CDW CONSULTANTS, INC.
CIVIL & ENVIRONMENTAL ENGINEERS

HAZARDOUS MATERIALS SUMMARY REPORT

Northeast Metropolitan Technical Vocational High School
100 Hemlock Road
Wakefield, MA 01880

Prepared for

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CDW Project # 1893.0

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1.0 INTRODUCTION

CDW Consultants, Inc. (CDW) is pleased to present this Hazardous Materials Summary Report summarizing the findings of the suspect asbestos-containing materials (ACM) and lead-based paint (LBP) and hazardous materials inspection of the Northeast Metropolitan Technical Vocational High School ("Site") located in Wakefield, Massachusetts. The ACM, LBP and hazardous materials survey were conducted in support of a Feasibility Study for school renovations. In February and March 2020, Ms. Susan Cahalan (Massachusetts DLS Asbestos Inspector #AI60784) conducted an inspection for suspect materials. An inspection is required by the United States Environmental Protection Agency (USEPA) Title 40 CFR Part 61 National Emission Standards for Hazardous Air Pollutants (NESHAP) regulation and Massachusetts Department of Environmental Protection (MassDEP) Regulation 310 CMR 7.15. These regulations require that buildings be inspected for ACM prior to renovation/demolition projects.

2.0 PROJECT UNDERSTANDING

The hazardous materials inspection was conducted in support of a Feasibility Study for the Northeast Metropolitan Technical Vocational High School. The hazardous building material survey was conducted to identify ACM, LBP, visible hazardous materials including mercury switches, transformers, light ballasts, fluorescent tubes, and other visible hazardous materials connected to building systems. Electronic wastes are not part of building systems and will not be counted. This study excludes sampling for poly-chlorinated biphenyl (PCB) containing building materials.

3.0 GENERAL SITE CONDITIONS

CDW reviewed Plans prepared by Korslund, LeNormand & Quann, Inc. and dated November 24, 1967, the Massachusetts School Board Authority (MSBA) Statement of Interest and our observations for this summary. Northeast Metropolitan Regional Vocational High School, is a grades 9-12 comprehensive vocational and technical high school that is approximately 240,000 square feet which provides academic and vocational programs for approximately 1,250 students from twelve surrounding communities. The school is located on a 30-acre plot at 100 Hemlock Road in Wakefield, Massachusetts. On-site west and north of the building are a football/track field with grandstand, basketball courts, baseball/softball fields and a practice field. The Site building was built in 1968, with a small storage outbuilding constructed in 1975. Apart from minor alterations and construction of other small storage outbuildings, there have not been any significant renovations, additions, or improvements. The flat EPDM roofs were replaced in 1980.

The lowest level floor is a concrete slab-on-grade. The portion of the first floor above the basement is a 12-inch thick reinforced concrete flat slab supported on wide flange steel columns. The primary roof structure throughout the building consists steel bar joists supported on masonry bearing walls on the interior as well as the perimeter with a 2-inch poured gypsum deck. The Gymnasium roof consists of pre-cast concrete supported on pre-cast concrete beams on masonry bearing walls. The

typical second floor framing is a 2 ½-inch concrete slab on form deck supported on steel bar joists spanning between interior and exterior masonry walls. The pool roof is a concrete slab on metal deck supported on reinforced concrete pool walls and exterior walls. The basic exterior wall type is brick veneer over concrete masonry unit (CMU) back-up.

The majority of exterior doors are hollow metal with metal frames. Typical windows throughout the building are aluminum frames with a hopper-style, operable sash and non- insulated single pane glass. They are the original windows based on record drawings. Fiberglass-faced, insulated, translucent panels are located in the shop spaces and gymnasium.

