous		95% Non-fibrous (Other)	5% Chrysotile
89A *132100753-0175*	4th Floor - White 12x12 Floor Tile	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
90A *132100753-0176*	4th Floor - Mastic on White 12x12 Floor Tile	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
91A *132100753-0177*	4th Floor - Beige 12x12 Floor Tile	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
92A *132100753-0178*	4th Floor - Mastic on Beige 12x12 Floor Tile	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
93A *132100753-0179*	4th Floor - 2nd Layer Floor Tile Under New Wood Flooring	Tan Non-Fibrous Homogeneous		97% Non-fibrous (Other)	3% Chrysotile
94A *132100753-0180*	4th Floor - Mastic on 2nd Layer Tile	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
95A *132100753-0181*	4th Floor - Tan Floor 12x12 Floor Tile	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
96A *132100753-0182*	4th Floor - Mastic on Tan Tile	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
97A *132100753-0183*	4th Floor - Black 2nd Layer Tile Under Tan Tile	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
98A *132100753-0184*	4th Floor - Mastic on Black Tile	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

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			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
99A *132100753-0185*	4th Floor - Black Paper Under Black Tile	Black Fibrous Homogeneous	80% Cellulose	20% Non-fibrous (Other)	None Detected
100A *132100753-0186*	4th Floor - Gray Floor Leveling Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
101A *132100753-0187*	4th Floor - Skim Coat Plaster	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
102A *132100753-0188*	4th Floor - Base Coat Plaster	Gray Fibrous Homogeneous	2% Hair	98% Non-fibrous (Other)	None Detected
103A *132100753-0189*	4th Floor - Plaster on Lathe	Gray Fibrous Homogeneous	3% Hair	97% Non-fibrous (Other)	None Detected
104A *132100753-0190*	4th Floor - Brown Exterior Window Frame Caulk	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
105A *132100753-0191*	1st Floor - Tan 9x9 Floor Tile	Tan Non-Fibrous Homogeneous		97% Non-fibrous (Other)	3% Chrysotile
106A *132100753-0192*	1st Floor - Mastic on Floor Tile	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
107A *132100753-0193*	1st Floor - Yellow Linoleum	Gray/Tan Fibrous Homogeneous	12% Glass	88% Non-fibrous (Other)	None Detected
108A *132100753-0194*	1st Floor - Green Linoleum	Black/Green Fibrous Homogeneous	40% Cellulose	60% Non-fibrous (Other)	None Detected
109A *132100753-0195*	1st Floor - Black Floor Paper	Black Fibrous Homogeneous	80% Cellulose	20% Non-fibrous (Other)	None Detected
110A *132100753-0196*	1st Floor - Gray Troweled On Wall Plaster	Gray Fibrous Homogeneous	3% Hair	97% Non-fibrous (Other)	None Detected
105B *132100753-0197*	1st Floor - Tan 9x9 Floor Tile				Positive Stop (Not Analyzed)
106B *132100753-0198*	1st Floor - Mastic on Tan 9x9 Floor Tile	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
111A *132100753-0199*	1st Floor - White Insulation on Ducts/Air Handler	Gray/White Fibrous Homogeneous		45% Non-fibrous (Other)	55% Chrysotile
111B *132100753-0200*	1st Floor - White Insulation on Ducts/Air Handler				Positive Stop (Not Analyzed)
111C *132100753-0201*	1st Floor - White Insulation on Ducts/Air Handler				Positive Stop (Not Analyzed)
112A *132100753-0202*	1st Floor - Brown Insulation on Ducts/Air Handler	Brown Fibrous Homogeneous	10% Cellulose 85% Min. Wool	5% Non-fibrous (Other)	None Detected
112B *132100753-0203*	1st Floor - Brown Insulation on Ducts/Air Handler	Brown Fibrous Homogeneous	10% Cellulose 85% Min. Wool	5% Non-fibrous (Other)	None Detected

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
112C *132100753-0204*	1st Floor - Brown Insulation on Ducts/Air Handler	Brown Fibrous Homogeneous	10% Cellulose 85% Min. Wool	5% Non-fibrous (Other)	None Detected
113A *132100753-0205*	1st Floor - Gray 12x12 Floor Tile	Blue Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
114A *132100753-0206*	1st Floor - Mastic on Gray 12x12 Floor Tile	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
115A *132100753-0207*	1st Floor - Yellow Flooring Below Stairwell in Post Office	Tan/Yellow Fibrous Homogeneous	10% Cellulose	90% Non-fibrous (Other)	None Detected
116A *132100753-0208*	1st Floor - Mastic on Yellow Flooring	Brown/Black Fibrous Homogeneous	35% Cellulose	65% Non-fibrous (Other)	None Detected
117A *132100753-0209*	5th Floor - Gray Leveling Compound Under Carpet	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
118A *132100753-0210*	5th Floor - Blue 12x12 Floor Tile	Blue Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
119A *132100753-0211*	5th Floor - Mastic on Blue 12x12 Floor Tile	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
120A *132100753-0212*	5th Floor - White 12x12 Floor Tile	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
121A *132100753-0213*	5th Floor - Mastic on White 12x12 Floor Tile	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
122A *132100753-0214*	5th Floor - 2'x2' Acoustic Ceiling Tile	Gray/White Fibrous Homogeneous	95% Min. Wool	5% Non-fibrous (Other)	None Detected
123A *132100753-0215*	5th Floor - Linoleum on Kitchen Step	Tan Fibrous Homogeneous	10% Cellulose 3% Synthetic	87% Non-fibrous (Other)	None Detected
124A *132100753-0216*	6th Floor - Tan+Brown 12x12 Floor Tile	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
124B *132100753-0217*	6th Floor - Tan+Brown 12x12 Floor Tile	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
125A *132100753-0218*	6th Floor - Mastic on Tan+Brown 12x12 Floor Tile	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
125B *132100753-0219*	6th Floor - Mastic on Tan+Brown 12x12 Floor Tile	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
126A *132100753-0220*	6th Floor - Drywall	Tan/White Fibrous Homogeneous	10% Cellulose	90% Non-fibrous (Other)	None Detected
126B *132100753-0221*	6th Floor - Drywall	Tan/White Fibrous Homogeneous	10% Cellulose	90% Non-fibrous (Other)	None Detected

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
126C *132100753-0222*	6th Floor - Drywall	Tan/White Fibrous Homogeneous	10% Cellulose	90% Non-fibrous (Other)	None Detected
127A *132100753-0223*	6th Floor - Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
127B *132100753-0224*	6th Floor - Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
127C *132100753-0225*	6th Floor - Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
128A *132100753-0226*	6th Floor - Skim Coat Plaster	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
128B *132100753-0227* *4*	6th Floor - Skim Coat Plaster	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
128C *132100753-0228*	6th Floor - Skim Coat Plaster	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
129A *132100753-0229*	6th Floor - Base Coat Plaster	Gray Fibrous Homogeneous	2% Hair	98% Non-fibrous (Other)	None Detected
129B *132100753-0230*	6th Floor - Base Coat Plaster	Gray Fibrous Homogeneous	2% Hair	98% Non-fibrous (Other)	None Detected
129C *132100753-0231*	6th Floor - Base Coat Plaster	Gray Fibrous Homogeneous	2% Hair	98% Non-fibrous (Other)	None Detected
130A *132100753-0232*	6th Floor - Brown Ext. Window Frame Caulk	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
130B *132100753-0233*	6th Floor - Brown Ext. Window Frame Caulk	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
131A *132100753-0234*	6th Floor - White Floor Tile	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
131B *132100753-0235*	6th Floor - White Floor Tile				Not Submitted
132A *132100753-0236*	6th Floor - Mastic on White Floor Tile	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
132B *132100753-0237*	6th Floor - Mastic on White Floor Tile				Not Submitted
133A *132100753-0238*	6th Floor - Black Paper in Attic	Black Fibrous Homogeneous	50% Cellulose	50% Non-fibrous (Other)	None Detected
134A *132100753-0239*	6th Floor - Mortar on Terracotta Wall Blocks in Attic	Gray/White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
135A *132100753-0240*	Garage - 2nd Floor - Floor Paper Below Hardwood	Brown Fibrous Homogeneous	98% Cellulose	2% Non-fibrous (Other)	None Detected