Numerous types of flooring in various conditions were found throughout the Site building. Terrazzo flooring is located at the entrances, corridors, cafeteria and at shower bases in girl's locker room. Vinyl floor tile is located throughout the building in classrooms and administration spaces. Wood flooring is located in the gymnasium, stage in cafetorium, and platform flooring in a couple of rooms and the carpentry shop. Carpeted areas include the library, conference rooms and offices. Ceramic tile floors are located in locker rooms, the pool deck, and bathrooms. Red quarry tile is located in the main kitchen and student kitchen. Concrete slab flooring is located in the food storage area, loading dock, shop spaces, boiler room and area beneath the pool deck.

Walls also vary throughout the building. Some corridors, stair wells, the cafeteria and platform opening have brick walls with terrazzo base. Concrete Masonry corridors are painted CMU in good condition. The shop spaces also have painted and non-painted walls. Classroom spaces consist of 6" metal stud with metal lath and painted plaster finish. The pool, bathrooms and kitchen/food service area have 4"x4" ceramic wall tile and water fountains found in hallways are marked by the mosaic wall tile behind. Fiberglass reinforced panels are located in the weight room. A few offices in the administrative area have wood paneling. Moveable partition walls were noted in 2nd floor classrooms.

Acoustical ceiling tile are 2'x2' acoustical dropped ceiling systems with steel grids. The classrooms and cafetorium have 1'x1' suspended ceiling tiles. Shop spaces have exposed structural trusses revealing the gypsum roof deck system above. This system consists of gypsum concrete over formboards supported by a wire mesh system.

There are two (2) Cleaver Brooks CB 655-350 350 boiler horsepower fire-tube hot water boilers, which burn No. 4 fuel oil. These boilers are original to the building. Original #4 fuel oil UST supplies the oil burners. The UST is monitored by a Veeder Root TLS350 leak detection and monitoring system. The classroom areas are provided with individual wall mounted classroom unit ventilators located on the exterior wall of each space with adjacent fin tube radiation. All the unit ventilators, as well as fin tube, are served by the hot water heating system. The pool heating system has been mothballed and anti-freeze added to the piping system. The pool was heated by a cast iron boiler firing propane. The shops contain heating and ventilating units with roof mounted fresh air hoods. The Site building has a propane fired interior generator manufactured by Kohler.

Most of the building is air conditioned except for the gym and shop areas. A 255-ton electric chiller

was installed in 1995.The chiller connects to an open cooling tower located on the roof. The chiller is a Trane RTHA 255 screw chiller utilizing R-22 refrigerant.

Underground electricity runs into the vault that contains the transformer is housed. Switch gear is located in the adjoining electric room. Lighting fixtures throughout the Site building consist of retrofitted T8 lamps and electronic ballasts, T12 lamps and magnetic ballasts, recessed lighting in corridors, the gym has metal halide lamps, the Cafetorium has recessed LED lamps and the stage has incandescent fixtures.

Water piping that is visible is copper tubing with fiberglass insulation. Sanitary, waste, and vent piping is cast iron bell and some of the connections have lead packing. Natural gas is provided to the building for kitchen equipment, science classrooms and abandoned pool heating equipment.

4.0 ASBESTOS SURVEY

4.1 Report Review April 16, 2015

CDW Reviewed the Universal Environmental Consultants Hazardous Materials Summary Report dated May 2015. The materials collected and results are provided in the below tables.

April 16, 2015

Material and Location	Result
Exterior unit vent grille caulking	No Asbestos Detected
Exterior window framing caulking	No Asbestos Detected
Exterior window framing caulking	No Asbestos Detected
Exterior unit vent grille caulking	No Asbestos Detected
Exterior window framing caulking	No Asbestos Detected
Exterior window glazing caulking	No Asbestos Detected
Exterior door framing caulking	No Asbestos Detected
Exterior door framing caulking	No Asbestos Detected
Exterior window glazing caulking	8% Asbestos
Exterior window framing caulking	No Asbestos Detected
Exterior door framing caulking	No Asbestos Detected
Exterior window glazing caulking	8% Asbestos
Exterior caulking on window panel	No Asbestos Detected
Exterior glue daub on window panel	No Asbestos Detected
Exterior window framing caulking	No Asbestos Detected
Exterior unit vent grille caulking	5% Asbestos
Exterior window glazing caulking	No Asbestos Detected
Exterior window framing caulking	No Asbestos Detected
Exterior window glazing caulking	8% Asbestos
Exterior door framing caulking	No Asbestos Detected
Exterior window glazing caulking	No Asbestos Detected
Exterior window framing caulking	No Asbestos Detected
Exterior expansion joint caulking	No Asbestos Detected
Exterior concrete soffit fascia	No Asbestos Detected
Exterior caulking on window panel	No Asbestos Detected

April 22, 2015

Material and Location	Sample Result
Interior window glazing caulking at pool	No Asbestos Detected
Interior window glazing caulking at hallway by room 154	2% Asbestos
Interior window glazing caulking at room 158	2% Asbestos
Interior door glazing caulking at room 107	2% Asbestos
Interior door glazing caulking at room 104	2% Asbestos
Fire door insulation at cafeteria	60% Asbestos
Fire door insulation at cafeteria	60% Asbestos
1'x 1' Acoustical ceiling tile at room 135	No Asbestos Detected
1'x 1' Acoustical ceiling tile at room 157	No Asbestos Detected
2'x 2' Acoustical ceiling tile at break room	No Asbestos Detected
2'x 2' Acoustical ceiling tile at room 107	No Asbestos Detected
2'x 4' Acoustical ceiling tile at room 011	No Asbestos Detected
2'x 4' Acoustical ceiling tile at room 011	No Asbestos Detected
Plaster at room 120	No Asbestos Detected
Plaster at room 120	No Asbestos Detected
Plaster at room 126	No Asbestos Detected
Plaster at room 126	No Asbestos Detected
Plaster at room 128	No Asbestos Detected
Plaster at room 128	No Asbestos Detected
Plaster at room 128	No Asbestos Detected
Wall joint compound at room 152	No Asbestos Detected
Wall joint compound at room 152	No Asbestos Detected
Black sink coating at break room	5% Asbestos
Black sink coating at break room	5% Asbestos
Pink sink coating at room 153	3% Asbestos
Pink sink coating at room 153	3% Asbestos
White sink coating at room 019	No Asbestos Detected
White sink coating at room 019	No Asbestos Detected
Old lab countertop at room 123	No Asbestos Detected
Old lab countertop at room 123	No Asbestos Detected
Lab table at room 012	No Asbestos Detected
Lab table at room 012	No Asbestos Detected
Vertical caulking between block and column at room 162	5% Asbestos
Vertical caulking between block and column at room 162	5% Asbestos
Vertical caulking between block and block at gymnasium	No Asbestos Detected
Vertical caulking between block and block at gymnasium	No Asbestos Detected
Black mastic on fiberglass insulated pipe at mechanical room	No Asbestos Detected
Black mastic on fiberglass insulated pipe at mechanical room	No Asbestos Detected
Boiler gasket at boiler room	No Asbestos Detected