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
117B *132100753-0241*	5th Floor - Gray Leveling Compound Under Carpet				Not Submitted
3I *132100753-0242*	5th Floor - Drywall	Tan/White Fibrous Homogeneous	2% Cellulose 2% Glass	96% Non-fibrous (Other)	None Detected
78C *132100753-0243*	1st Floor - Plaster on Wood Lathe	Gray Fibrous Homogeneous	2% Hair	98% Non-fibrous (Other)	None Detected

Analyst(s)
Elizabeth Stutts (101)
John McCarthy (114)

Steve Grise, Laboratory Manager
or Other Approved Signatory

Initial report from: 02/04/2021 12:08:20

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Asbestos Bulk Building Material Chain of Custody

EMSL Order Number (*lab use only*):

132100753

Additional pages of the Chain of Custody are only necessary if needed for additional sample information

Sample #	HA #	Sample Location	Material Description
1G	1	5th floor	skim coat plaster 1/21/21
2A	2	basement	base coat plaster 1/20/21
2B	2	basement	base coat plaster 1/20/21
2C	2	basement	base coat plaster 1/20/21
2D	2	2nd floor	base coat plaster 1/20/21
2E	2	3rd floor	base coat plaster 1/21/21
2F	2	1st floor	base coat plaster 1/21/21
2G	2	5th floor	base coat plaster 1/21/21
3A	3	basement	drywall 1/20/21
3B	3	basement	drywall 1/20/21
3C	3	basement	drywall 1/20/21
3D	3	2nd floor	drywall 1/20/21
3E	3	3rd floor	drywall 1/20/21
3F	3	3rd floor	drywall 1/20/21
3G	3	4th floor	drywall 1/21/21
3H	3	1st floor	drywall 1/21/21
4A	4	basement	joint compound 1/20/21
4B	4	basement	joint compound 1/20/21
4C	4	basement	joint compound 1/20/21
4D	4	2nd floor	joint compound 1/20/21
4E	4	3rd floor	joint compound 1/20/21

***Comments/Special Instructions:**

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4F	4	3rd floor	joint compound 1/20/21
4G	4	4th floor	joint compound 1/20/21
4H	4	4th floor	joint compound 1/21/21
4I	4	1st floor	joint compound 1/21/21
4J	4	5th floor	joint compound 1/21/21
5A	5	basement	air cell pipe insulation 1/20/21
5B	5	basement	air cell pipe insulation 1/20/21
5C	5	basement	air cell pipe insulation 1/20/21
6A	6	basement	elbow on air cell insulation 1/20/21
6B	6	basement	elbow on air cell insulation 1/20/21
6C	6	basement	elbow on air cell insulation 1/20/21
7A	7	basement	layered paper pipe insulation 1/20/21
7B	7	basement	layered paper pipe insulation 1/20/21
7C	7	basement	layered paper pipe insulation 1/20/21
8A	8	basement	elbow on layered paper pipe insulation 1/20/21
8B	8	basement	elbow on layered paper pipe insulation 1/20/21
8C	8	basement	elbow on layered paper pipe insulation 1/20/21
9A	9	basement	boiler insulation 1/20/21
9B	9	basement	boiler insulation 1/20/21
9C	9	basement	boiler insulation 1/20/21
10A	10	basement	MAG TSI 1/20/21

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Sample #	HA #	Sample Location	Material Description
10B	10	basement	boiler insulation 1/20/21
10C	10	basement	boiler insulation 1/20/21
11A	11	basement	elbow on MAG 1/20/21
11B	11	basement	elbow on MAG 1/20/21
11C	11	basement	elbow on MAG 1/20/21
12A	12	basement	beige 9x9 floor tile 1/20/21
12B	12	basement	beige 9x9 floor tile 1/20/21
12C	12	basement	beige 9x9 floor tile 1/20/21
13A	13	basement	mastic on beige tile 1/20/21
13B	13	basement	mastic on beige tile 1/20/21
13C	13	basement	mastic on beige tile 1/20/21
14A	14	basement	green 9x9 floor tile 1/20/21
14B	14	basement	green 9x9 floor tile 1/20/21
15A	15	basement	mastic on green tile 1/20/21
15B	15	basement	mastic on green tile 1/20/21
16A	16	basement	black 9x9 floor tile 1/20/21
16B	16	basement	black 9x9 floor tile 1/20/21
16C	16	basement	black 9x9 floor tile 1/20/21
17A	17	basement	mastic on black tile 1/20/21
17B	17	basement	mastic on black tile 1/20/21
17C	17	basement	mastic on black tile 1/20/21

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Sample #	HA #	Sample Location	Material Description
18A	18	basement	soft leveling compound under black tile 1/20/21
18B	18	basement	soft leveling compound under black tile 1/20/21
19A	19	basement	cementitious gray wall plaster 1/20/21
19B	19	basement	cementitious gray wall plaster 1/20/21
20A	20	basement	beige 12x12 floor tile 1/20/21
20B	20	basement	beige 12x12 floor tile 1/20/21
21A	21	basement	mastic on beige 12x12 floor tile 1/20/21
21B	21	basement	mastic on beige 12x12 floor tile 1/20/21
22A	22	basement	brown glue on columns that have fiber board 1/20/21
22B	22	basement	brown glue on columns that have fiber board 1/20/21
23A	23	basement	white 2'x2' ceiling tile 1/20/21
23B	23	basement	white 2'x2' ceiling tile 1/20/21
23C	23	basement	white 2'x2' ceiling tile 1/20/21
24A	24	basement	brown fiber paper ceiling tile with holes 1/20/21
24B	24	basement	brown fiber paper ceiling tile with holes 1/20/21
24C	24	basement	brown fiber paper ceiling tile with holes 1/20/21
25A	25	basement	ceiling plaster - skim coat 1/20/21
25B	25	basement	ceiling plaster - skim coat 1/20/21
26A	26	basement	ceiling plaster 1/20/21
26B	26	basement	ceiling plaster 1/20/21
27A	27	basement	2'x4' decorative acoustic ceiling tile 1/20/21

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Sample #	HA #	Sample Location	Material Description
27B	27	basement	2'x4' decorative acoustic ceiling tile 1/20/21
28A		2nd floor	pink 12"x12" floor tile 1/20/21
29A		2nd floor	mastic on pink 12"x12" floor tile 1/20/21
30A	30	2nd floor	concrete under pink tile 1/20/21
30B	30	2nd floor	concrete under pink tile 1/20/21
31A		2nd floor - room 203	rose 12"x12" floor tile 1/20/21
32A		2nd floor - room 203	mastic on rose 12"x12" floor tile 1/20/21
33A		2nd floor - room 203	tan 12"x12" floor tile 1/20/21
34A		2nd floor - room 203	mastic on tan 12"x12" floor tile 1/20/21
35A		2nd floor - bathrooms	gray floor tile 1/20/21
36A		2nd floor - bathrooms	mastic on gray floor tile 1/20/21
37A		2nd floor	deteriorated flooring brick pattern 1/20/21
38A		2nd floor	deteriorated flooring brown 1/20/21
39A		2nd floor	deteriorated flooring red 1/20/21
40A	40	2nd floor	pyro block 1/20/21
40B	40	2nd floor	pyro block 1/20/21
41A	41	2nd floor	tan 9"x9" floor tile 1/20/21
41B	41	2nd floor	tan 9"x9" floor tile 1/20/21
42A	42	2nd floor	mastic on tan 9"x9" floor tile 1/20/21
42B	42	2nd floor	mastic on tan 9"x9" floor tile 1/20/21
43A	43	2nd floor	ceiling plaster 1/20/21

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Asbestos Bulk Building Material Chain of Custody