Material and Location	Sample Result
Boiler gasket at boiler room	No Asbestos Detected
Boiler exhaust insulation at boiler room	20% Asbestos
Boiler exhaust insulation at boiler room	20% Asbestos
Boiler exhaust insulation at boiler room	30% Asbestos
Generator exhaust insulation at generator room	3% Asbestos
Generator exhaust insulation at generator room	40% Asbestos
Generator exhaust insulation at generator room	30% Asbestos
Hard joint insulation off fiberglass pipe at pool mechanical room	No Asbestos Detected
Hard joint insulation off fiberglass insulated pipe at room 153	No Asbestos Detected
Hard joint insulation off fiberglass insulated pipe at room 158	No Asbestos Detected
Hard joint insulation off fiberglass insulated pipe at room 158	No Asbestos Detected
Hard joint insulation off fiberglass pipe at mechanical room	No Asbestos Detected
Cement floor at library	No Asbestos Detected
Cement floor at library	No Asbestos Detected
Beige 12” x 12” vinyl floor tile at room 128	3% Asbestos
Beige 12” x 12” vinyl floor tile at room 128	3% Asbestos
Black mastic for beige 12” x 12” vinyl floor tile at room 128	3% Asbestos
Black mastic for beige 12” x 12” vinyl floor tile at room 128	10% Asbestos
Brown 12” x 12” vinyl floor tile at room 155	3% Asbestos
Brown 12” x 12” vinyl floor tile at room 158	No Asbestos Detected
Brown 12” x 12” vinyl floor tile at room 158	2% Asbestos
Black mastic for brown 12” x 12” vinyl floor tile at room 155	10% Asbestos
Black mastic for brown 12” x 12” vinyl floor tile at room 158	10% Asbestos
Dark grey 12” x 12” vinyl floor tile at room 103	No Asbestos Detected
Dark grey 12” x 12” vinyl floor tile at room 103	No Asbestos Detected
Pink 12” x 12” vinyl floor tile at office	No Asbestos Detected
Pink 12” x 12” vinyl floor tile at office	No Asbestos Detected
Light blue 12” x 12” vinyl floor tile at room 010	No Asbestos Detected
Light blue 12” x 12” vinyl floor tile at room 010	No Asbestos Detected
White/green 12” x 12” vinyl floor tile at room 018	No Asbestos Detected
White/green 12” x 12” vinyl floor tile at room 018	No Asbestos Detected
Black mastic for white/green 12” x 12” vinyl floor tile at room 018	<1% Asbestos
Black mastic for white/green 12” x 12” vinyl floor tile at room 018	2% Asbestos
Yellow/blue 12” x 12” vinyl floor tile at room 019	No Asbestos Detected
Yellow/blue 12” x 12” vinyl floor tile at room 019	No Asbestos Detected
Black/white 12” x 12” vinyl floor tile at room 120	No Asbestos Detected
Black/white 12” x 12” vinyl floor tile at room 120	No Asbestos Detected
Blue 12” x 12” vinyl floor tile at room 161	No Asbestos Detected
Blue 12” x 12” vinyl floor tile at room 161	No Asbestos Detected
Tan 12” x 12” vinyl floor tile at room 120	2% Asbestos
Tan 12” x 12” vinyl floor tile at room 120	2% Asbestos
Black mastic for tan 12” x 12” vinyl floor tile at room 120	10% Asbestos
Black mastic for tan 12” x 12” vinyl floor tile at room 120	10% Asbestos

Material and Location	Sample Result
White/tan specks 12" x 12" vinyl floor tile at room 135	No Asbestos Detected
White/tan specks 12" x 12" vinyl floor tile at room 135	No Asbestos Detected
Black mastic for white/tan specks 12" x 12" floor tile at room 135	10% Asbestos
Black mastic for white/tan specks 12" x 12" floor tile at room 135	No Asbestos Detected
White/blue and red flecks 12" x 12" vinyl floor tile at room 151	No Asbestos Detected
White/blue and red flecks 12" x 12" vinyl floor tile at room 151	No Asbestos Detected
White/blue spots 12" x 12" vinyl floor tile at room 126	No Asbestos Detected
White/blue spots 12" x 12" vinyl floor tile at room 126	No Asbestos Detected
Slate window sill at room 126	5% Asbestos
Slate window sill at room 128	15% Asbestos
Interior caulking for exterior window	3% Asbestos
Interior caulking for exterior window	3% Asbestos