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Sample #	HA #	Sample Location	Material Description
43B	43	2nd floor	ceiling plaster 1/20/21
44A	44	2nd floor	black coating on cork ceiling layer 1/20/21
44B	44	2nd floor	black coating on cork ceiling layer 1/20/21
45A		3rd floor	gray floor leveler under carpet 1/20/21
46A		3rd floor	white floor leveler under carpet 1/20/21
47A		3rd floor	black/green floor leveler under carpet 1/20/21
48A		floors 1-5 south stairwell	red 9"x9" floor tile 1/20/21
49A		floors 1-5 south stairwell	mastic on red 9"x9" floor tile 1/20/21
50A		floors 1-5 south stairwell	black 9"x9" floor tile 1/20/21
51A		floors 1-5 south stairwell	mastic on black 9"x9" floor tile 1/20/21
52A		1st floor south stairwell	tan 9"x9" floor tile 1/20/21
53A		1st floor south stairwell	mastic on tan 9"x9" floor tile 1/20/21
54A		1st floor south stairwell	green stair tread 1/20/21
55A		1st floor south stairwell	mastic on stair tread 1/20/21
56A	56	1st floor south stairwell	terrazzo floor 1/20/21
56B	56	1st floor crawl space/attic	white terrazzo floor 1/21/21
57A		4th floor landing in south stairwell	sand 9"x9" floor tile 1/20/21
58A		4th floor landing in south stairwell	mastic on sand 9"x9" floor tile 1/20/21
59A		5th floor south stairwell	pink floor tile 1/20/21
60A		5th floor south stairwell	mastic on pink floor tile 1/20/21
61A		5th floor south stairwell	gray floor tile 1/20/21

***Comments/Special Instructions:**

RECD EMSL-BOSTON JAN 27 2021

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EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Bulk Building Material Chain of Custody

EMSL Order Number (*lab use only*):

132100753

Additional pages of the Chain of Custody are only necessary if needed for additional sample information

Sample #	HA #	Sample Location	Material Description
62A		5th floor south stairwell	mastic on gray floor tile 1/20/21
63A	63	5th floor south stairwell	burlap-backed floor 1/20/21
64A	64	3rd floor	beige floor tile 1/21/21
64B	64	4th floor	beige floor tile 1/21/21
65A	65	3rd floor	mastic on beige floor tile 1/21/21
65B	65	4th floor	mastic on beige floor tile 1/21/21
66A	66	3rd floor	3/4 addition drywall 1/21/21
66B	66	3rd floor	3/4 addition drywall 1/21/21
27C	27	4th floor	decorative acoustic tile 1/21/21
67A	67	3rd floor	3/4 addition joint compound 1/21/21
67B	67	3rd floor	3/4 addition joint compound 1/21/21
68A	68	3rd floor - 3/4 addition	beige floor tile 1/21/21
68B	68	3rd floor - 3/4 addition	beige floor tile 1/21/21
69A	69	3rd floor - 3/4 addition	yellow mastic on beige floor tile 1/21/21
69B	69	3rd floor - 3/4 addition	yellow mastic on beige floor tile 1/21/21
70A	70	3rd floor office 345	TSI paper under hardwood floor in closet 1/21/21
70B	70	3rd floor office 320	TSI paper under hardwood floor in closet 1/21/21
70C	70	4th floor	Gray TSI paper under hardwood floor in closet 1/21/21
63B	63	4th floor	burlap-backed floor 1/21/21
66C	66	4th floor	drywall 1/21/21
67C	67	4th floor	joint compound 1/21/21

***Comments/Special Instructions:**

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Bulk Building Material Chain of Custody

EMSL Order Number *(lab use only)*:

132100753

Additional pages of the Chain of Custody are only necessary if needed for additional sample information

Sample #	HA #	Sample Location	Material Description
71A		3rd floor office 345	white 12"x12" VFT 1/21/21
72A		3rd floor office 345	mastic on white 12"x12" VFT 1/21/21
73A		3rd floor office 320	beige 9"x9" floor tile 1/21/21
74A		3rd floor office 320	mastic on beige 9"x9" floor tile 1/21/21
75A	75	3rd floor	black paper under 9"x9" floor tile 1/21/21
75B	75	3rd floor	black paper under 9"x9" floor tile 1/21/21
75C	75	4th floor	black paper under 9"x9" floor tile 1/21/21
76A		3rd floor	white linoleum 1/21/21
77A		3rd floor	duct sealant 1/21/21
78A	78	3rd floor	wall plaster on wood lathe 1/21/21
78B	78	4th floor	wall plaster on wood lathe 1/21/21
79A		3rd floor	tan 12"x12" floor tile 1/21/21
80A		3rd floor	mastic on tan 12"x12" floor tile 1/21/21
81A		3rd floor	black 12"x12" floor tile 1/21/21
82A		3rd floor	mastic on black 12"x12" floor tile 1/21/21
83A		3rd floor	brown/green 9"x9" floor tile 1/21/21
84A		3rd floor	mastic on brown/green 9"x9" floor tile 1/21/21
85A		3rd floor	beige/pink 12"x12" floor tile 1/21/21
86A		3rd floor	mastic on beige/pink 12"x12" floor tile 1/21/21
87A		4th floor	blue linoleum in kitchen 1/21/21
88A		4th floor	kitchen sink coating 1/21/21

***Comments/Special Instructions:**

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OrderID: 132100753

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Bulk Building Material
Chain of Custody

EMSL Order Number *(lab use only)*:

132100753

Additional pages of the Chain of Custody are only necessary if needed for additional sample information

Sample #	HA #	Sample Location	Material Description
89A		4th floor	white 12"x12" floor tile 1/21/21
90A		4th floor	mastic on white 12"x12" floor tile 1/21/21
91A		4th floor	beige 12"x12" floor tile 1/21/21
92A		4th floor	mastic on beige 12"x12" floor tile 1/21/21
93A		4th floor	2nd layer floor tile under new wood flooring 1/21/21
94A		4th floor	mastic on 2nd layer tile 1/21/21
95A		4th floor	tan floor 12"x12" floor tile 1/21/21
96A		4th floor	mastic on tan tile 1/21/21
97A		4th floor	black 2nd layer tile under tan tile 1/21/21
98A		4th floor	mastic on black tile 1/21/21
99A		4th floor	black paper under black tile 1/21/21
100A		4th floor	gray floor leveling compound 1/21/21
101A		4th floor	skim coat plaster 1/21/21
102A		4th floor	base coat plaster 1/21/21
103A		4th floor	plaster on lathe 1/21/21
104A		4th floor	brown exterior window frame caulk 1/21/21
105A	105	1st floor	tan 9"x9" floor tile 1/21/21
106A	106	1st floor	mastic on floor tile 1/21/21
107A		1st floor	yellow linoleum 1/21/21
108A		1st floor	green linoleum 1/21/21
109A		1st floor	black floor paper 1/21/21

***Comments/Special Instructions:**

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EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Bulk Building Material Chain of Custody

EMSL Order Number *(lab use only)*:

132100753

Additional pages of the Chain of Custody are only necessary if needed for additional sample information

Sample #	HA #	Sample Location	Material Description
110A		1st floor	gray troweled-on wall plaster 1/21/21
105B	105	1st floor	tan 9"x9" floor tile 1/21/21
106B	106	1st floor	mastic on tan 9"x9" floor tile 1/21/21
111A	111	1st floor	white insulation on ducts/air handler 1/21/21
111B	111	1st floor	white insulation on ducts/air handler 1/21/21
111C	111	1st floor	white insulation on ducts/air handler 1/21/21
112A	112	1st floor	brown insulation on ducts/air handler 1/21/21
112B	112	1st floor	brown insulation on ducts/air handler 1/21/21
112C	112	1st floor	brown insulation on ducts/air handler 1/21/21
113A		1st floor	gray 12"x12" floor tile 1/21/21
114A		1st floor	mastic on gray 12"x12" floor tile 1/21/21
115A		1st floor	yellow flooring below stairwell in post office closet 1/21/21
116A		1st floor	mastic on yellow flooring 1/21/21
117A	117	5th floor	gray leveling compound under carpet 1/21/21
118A		5th floor	blue 12"x12" floor tile 1/21/21
119A		5th floor	mastic on blue 12"x12" floor tile 1/21/21
120A		5th floor	white 12"x12" floor tile 1/21/21
121A		5th floor	mastic on white 12"x12" floor tile 1/21/21
122A		5th floor	2'x2' acoustic ceiling tile 1/21/21
123A		5th floor	linoleum on kitchen step 1/21/21
124A	124	6th floor	tan+brown 12"x12" floor tile 1/21/21