4.2 Methods

The USEPA and Massachusetts Department of Environmental Protection (MassDEP) are responsible for developing and enforcing regulations necessary to protect the general public from airborne contaminants that are known to be hazardous to human health. They regulate ACM associated with renovation, demolition, and asbestos abatement projects via the National Emissions Standard for Hazardous Air Pollutants (NESHAP) Title 40 CFR Part 61 regulation and MassDEP Regulation 310 CMR 7.15. These regulations require that buildings be inspected for ACM prior to renovation/demolition projects. They stipulate that all friable ACM as well as non-friable ACM that are in poor condition or will be made friable by renovation or demolition activity be removed or otherwise appropriately abated before they are disturbed. Samples of suspect materials were collected to confirm the presence or absence of ACM and LBP. Suspect materials were grouped into homogenous areas. A homogenous area is an area that is similar in color, texture and date of application. Hand tools were used to collect bulk samples which were promptly placed in sealed plastic bags using a unique numbering system. Samples were not collected of non-suspect materials, including wood, fiberglass, plastic/vinyl, ceramic, concrete, neoprene/rubber, glass, and carpeting.

The investigative work for the asbestos survey included conducting a visual inspection of physically accessible areas of the structure, reviewing plans and coring and repairing brick to observe any vapor barrier, as well as the roof for suspect materials. Once the inspection was completed, the building components were categorized into homogeneous areas. These homogeneous areas included: surfacing materials, thermal system insulation, and miscellaneous materials. CDW collected bulk samples of different homogeneous suspect materials for asbestos analysis. The bulk samples were delivered under chain of custody to Asbestos Identification Laboratory, Inc. (AIL), of Woburn, Massachusetts, fully accredited asbestos analytical laboratories, analyzed the bulk samples utilizing Polarized Light Microscopy (PLM) in accordance with the requirements of 40 CFR Part 763, Subpart F. Samples analyzed to contain greater than 1% asbestos are to be treated as ACM as defined by the USEPA and MassDEP. A positive stop method was used – if one sample in a

homogeneous group is positive then additional samples of the same material are not analyzed. The asbestos analytical reports are provided in Appendix A.

4.3 Findings

Field ID	Material	Location	Asbestos %
Roof-1A	Tan Paper Top + Bottom Roof Foam	Top of Roof Foam NW Core Wood Shop	None Detected
Roof-1B	Dark Gray Paper	Bottom Foam NW Core Wood Shop	None Detected
Roof-1C	Black Asphaltic Layer	Top of Roof Deck Gypsum NW Core Wood Shop	None Detected
Roof-1D	Gypsum Deck	Roof Core-NE Wood Shop	None Detected
Roof-2A	Gray Paper Top + Bottom Foam	Roof Core-North Over Auto	None Detected
Roof-2B	Asphaltic Layer	Roof Core-North Over Auto	None Detected
Roof-2C	Gypsum Deck	Roof Core-North Over Auto	None Detected
Roof-3A	Gray Paper Top + Bottom Foam	Roof Core-Low Roof Near Gym	None Detected
Roof-3B	Asphaltic Layer	Roof Core Low Roof Near Gym	None Detected
Roof-3C	Gypsum Roof Deck	Roof Core Low Roof Near Gym	None Detected
Roof-4	Gray Paper	Roof Expansion Joint N Side	None Detected
Roof-5A	Gray Paper Top + Bottom Foam	SW Roof Near Front	None Detected
Roof-5B	Asphaltic Layer	Roof-NW Near Core Front	None Detected
Roof-5C	Gypsum	Roof Deck-Core SW	None Detected
Roof-6A	Tan Paper Top + Bottom Foam	Top Pool/Gym Roof	None Detected
Roof-6B	White + Gray Membrane	Top Pool/Gym Roof	None Detected