***Comments/Special Instructions:**

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EMSL ANALYTICAL, INC.
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Asbestos Bulk Building Material Chain of Custody

EMSL Order Number *(lab use only)*:

132100753

Additional pages of the Chain of Custody are only necessary if needed for additional sample information

Sample #	HA #	Sample Location	Material Description
124B	124	6th floor	tan+brown 12"x12" floor tile 1/21/21
125A	125	6th floor	mastic on tan+brown 12"x12" floor tile 1/21/21
125B	125	6th floor	mastic on tan+brown 12"x12" floor tile 1/21/21
126A	126	6th floor	drywall 1/21/21
126B	126	6th floor	drywall 1/21/21
126C	126	6th floor	drywall 1/21/21
127A	127	6th floor	joint compound 1/21/21
127B	127	6th floor	joint compound 1/21/21
127C	127	6th floor	joint compound 1/21/21
128A	128	6th floor	skim coat plaster 1/21/21
128B	128	6th floor	skim coat plaster 1/21/21
128C	128	6th floor	skim coat plaster 1/21/21
129A	129	6th floor	base coat plaster 1/21/21
129B	129	6th floor	base coat plaster 1/21/21
129C	129	6th floor	base coat plaster 1/21/21
130A	130	6th floor	brown ext. window frame caulk 1/21/21
130B	130	6th floor	brown ext. window frame caulk 1/21/21
131A	131	6th floor	white floor tile 1/21/21
131B	131	6th floor	white floor tile 1/21/21
132A	132	6th floor	mastic on white floor tile 1/21/21
132B	132	6th floor	mastic on white floor tile 1/21/21

***Comments/Special Instructions:**

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EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Bulk Building Material
Chain of Custody

EMSL Order Number *(lab use only)*:

132100753

Additional pages of the Chain of Custody are only necessary if needed for additional sample information

Sample #	HA #	Sample Location	Material Description
133A		6th floor	black paper in attic 1/21/21
134A		6th floor	mortar on terracotta wall blocks in attic 1/21/21
135A		Garage - 2nd floor	floor paper below hardwood 1/21/21
117B	117	5th floor	gray leveling compound under carpet 1/21/21
3I	3	5th floor	drywall 1/21/21
78C	78	1st floor	plaster on wood lathe

***Comments/Special Instructions:**

RECD EMSL-BOSTON JAN 27 2021

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CERTIFICATE OF ANALYSIS

Matt Alger
Beta Engineering
124 Main Street, Unit 2GG
Carver, MA 02330

RE: Denholm - Worcester (7453)
ESS Laboratory Work Order Number: 21A0701

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 1:37 pm, Feb 02, 2021

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: Beta Engineering
Client Project ID: Denholm - Worcester

ESS Laboratory Work Order: 21A0701

SAMPLE RECEIPT

The following samples were received on January 26, 2021 for the analyses specified on the enclosed Chain of Custody Record.

Lab Number	Sample Name	Matrix	Analysis
21A0701-01	Paint-1	Solid	8082A
21A0701-02	Paint-2	Solid	8082A
21A0701-03	Paint-3	Solid	8082A
21A0701-04	Paint-4	Solid	8082A
21A0701-05	Paint-5	Solid	8082A
21A0701-06	Paint-6	Solid	8082A
21A0701-07	Paint-7	Solid	8082A
21A0701-08	Paint-8	Solid	8082A
21A0701-09	Paint-9	Solid	8082A
21A0701-10	Paint-10	Solid	8082A
21A0701-11	Paint-11	Solid	8082A
21A0701-12	Paint-12	Solid	8082A
21A0701-13	Paint-13	Solid	8082A
21A0701-14	Coating-1	Solid	8082A
21A0701-15	Caulk-1	Solid	8082A
21A0701-16	Caulk-2	Solid	8082A

CERTIFICATE OF ANALYSIS

Client Name: Beta Engineering
Client Project ID: Denholm - Worcester

ESS Laboratory Work Order: 21A0701

PROJECT NARRATIVE

8082A Polychlorinated Biphenyls (PCB)

21A0701-05 **Surrogate recovery(ies) outside of criteria due to matrix (UCM/coelution/matrix is present) (SM).**
Decachlorobiphenyl (359% @ 30-150%), Decachlorobiphenyl [2C] (361% @ 30-150%)

21A0701-09 **Surrogate recovery(ies) outside of criteria due to matrix (UCM/coelution/matrix is present) (SM).**
Decachlorobiphenyl (1540% @ 30-150%), Decachlorobiphenyl [2C] (1460% @ 30-150%)

21A0701-10 **Lower value is used due to matrix interferences (LC).**
Aroclor 1260

21A0701-10 **Percent difference between primary and confirmation results exceeds 40% (P).**
Aroclor 1260

21A0701-11 **Lower value is used due to matrix interferences (LC).**
Aroclor 1260

21A0701-11 **Percent difference between primary and confirmation results exceeds 40% (P).**
Aroclor 1260

21A0701-12 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

21A0701-13 **Lower value is used due to matrix interferences (LC).**
Aroclor 1260

21A0701-13 **Percent difference between primary and confirmation results exceeds 40% (P).**
Aroclor 1260

21A0701-13 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

21A0701-14 **Surrogate recovery(ies) below lower control limit (S-).**
Decachlorobiphenyl (29% @ 30-150%)

21A0701-16 **Surrogate recovery(ies) below lower control limit (S-).**
Decachlorobiphenyl (28% @ 30-150%)

No other observations noted.

End of Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: Beta Engineering
Client Project ID: Denholm - Worcester

ESS Laboratory Work Order: 21A0701

DATA USABILITY LINKS

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Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015C - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH
MADEP 18-2.1 - VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035A - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.

CERTIFICATE OF ANALYSIS

Client Name: Beta Engineering
Client Project ID: Denholm - Worcester
Client Sample ID: Paint-1
Date Sampled: 01/20/21 09:00
Percent Solids: N/A
Initial Volume: 5.28
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21A0701
ESS Laboratory Sample ID: 21A0701-01
Sample Matrix: Solid
Units: mg/kg wet
Analyst: MJV
Prepared: 1/26/21 18:20

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.09)		8082A		1	01/27/21 18:54		DA12607
Aroclor 1221	ND (0.09)		8082A		1	01/27/21 18:54		DA12607
Aroclor 1232	ND (0.09)		8082A		1	01/27/21 18:54		DA12607
Aroclor 1242 [2C]	**7.3** (0.5)		8082A		5	01/28/21 22:22		DA12607
Aroclor 1248	ND (0.09)		8082A		1	01/27/21 18:54		DA12607
Aroclor 1254 [2C]	**17.0** (0.5)		8082A		5	01/28/21 22:22		DA12607
Aroclor 1260	**1.3** (0.09)		8082A		1	01/27/21 18:54		DA12607
Aroclor 1262	ND (0.09)		8082A		1	01/27/21 18:54		DA12607
Aroclor 1268	ND (0.09)		8082A		1	01/27/21 18:54		DA12607

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*69 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*80 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*67 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*71 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Beta Engineering
Client Project ID: Denholm - Worcester
Client Sample ID: Paint-2
Date Sampled: 01/20/21 09:15
Percent Solids: N/A
Initial Volume: 5.05
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21A0701
ESS Laboratory Sample ID: 21A0701-02
Sample Matrix: Solid
Units: mg/kg wet
Analyst: MJV
Prepared: 1/26/21 18:20

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.1)		8082A		1	01/27/21 19:14		DA12607
Aroclor 1221	ND (0.1)		8082A		1	01/27/21 19:14		DA12607
Aroclor 1232	ND (0.1)		8082A		1	01/27/21 19:14		DA12607
Aroclor 1242 [2C]	**6.4** (0.5)		8082A		5	01/28/21 22:42		DA12607
Aroclor 1248	ND (0.1)		8082A		1	01/27/21 19:14		DA12607
Aroclor 1254 [2C]	**14.5** (0.5)		8082A		5	01/28/21 22:42		DA12607
Aroclor 1260 [2C]	**2.0** (0.1)		8082A		1	01/27/21 19:14		DA12607
Aroclor 1262	ND (0.1)		8082A		1	01/27/21 19:14		DA12607
Aroclor 1268	ND (0.1)		8082A		1	01/27/21 19:14		DA12607

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*72 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*80 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*76 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*82 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Beta Engineering
Client Project ID: Denholm - Worcester
Client Sample ID: Paint-3
Date Sampled: 01/20/21 09:30
Percent Solids: N/A
Initial Volume: 5.06
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21A0701
ESS Laboratory Sample ID: 21A0701-03
Sample Matrix: Solid
Units: mg/kg wet
Analyst: MJV
Prepared: 1/26/21 18:20

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.1)		8082A		1	01/27/21 19:34		DA12607
Aroclor 1221	ND (0.1)		8082A		1	01/27/21 19:34		DA12607
Aroclor 1232	ND (0.1)		8082A		1	01/27/21 19:34		DA12607
Aroclor 1242	**1.5** (0.1)		8082A		1	01/27/21 19:34		DA12607
Aroclor 1248	ND (0.1)		8082A		1	01/27/21 19:34		DA12607
Aroclor 1254 [2C]	**8.6** (0.5)		8082A		5	01/28/21 23:02		DA12607
Aroclor 1260 [2C]	**1.5** (0.1)		8082A		1	01/27/21 19:34		DA12607
Aroclor 1262	ND (0.1)		8082A		1	01/27/21 19:34		DA12607
Aroclor 1268	ND (0.1)		8082A		1	01/27/21 19:34		DA12607

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*75 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*72 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*76 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*80 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Beta Engineering
Client Project ID: Denholm - Worcester
Client Sample ID: Paint-4
Date Sampled: 01/20/21 10:00
Percent Solids: N/A
Initial Volume: 5.17
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21A0701
ESS Laboratory Sample ID: 21A0701-04
Sample Matrix: Solid
Units: mg/kg wet
Analyst: MJV
Prepared: 1/26/21 18:20

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.1)		8082A		1	01/27/21 19:54		DA12607
Aroclor 1221	ND (0.1)		8082A		1	01/27/21 19:54		DA12607
Aroclor 1232	ND (0.1)		8082A		1	01/27/21 19:54		DA12607
Aroclor 1242	ND (0.1)		8082A		1	01/27/21 19:54		DA12607
Aroclor 1248	ND (0.1)		8082A		1	01/27/21 19:54		DA12607
Aroclor 1254 [2C]	**15.4** (0.5)		8082A		5	01/28/21 23:21		DA12607
Aroclor 1260 [2C]	**1.7** (0.1)		8082A		1	01/27/21 19:54		DA12607
Aroclor 1262	ND (0.1)		8082A		1	01/27/21 19:54		DA12607
Aroclor 1268	ND (0.1)		8082A		1	01/27/21 19:54		DA12607

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*67 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*63 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*64 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*73 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Beta Engineering
Client Project ID: Denholm - Worcester
Client Sample ID: Paint-5
Date Sampled: 01/20/21 10:30
Percent Solids: N/A
Initial Volume: 5.12
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21A0701
ESS Laboratory Sample ID: 21A0701-05
Sample Matrix: Solid
Units: mg/kg wet
Analyst: MJV
Prepared: 1/26/21 18:20

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.1)		8082A		1	01/27/21 20:14		DA12607
Aroclor 1221	ND (0.1)		8082A		1	01/27/21 20:14		DA12607
Aroclor 1232	ND (0.1)		8082A		1	01/27/21 20:14		DA12607
Aroclor 1242	**2.2** (0.1)		8082A		1	01/27/21 20:14		DA12607
Aroclor 1248	ND (0.1)		8082A		1	01/27/21 20:14		DA12607
Aroclor 1254 [2C]	**12.7** (0.5)		8082A		5	02/01/21 14:27		DA12607
Aroclor 1260 [2C]	**6.7** (0.5)		8082A		5	02/01/21 14:27		DA12607
Aroclor 1262	ND (0.1)		8082A		1	01/27/21 20:14		DA12607
Aroclor 1268	ND (0.1)		8082A		1	01/27/21 20:14		DA12607

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*359 %*	*SM*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*361 %*	*SM*	*30-150*
Surrogate: Tetrachloro-m-xylene	*56 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*58 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Beta Engineering
Client Project ID: Denholm - Worcester
Client Sample ID: Paint-6
Date Sampled: 01/20/21 10:45
Percent Solids: N/A
Initial Volume: 5.15
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21A0701
ESS Laboratory Sample ID: 21A0701-06
Sample Matrix: Solid
Units: mg/kg wet
Analyst: MJV
Prepared: 1/26/21 18:20

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.1)		8082A		1	01/27/21 20:33		DA12607
Aroclor 1221	ND (0.1)		8082A		1	01/27/21 20:33		DA12607
Aroclor 1232	ND (0.1)		8082A		1	01/27/21 20:33		DA12607
Aroclor 1242	**1.0** (0.1)		8082A		1	01/27/21 20:33		DA12607
Aroclor 1248	ND (0.1)		8082A		1	01/27/21 20:33		DA12607
Aroclor 1254 [2C]	**2.2** (0.1)		8082A		1	01/27/21 20:33		DA12607
Aroclor 1260	**2.1** (0.1)		8082A		1	01/27/21 20:33		DA12607
Aroclor 1262	ND (0.1)		8082A		1	01/27/21 20:33		DA12607
Aroclor 1268	ND (0.1)		8082A		1	01/27/21 20:33		DA12607

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*53 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*55 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*45 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*52 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Beta Engineering
Client Project ID: Denholm - Worcester
Client Sample ID: Paint-7
Date Sampled: 01/20/21 11:15
Percent Solids: N/A
Initial Volume: 2.85
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21A0701
ESS Laboratory Sample ID: 21A0701-07
Sample Matrix: Solid
Units: mg/kg wet
Analyst: MJV
Prepared: 1/26/21 18:20

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.2)		8082A		1	01/27/21 20:53		DA12607
Aroclor 1221	ND (0.2)		8082A		1	01/27/21 20:53		DA12607
Aroclor 1232	ND (0.2)		8082A		1	01/27/21 20:53		DA12607
Aroclor 1242	**3.2** (0.2)		8082A		1	01/27/21 20:53		DA12607
Aroclor 1248	ND (0.2)		8082A		1	01/27/21 20:53		DA12607
Aroclor 1254 [2C]	**13.9** (0.9)		8082A		5	01/28/21 23:41		DA12607
Aroclor 1260 [2C]	**11.9** (0.9)		8082A		5	01/28/21 23:41		DA12607
Aroclor 1262	ND (0.2)		8082A		1	01/27/21 20:53		DA12607
Aroclor 1268	ND (0.2)		8082A		1	01/27/21 20:53		DA12607

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*73 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*86 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*62 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*71 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Beta Engineering
Client Project ID: Denholm - Worcester
Client Sample ID: Paint-8
Date Sampled: 01/20/21 12:00
Percent Solids: N/A
Initial Volume: 2.69
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21A0701
ESS Laboratory Sample ID: 21A0701-08
Sample Matrix: Solid
Units: mg/kg wet
Analyst: MJV
Prepared: 1/26/21 18:20

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.2)		8082A		1	01/27/21 21:13		DA12607
Aroclor 1221	ND (0.2)		8082A		1	01/27/21 21:13		DA12607
Aroclor 1232	ND (0.2)		8082A		1	01/27/21 21:13		DA12607
Aroclor 1242 [2C]	**1.8** (0.2)		8082A		1	01/27/21 21:13		DA12607
Aroclor 1248	ND (0.2)		8082A		1	01/27/21 21:13		DA12607
Aroclor 1254 [2C]	**4.6** (0.2)		8082A		1	01/27/21 21:13		DA12607
Aroclor 1260	ND (0.2)		8082A		1	01/27/21 21:13		DA12607
Aroclor 1262 [2C]	**5.0** (0.2)		8082A		1	01/27/21 21:13		DA12607
Aroclor 1268	ND (0.2)		8082A		1	01/27/21 21:13		DA12607