Field ID	Material	Location	Asbestos %
Roof-6C	Gypsum Roof Deck	Top Pool/Gym Roof	None Detected
Roof-7A	Gray Paper Top + Bottom Roof Foam	Low Roof-Front	None Detected
Roof-7B	Asphaltic Layer	Low Roof-Front	None Detected
Roof-7C	Gypsum Deck	Low Roof-Front	None Detected
Roof-8A	DK Gray/Black Paper Top + Bottom Roof Foam	Roof-Middle Front	None Detected
Roof-8B	Asphaltic Layer	Roof Core Middle Front	None Detected
Roof-8C	Gypsum	Roof Deck Middle Front	None Detected
Roof-9A	Gray Paper Top + Bottom Roof Foam	Main Entrance Roof	None Detected
Roof-9B	Asphaltic Layer	Core- Main Entrance Roof	None Detected
Roof-9C	Gypsum	Roof Deck-Main Entrance Roof	None Detected
Roof-10A	Gray Paper Top + Bottom Roof Foam	Roof Core Center	None Detected
Roof-10B	Asphaltic Layer	Roof Core Center	None Detected
Roof-10C	Gypsum	Roof Deck-Roof Core Center	None Detected
Roof-11A	Gray Paper Top + Bottom Roof Foam	Roof Over Kitchen Cage	None Detected
Roof-11B	Asphaltic Layer	Roof Over Kitchen Café	None Detected
Roof-11C	Gypsum Deck	Roof Over Kitchen Café	None Detected
Roof-12A	Dark Gray Paper Top + Bottom Roof Foam	Sloped Roof	None Detected
Roof-12B	**Asphaltic Layer**	**Sloped Roof**	**20% Chrysotile**
Roof-12C	Gypsum	Sloped Roof	None Detected
Roof-13A	Gray Paper Top + Bottom Foam	Sloped Roof	None Detected

Field ID	Material	Location	Asbestos %
Roof-13B	Asphaltic Layer	Curb Cut at Chimney	None Detected
Roof-13C	Gypsum Deck	Curb Cut at Chimney	None Detected
Roof-13D	Black Tar	Curb Cut at Chimney Original Tar (Old)	None Detected
Roof-14A	Gray Paper Top + Bottom Foam	Front Older Roof	None Detected
Roof-14B	Asphaltic Layer	Front Older Roof	None Detected
Roof-14C	Gypsum Deck	Front Older Roof	None Detected
Roof-15A	Gray Paper Top + Bottom Foam	Front Older Roof	None Detected
Roof-15B	Asphaltic Material	Older Front Roof	None Detected
Roof-15C	Gypsum Deck	Older Front Roof	None Detected
1A, 1B, 1C	**Gray Caulk**	**On Metal Flashing Wood Shop to Low Roof**	**2% Chrysotile**
2A, 2B, 2C, 2D, 2E	**Gray Window Glaze**	**Exterior at Frosted Windows Roof Level Gym and Shops**	**10% Chrysotile**
3A, 3B, 3C, 3D, 3E	White Caulk	Gym Window Roof Level	None Detected
4A, 4B, 4C, 4D, 4E	Tan/Pinkish Hue Over Black Expansion Join	Gym Upper Level	None Detected
5A, 5B, 5C	White Caulk on Silicone	Roof Stand Pipe Vents	None Detected
6A, 6B, 6C	Black Brittle Tar	On Metal Flash Entrance Roof Top Lower Roof	None Detected
7A, 7B, 7C	Black Caulk	Around Roof Drains	None Detected
8A, 8B, 8C	White Caulk	On Steel Vents Near Chimney	None Detected
9A, 9B, 9C	Dark Gray Caulk	Inside Roof Drain Under Rubber	None Detected
10, 10B	**Black Caulk**	**Corner of Chimney**	**5% Chrysotile**