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*66 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*71 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*59 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*66 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Beta Engineering
Client Project ID: Denholm - Worcester
Client Sample ID: Paint-9
Date Sampled: 01/20/21 12:30
Percent Solids: N/A
Initial Volume: 5.02
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21A0701
ESS Laboratory Sample ID: 21A0701-09
Sample Matrix: Solid
Units: mg/kg wet
Analyst: MJV
Prepared: 1/26/21 18:20

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.1)		8082A		1	01/27/21 21:33		DA12607
Aroclor 1221	ND (0.1)		8082A		1	01/27/21 21:33		DA12607
Aroclor 1232	ND (0.1)		8082A		1	01/27/21 21:33		DA12607
Aroclor 1242	**3.0** (0.1)		8082A		1	01/27/21 21:33		DA12607
Aroclor 1248	ND (0.1)		8082A		1	01/27/21 21:33		DA12607
Aroclor 1254 [2C]	**11.0** (0.5)		8082A		5	01/29/21 0:01		DA12607
Aroclor 1260	ND (0.1)		8082A		1	01/27/21 21:33		DA12607
Aroclor 1262	ND (0.1)		8082A		1	01/27/21 21:33		DA12607
Aroclor 1268 [2C]	**2.1** (0.1)		8082A		1	01/27/21 21:33		DA12607

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*1540 %*	*SM*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*1460 %*	*SM*	*30-150*
Surrogate: Tetrachloro-m-xylene	*54 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*57 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Beta Engineering
Client Project ID: Denholm - Worcester
Client Sample ID: Paint-10
Date Sampled: 01/20/21 13:00
Percent Solids: N/A
Initial Volume: 5.28
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21A0701
ESS Laboratory Sample ID: 21A0701-10
Sample Matrix: Solid
Units: mg/kg wet
Analyst: MJV
Prepared: 1/26/21 18:20

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.09)		8082A		1	01/27/21 14:39	D1A0437	DA12608
Aroclor 1221	ND (0.09)		8082A		1	01/27/21 14:39	D1A0437	DA12608
Aroclor 1232	ND (0.09)		8082A		1	01/27/21 14:39	D1A0437	DA12608
Aroclor 1242 [2C]	**1.3** (0.09)		8082A		1	01/27/21 14:39	D1A0437	DA12608
Aroclor 1248	ND (0.09)		8082A		1	01/27/21 14:39	D1A0437	DA12608
Aroclor 1254 [2C]	**8.5** (0.5)		8082A		5	01/28/21 23:10	D1A0437	DA12608
Aroclor 1260	**P, LC 2.3** (0.09)		8082A		1	01/27/21 14:39	D1A0437	DA12608
Aroclor 1262	ND (0.09)		8082A		1	01/27/21 14:39	D1A0437	DA12608
Aroclor 1268	ND (0.09)		8082A		1	01/27/21 14:39	D1A0437	DA12608

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*65 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*70 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*55 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*63 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Beta Engineering
Client Project ID: Denholm - Worcester
Client Sample ID: Paint-11
Date Sampled: 01/20/21 08:45
Percent Solids: N/A
Initial Volume: 3.86
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21A0701
ESS Laboratory Sample ID: 21A0701-11
Sample Matrix: Solid
Units: mg/kg wet
Analyst: MJV
Prepared: 1/26/21 18:20

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.1)		8082A		1	01/27/21 14:59	D1A0437	DA12608
Aroclor 1221	ND (0.1)		8082A		1	01/27/21 14:59	D1A0437	DA12608
Aroclor 1232	ND (0.1)		8082A		1	01/27/21 14:59	D1A0437	DA12608
Aroclor 1242	**1.6** (0.1)		8082A		1	01/27/21 14:59	D1A0437	DA12608
Aroclor 1248	ND (0.1)		8082A		1	01/27/21 14:59	D1A0437	DA12608
Aroclor 1254 [2C]	**9.8** (0.6)		8082A		5	01/28/21 23:29	D1A0437	DA12608
Aroclor 1260	**P, LC 4.1** (0.6)		8082A		5	01/28/21 23:29	D1A0437	DA12608
Aroclor 1262	ND (0.1)		8082A		1	01/27/21 14:59	D1A0437	DA12608
Aroclor 1268	ND (0.1)		8082A		1	01/27/21 14:59	D1A0437	DA12608

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*56 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*61 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*52 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*59 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Beta Engineering
Client Project ID: Denholm - Worcester
Client Sample ID: Paint-12
Date Sampled: 01/21/21 09:45
Percent Solids: N/A
Initial Volume: 5.11
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21A0701
ESS Laboratory Sample ID: 21A0701-12
Sample Matrix: Solid
Units: mg/kg wet
Analyst: MJV
Prepared: 1/26/21 18:20

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (2.0)		8082A		20	01/28/21 23:49	D1A0463	DA12608
Aroclor 1221	ND (2.0)		8082A		20	01/28/21 23:49	D1A0463	DA12608
Aroclor 1232	ND (2.0)		8082A		20	01/28/21 23:49	D1A0463	DA12608
Aroclor 1242	ND (2.0)		8082A		20	01/28/21 23:49	D1A0463	DA12608
Aroclor 1248	ND (2.0)		8082A		20	01/28/21 23:49	D1A0463	DA12608
Aroclor 1254 [2C]	**28.0** (2.0)		8082A		20	01/28/21 23:49	D1A0463	DA12608
Aroclor 1260	**23.6** (2.0)		8082A		20	01/28/21 23:49	D1A0463	DA12608
Aroclor 1262	ND (2.0)		8082A		20	01/28/21 23:49	D1A0463	DA12608
Aroclor 1268	ND (2.0)		8082A		20	01/28/21 23:49	D1A0463	DA12608

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: Beta Engineering
Client Project ID: Denholm - Worcester
Client Sample ID: Paint-13
Date Sampled: 01/21/21 10:15
Percent Solids: N/A
Initial Volume: 5.03
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21A0701
ESS Laboratory Sample ID: 21A0701-13
Sample Matrix: Solid
Units: mg/kg wet
Analyst: MJV
Prepared: 1/26/21 18:20

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (2.0)		8082A		20	01/29/21 0:09	D1A0463	DA12608
Aroclor 1221	ND (2.0)		8082A		20	01/29/21 0:09	D1A0463	DA12608
Aroclor 1232	ND (2.0)		8082A		20	01/29/21 0:09	D1A0463	DA12608
Aroclor 1242	ND (2.0)		8082A		20	01/29/21 0:09	D1A0463	DA12608
Aroclor 1248	ND (2.0)		8082A		20	01/29/21 0:09	D1A0463	DA12608
Aroclor 1254 [2C]	**34.2** (2.0)		8082A		20	01/29/21 0:09	D1A0463	DA12608
Aroclor 1260	**P, LC 7.0** (2.0)		8082A		20	01/29/21 0:09	D1A0463	DA12608
Aroclor 1262	ND (2.0)		8082A		20	01/29/21 0:09	D1A0463	DA12608
Aroclor 1268	ND (2.0)		8082A		20	01/29/21 0:09	D1A0463	DA12608

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: Beta Engineering
Client Project ID: Denholm - Worcester
Client Sample ID: Coating-1
Date Sampled: 01/21/21 11:00
Percent Solids: N/A
Initial Volume: 2.28
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21A0701
ESS Laboratory Sample ID: 21A0701-14
Sample Matrix: Solid
Units: mg/kg wet
Analyst: MJV
Prepared: 1/26/21 18:20

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.2)		8082A		1	01/27/21 15:59	D1A0437	DA12608
Aroclor 1221	ND (0.2)		8082A		1	01/27/21 15:59	D1A0437	DA12608
Aroclor 1232	ND (0.2)		8082A		1	01/27/21 15:59	D1A0437	DA12608
Aroclor 1242	ND (0.2)		8082A		1	01/27/21 15:59	D1A0437	DA12608
Aroclor 1248 [2C]	**64.4** (2.2)		8082A		10	01/29/21 0:29	D1A0437	DA12608
Aroclor 1254	ND (0.2)		8082A		1	01/27/21 15:59	D1A0437	DA12608
Aroclor 1260	ND (0.2)		8082A		1	01/27/21 15:59	D1A0437	DA12608
Aroclor 1262	ND (0.2)		8082A		1	01/27/21 15:59	D1A0437	DA12608
Aroclor 1268	ND (0.2)		8082A		1	01/27/21 15:59	D1A0437	DA12608

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*29 %*	*S-*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*35 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*83 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*90 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Beta Engineering
Client Project ID: Denholm - Worcester
Client Sample ID: Caulk-1
Date Sampled: 01/21/21 11:30
Percent Solids: N/A
Initial Volume: 0.91
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21A0701
ESS Laboratory Sample ID: 21A0701-15
Sample Matrix: Solid
Units: mg/kg wet
Analyst: MJV
Prepared: 1/26/21 18:20

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.5)		8082A		1	01/27/21 16:19	D1A0437	DA12608
Aroclor 1221	ND (0.5)		8082A		1	01/27/21 16:19	D1A0437	DA12608
Aroclor 1232	ND (0.5)		8082A		1	01/27/21 16:19	D1A0437	DA12608
Aroclor 1242	ND (0.5)		8082A		1	01/27/21 16:19	D1A0437	DA12608
Aroclor 1248	ND (0.5)		8082A		1	01/27/21 16:19	D1A0437	DA12608
Aroclor 1254	ND (0.5)		8082A		1	01/27/21 16:19	D1A0437	DA12608
Aroclor 1260	ND (0.5)		8082A		1	01/27/21 16:19	D1A0437	DA12608
Aroclor 1262	ND (0.5)		8082A		1	01/27/21 16:19	D1A0437	DA12608
Aroclor 1268	ND (0.5)		8082A		1	01/27/21 16:19	D1A0437	DA12608

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*66 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*71 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*57 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*69 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Beta Engineering
Client Project ID: Denholm - Worcester
Client Sample ID: Caulk-2
Date Sampled: 01/21/21 13:30
Percent Solids: N/A
Initial Volume: 2.29
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21A0701
ESS Laboratory Sample ID: 21A0701-16
Sample Matrix: Solid
Units: mg/kg wet
Analyst: MJV
Prepared: 1/26/21 18:20

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.2)		8082A		1	01/27/21 16:39	D1A0437	DA12608
Aroclor 1221	ND (0.2)		8082A		1	01/27/21 16:39	D1A0437	DA12608
Aroclor 1232	ND (0.2)		8082A		1	01/27/21 16:39	D1A0437	DA12608
Aroclor 1242	ND (0.2)		8082A		1	01/27/21 16:39	D1A0437	DA12608
Aroclor 1248	ND (0.2)		8082A		1	01/27/21 16:39	D1A0437	DA12608
Aroclor 1254	ND (0.2)		8082A		1	01/27/21 16:39	D1A0437	DA12608
Aroclor 1260	ND (0.2)		8082A		1	01/27/21 16:39	D1A0437	DA12608
Aroclor 1262	ND (0.2)		8082A		1	01/27/21 16:39	D1A0437	DA12608
Aroclor 1268	ND (0.2)		8082A		1	01/27/21 16:39	D1A0437	DA12608

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*28 %*	*S-*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*52 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*34 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*46 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Beta Engineering
Client Project ID: Denholm - Worcester

ESS Laboratory Work Order: 21A0701

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DA12607 - 3540C										
Blank										
Aroclor 1016	ND	0.02	mg/kg wet							
Aroclor 1016 [2C]	ND	0.02	mg/kg wet							
Aroclor 1221	ND	0.02	mg/kg wet							
Aroclor 1221 [2C]	ND	0.02	mg/kg wet							
Aroclor 1232	ND	0.02	mg/kg wet							
Aroclor 1232 [2C]	ND	0.02	mg/kg wet							
Aroclor 1242	ND	0.02	mg/kg wet							
Aroclor 1242 [2C]	ND	0.02	mg/kg wet							
Aroclor 1248	ND	0.02	mg/kg wet							
Aroclor 1248 [2C]	ND	0.02	mg/kg wet							
Aroclor 1254	ND	0.02	mg/kg wet							
Aroclor 1254 [2C]	ND	0.02	mg/kg wet							
Aroclor 1260	ND	0.02	mg/kg wet							
Aroclor 1260 [2C]	ND	0.02	mg/kg wet							
Aroclor 1262	ND	0.02	mg/kg wet							
Aroclor 1262 [2C]	ND	0.02	mg/kg wet							
Aroclor 1268	ND	0.02	mg/kg wet							
Aroclor 1268 [2C]	ND	0.02	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0221*		mg/kg wet	*0.02500*		*89*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0229*		mg/kg wet	*0.02500*		*92*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0165*		mg/kg wet	*0.02500*		*66*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0198*		mg/kg wet	*0.02500*		*79*	*30-150*			
LCS										
Aroclor 1016	0.4	0.02	mg/kg wet	0.5000		90	40-140			
Aroclor 1016 [2C]	0.5	0.02	mg/kg wet	0.5000		96	40-140			
Aroclor 1260	0.4	0.02	mg/kg wet	0.5000		90	40-140			
Aroclor 1260 [2C]	0.5	0.02	mg/kg wet	0.5000		100	40-140			
Surrogate: Decachlorobiphenyl	*0.0241*		mg/kg wet	*0.02500*		*97*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0230*		mg/kg wet	*0.02500*		*92*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0184*		mg/kg wet	*0.02500*		*73*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0222*		mg/kg wet	*0.02500*		*89*	*30-150*			
LCS Dup										
Aroclor 1016	0.4	0.02	mg/kg wet	0.5000		85	40-140	5	30	
Aroclor 1016 [2C]	0.5	0.02	mg/kg wet	0.5000		91	40-140	5	30	
Aroclor 1260	0.4	0.02	mg/kg wet	0.5000		88	40-140	2	30	
Aroclor 1260 [2C]	0.5	0.02	mg/kg wet	0.5000		97	40-140	3	30	
Surrogate: Decachlorobiphenyl	*0.0234*		mg/kg wet	*0.02500*		*93*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0221*		mg/kg wet	*0.02500*		*88*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0180*		mg/kg wet	*0.02500*		*72*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0199*		mg/kg wet	*0.02500*		*80*	*30-150*			
Batch DA12608 - 3540C										

CERTIFICATE OF ANALYSIS

Client Name: Beta Engineering
Client Project ID: Denholm - Worcester

ESS Laboratory Work Order: 21A0701

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DA12608 - 3540C										
Blank										
Aroclor 1016	ND	0.02	mg/kg wet							
Aroclor 1016 [2C]	ND	0.02	mg/kg wet							
Aroclor 1221	ND	0.02	mg/kg wet							
Aroclor 1221 [2C]	ND	0.02	mg/kg wet							
Aroclor 1232	ND	0.02	mg/kg wet							
Aroclor 1232 [2C]	ND	0.02	mg/kg wet							
Aroclor 1242	ND	0.02	mg/kg wet							
Aroclor 1242 [2C]	ND	0.02	mg/kg wet							
Aroclor 1248	ND	0.02	mg/kg wet							
Aroclor 1248 [2C]	ND	0.02	mg/kg wet							
Aroclor 1254	ND	0.02	mg/kg wet							
Aroclor 1254 [2C]	ND	0.02	mg/kg wet							
Aroclor 1260	ND	0.02	mg/kg wet							
Aroclor 1260 [2C]	ND	0.02	mg/kg wet							
Aroclor 1262	ND	0.02	mg/kg wet							
Aroclor 1262 [2C]	ND	0.02	mg/kg wet							
Aroclor 1268	ND	0.02	mg/kg wet							
Aroclor 1268 [2C]	ND	0.02	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0210*		mg/kg wet	*0.02500*		*84*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0218*		mg/kg wet	*0.02500*		*87*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0187*		mg/kg wet	*0.02500*		*75*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0214*		mg/kg wet	*0.02500*		*86*	*30-150*			
LCS										
Aroclor 1016	0.4	0.02	mg/kg wet	0.5000		87	40-140			
Aroclor 1016 [2C]	0.4	0.02	mg/kg wet	0.5000		88	40-140			
Aroclor 1260	0.4	0.02	mg/kg wet	0.5000		86	40-140			
Aroclor 1260 [2C]	0.4	0.02	mg/kg wet	0.5000		84	40-140			
Surrogate: Decachlorobiphenyl	*0.0216*		mg/kg wet	*0.02500*		*86*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0222*		mg/kg wet	*0.02500*		*89*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0199*		mg/kg wet	*0.02500*		*80*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0210*		mg/kg wet	*0.02500*		*84*	*30-150*			
LCS Dup										
Aroclor 1016	0.4	0.02	mg/kg wet	0.5000		87	40-140	0.3	30	
Aroclor 1016 [2C]	0.4	0.02	mg/kg wet	0.5000		88	40-140	0.2	30	
Aroclor 1260	0.4	0.02	mg/kg wet	0.5000		86	40-140	0.5	30	
Aroclor 1260 [2C]	0.4	0.02	mg/kg wet	0.5000		85	40-140	0.4	30	
Surrogate: Decachlorobiphenyl	*0.0219*		mg/kg wet	*0.02500*		*87*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0223*		mg/kg wet	*0.02500*		*89*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0199*		mg/kg wet	*0.02500*		*79*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0208*		mg/kg wet	*0.02500*		*83*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: Beta Engineering
Client Project ID: Denholm - Worcester