Field ID	Material	Location	Asbestos %
11A, 11B	Black Bumper Material	Kitchen Loading Dock	None Detected
12A, 12B	Gray Caulk	Around Large Vent Near Kitchen Dock	None Detected
13A, 13B	**Interior Gray Window Glaze**	**Office in Kitchen**	**5% Chrysotile**
14A, 14B, 14C	Gray/Black Mastic	Under Red Ceramic Tile in Kitchen	None Detected
15A, 15B, 15C	2'X2' Pindot + Fissure Ceiling Tile	Kitchen Storage	None Detected
16A, 16B, 16C	White Mastic	Under Ceramic Wall Tile Kitchen	None Detected
17A, 17B, 17C	Yellowish Grout	Under Ceramic Wall Tile, Kitchen	None Detected
18A, 18B, 18C, 18D, 18E	White Plaster	Kitchen Ceiling	None Detected
19A, 19B	**Interior Door Assembly Window Glaze**	**Near Door 109**	**2% Chrysotile**
20	**White Material**	**Inside Wood Door Near 109**	**15% Chrysotile 10% Amosite**
21A, 21B, 21C, 21D, 21E	Tan Expansion Joint-Vertical	Exterior Pool, Gym Near Front and Kitchen	None Detected
22A, 22B	Gray Caulk	Exterior Door #02	None Detected
23A, 23B	Gray White Caulk	Exterior Door #23	None Detected
24A	Black Window Glaze on Metal Door	Door #02	None Detected
25A, 25B	**Gray Window Glaze**	**Side Light Windows Door #02**	**3% Chrysotile**
26A, 26B	**Gray Window Glaze, Exterior Windows**	**Door #23**	**3% Chrysotile**
27A, 27B, 27C	**White Caulk**	**Exterior Univents**	**3% Chrysotile**

Field ID	Material	Location	Asbestos %
28	Interior Door Material	Next to Main Office Assembly	None Detected
29	Interior Door Material	Assembly Near Dental	None Detected
30	Interior Door Material	Gym Door	None Detected
31	Interior Tan Door Material	Door 104	None Detected
32	Interior Tan Door Material	Door 107	None Detected
33	**Gray Glaze**	**Interior Door Window Above Room 107**	**2% Chrysotile**
34	**Gray Glaze on Interior Window**	**On Wood Door 107**	**2% Chrysotile**
35	**Gray Glaze on Interior Window Glaze**	**On Door Room 121**	**2% Chrysotile**
36	**Gray Glaze Interior Window**	**Window Above Door Room 121**	**2% Chrysotile**
37	**Gray Window Glaze**	**Interior Hall Assembly Near 109**	**2% Chrysotile**
38A, 38B	Gray Glaze	Interior Windows Main Office	None Detected
39A, 39B, 39C, 39D, 39E, 39F, 39G, 39H, 39I	2'X2' Tan/Brown Textured Ceiling Tile	All Hallways	None Detected
40A, 40B, 40C, 40D, 40E, 40F, 40G	1'X1' Ceiling Tile Dot + Small Fissures	Classrooms and Cafetorium-Spline Set	None Detected
41A, 41B, 41C	Black Vinyl Cove Base	Gym	None Detected
42A, 42B, 42C	Yellow Glue	Under Black Cove Base-Gym	None Detected
43A, 43B, 43C	**Black Tar**	**On Gym Deck Under Wood**	**5% Chrysotile**
44A, 44B, 44C	**DK Gray Grout Under Stone Window Sills**	**123, 107, + 121 Classrooms**	**2% Chrysotile**