ESS Laboratory Work Order: 21A0701

Notes and Definitions

U	Analyte included in the analysis, but not detected
SM	Surrogate recovery(ies) outside of criteria due to matrix (UCM/coelution/matrix is present) (SM).
SD	Surrogate recovery(ies) diluted below the MRL (SD).
S-	Surrogate recovery(ies) below lower control limit (S-).
P	Percent difference between primary and confirmation results exceeds 40% (P).
LC	Lower value is used due to matrix interferences (LC).
D	Diluted.
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: Beta Engineering
Client Project ID: Denholm - Worcester

ESS Laboratory Work Order: 21A0701

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Beta Engineering - ML/TB

Shipped/Delivered Via: ESS Courier

ESS Project ID: 21A0701
Date Received: 1/26/2021
Project Due Date: 2/2/2021
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 6 Iced with: Ice
5. Was COC signed and dated by client? Yes
6. Does COC match bottles? Yes
7. Is COC complete and correct? Yes
8. Were samples received intact? Yes
9. **Were labs informed about short holds & rushes?** Yes / No / (NA)
10. Were any analyses received outside of hold time? Yes / (No)

11. Any Subcontracting needed? Yes / (No)
    ESS Sample IDs:
    Analysis:
    TAT:
12. Were VOAs received? Yes / (No)
    a. Air bubbles in aqueous VOAs? Yes / No
    b. Does methanol cover soil completely? Yes / No / NA

13. Are the samples properly preserved? (Yes) / No
    a. If metals preserved upon receipt: Date: Time: By:
    b. Low Level VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

14. Was there a need to contact Project Manager? Yes / (No)
    a. Was there a need to contact the client? Yes / No
    Who was contacted? Date: Time: By:

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
1	130359	Yes	N/A	Yes	4 oz. Jar	NP	
2	130360	Yes	N/A	Yes	4 oz. Jar	NP	
3	130361	Yes	N/A	Yes	4 oz. Jar	NP	
4	130362	Yes	N/A	Yes	4 oz. Jar	NP	
5	130363	Yes	N/A	Yes	4 oz. Jar	NP	
6	130364	Yes	N/A	Yes	4 oz. Jar	NP	
7	130365	Yes	N/A	Yes	4 oz. Jar	NP	
8	130366	Yes	N/A	Yes	4 oz. Jar	NP	
9	130367	Yes	N/A	Yes	4 oz. Jar	NP	
10	130368	Yes	N/A	Yes	4 oz. Jar	NP	
11	130369	Yes	N/A	Yes	4 oz. Jar	NP	
12	130370	Yes	N/A	Yes	4 oz. Jar	NP	
13	130371	Yes	N/A	Yes	4 oz. Jar	NP	
14	130372	Yes	N/A	Yes	4 oz. Jar	NP	
15	130373	Yes	N/A	Yes	4 oz. Jar	NP	
16	130374	Yes	N/A	Yes	4 oz. Jar	NP	

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Beta Engineering - ML/TB

ESS Project ID: 21A0701
Date Received: 1/26/2021

2nd Review

Were all containers scanned into storage/lab? Initials ML

Are barcode labels on correct containers? (Yes) / No

Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA

Are all Hex Chrome stickers attached? Yes / No / NA

Are all QC stickers attached? Yes / No / NA

Are VOA stickers attached if bubbles noted? Yes / No / NA

Completed By: [signature] Date & Time: 1/26/21 1645

Reviewed By: [signature] Date & Time: 1/26/21 17:03

:SS Laboratory
vision of Thielsch Engineering, Inc.
5 Frances Avenue, Cranston RI 02910
l. (401) 461-7181 Fax (401) 461-4486
ww.esslaboratory.com

CHAIN OF CUSTODY

Turn Time	5	Days
Regulatory State	MA	

Is this project for any of the following?: ○ CT RCP ○ MA MCP ○ RGP

ESS Lab # 21A0701
Reporting Limits Disposal
Electonic Deliverables ☐ Data Checker ☐ Excel ☐ Other (Please Specify →)

Company Name: BETA Group	Project #: 7453	Project Name: Denholm - Worcester	
Contact Person: Matt Alger	Address: 701 George Washington Hwy		
City: Lincoln	State: RI	Zip Code: 02865	PO #: 7453
Telephone Number: 401-333-2382	FAX Number:	Email Address: malger@beta-inc.com	

SS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	Analysis: PCB-Soxhlet
1	1/20/21	9:00am	Grab	Solid	PAINT-1	X
2		9:15am			PAINT-2	X
3		9:30am			PAINT-3	X
4		10:00am			PAINT-4	X
5		10:30am			PAINT-5	X
6		10:45am			PAINT-6	X
7		11:15am			PAINT-7	X
8		12:00pm			PAINT-8	X
9		12:30pm			PAINT-9	X
10		1:00pm			PAINT-10	X

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial — AG
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*
Number of Containers per Sample: 1

Laboratory Use Only
Cooler Present: _____ ○ Drop Off
Seals Intact: _____ ○ Pickup
Cooler Temperature: 6 °C

Sampled by : M. Alger
Comments: Please specify "Other" preservative and containers types in this space

Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)
1/26/21	1/26/2021 1430	1/26/2021 1604	1/26/21 16:04
Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)

:SS Laboratory
vision of Thielsch Engineering, Inc.
35 Frances Avenue, Cranston RI 02910
el. (401) 461-7181 Fax (401) 461-4486
ww.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 21A0701

Turn Time: 5 Days

Regulatory State: MA

Reporting Limits: Disposal

Is this project for any of the following?: ○ CT RCP ○ MA MCP ○ RGP

Electonic Deliverables: ☐ Data Checker ☐ Excel ☐ Other (Please Specify →)

Company Name: BETA Group

Project #: 7453 Project Name: Denholm - Worcester

Contact Person: Matt Alger

Address: 701 George Washington Hwy

City: Lincoln State: RI Zip Code: 02865 PO #: 7453

Telephone Number: 401-333-2382 FAX Number:

Email Address: malger@beta-inc.com

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	Analysis: PCB - Soil/Sed
11	1/20/21	8:45am	Grab	Solid	PAINT-11	X
12	1/21/21	9:45am			PAINT-12	X
13	1/21/21	10:15am			PAINT-13	X
14	1/21/21	11:00am			COATING-1	X
15	1/21/21	11:30am			CAULK-1	X
16	1/21/21	1:30pm			CAULK-2	X

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial

Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*

Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*

Number of Containers per Sample: 1

Laboratory Use Only

Cooler Present: _____ ○ Drop Off

Seals Intact: _____ ○ Pickup

Cooler Temperature: 6 °C

Sampled by: M. Alger

Comments: Please specify "Other" preservative and containers types in this space

Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)
Matthew 1/26/21	1/26/2021 1430	1/26/2021 1604	Amber Jones 1/26/21 16:04
Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)

Attachment F

Asbestos Inspector Certification