Field ID	Material	Location	Asbestos %
45A, 45B, 45C	**Stone (Slate) Window Sills**	**132, 107, + 121 Classrooms**	**5% Chrysotile**
46A, 46B, 46C, 46D, 46E, 46F, 46G	Plaster Skim on Walls	Rooms 103, 104, 118, 123, 125, 121, + Dental	None Detected
47A, 47B, 47C, 47D, 47E, 47F, 47G	Black Mastic	Under Terrazzo Halls + Stairs	None Detected
48A, 48B, 48C	Black Mastic	Under Terrazzo in Cafeteria	None Detected
49A, 49B	Black Mastic	Under Wood on Stage in Cafetorium	None Detected
50A, 50B, 50C	DK Brown Vinyl Cove Base	Science- Chem. + Biology	None Detected
51A, 51B, 51C	White Mastic	Under DK Brown Vinyl Cove Base	None Detected
52A, 52B, 52C	Black Vinyl Cove Base	Base of Science Tables	None Detected
53A, 53B, 53C	Black/Brown Mastic	Under Black Vinyl Cove Base	None Detected
54A, 54B, 54C	Brown Glue Daubs	Behind Acoustical Panels- Pool	None Detected
55A, 55B, 55C, 55D, 55E	Tan Grout	Under Ceramic Wall Tile- Pool	None Detected
56A, 56B, 56C, 56D, 56E	White Mastic	Under Wall Ceramic Wall Tile- Pool	None Detected
57A, 57B, 57C, 57E, 57F	Gray Grout	Under Ceramic Tile on Pool Deck	None Detected
58A, 58B, 58C	Gray Mastic	Under Ceramic Tile on Pool Deck	None Detected
59A, 59B, 59C	White Expansion Joint	Interior Walls Pool Area	None Detected
60A, 60B, 60C	White Ceiling Plaster	Girls Locker Room	None Detected
61A, 61B, 6C	White Ceiling Plaster	Bots Locker Room	None Detected

Field ID	Material	Location	Asbestos %
62A, 62B, 62C	Gray Grout	Under Ceramic Floor Tile, Girls Locker Room	None Detected
63A, 63B, 63C	Dark Gray Mastic	Under Ceramic Floor Tile, Girls Locker Room	None Detected
64A, 64B, 64C, 64D, 64E, 64F, 64G	Gray Mastic	Under Ceramic Wall Tile-Hallways	None Detected
65A.1, 65B.1, 65C.1, 65D.1, 85E.1, 65F.1, 65G.1	White Plaster/Grout Mix	Under Ceramic Wall Tile in Hallways	None Detected
65A, 65B, 65C, 65D, 65E	**Black Coating on Copper**	**Behind Brick Facade**	**10% Chrysotile**
66A, 66B, 66C	Thin Copper Flashing with Black Coating	Top of Foundation Sill	None Detected
67A, 67B, 67C	Gray Concrete Skim Coat	Exterior Gym-Roof Level	None Detected
68A, 68B, 68C	Green Paper, Under Concrete Skim	Exterior Gym, Roof Level	None Detected

Chrysotile = Asbestos Mineral
Amosite= Asbestos Mineral

4.4 Recommendations

ACM that will be impacted by renovation or demolition work must be removed before they are disturbed. This work must be conducted in accordance with a project design as prepared by a licensed Asbestos Abatement Project Designer. This report is not intended for use as an abatement design. Prior to disturbance, the ACM identified must be abated by a Commonwealth of Massachusetts-licensed asbestos abatement contractor following all federal, state & local regulations governing asbestos abatement. A copy of the asbestos Waste Shipment record must be received within 35 days of removal from the Site. Asbestos air quality sampling must be conducted under USEPA regulations following asbestos abatement and prior to re-occupancy of the spaces. If additional materials are discovered that have not been sampled, those materials should be considered ACMs until laboratory analysis determines otherwise. During the course of renovation or demolition work, it is possible that additional suspect ACM will be encountered. Contractors should be apprised to conduct any such work in a controlled manner. If suspect materials that have not been sampled are encountered, they should be assumed to contain asbestos, unless appropriate sampling and analysis indicates otherwise.

If any identified ACM will remain in place, then the ACM should be managed under an Operations and Maintenance Plan (O&M Plan) so that they are not inadvertently disturbed. The O&M Plan

would include establishing a Program Manager, recordkeeping, employee and contractor notifications, periodic surveillance and training requirements.

Other Observations and Plans Review

Other observations during CDW's survey include:

- CDW dug holes next to foundation/slab, no mastic was observed.
- The coated copper flashing behind brick façade only goes up about 4-5 courses of brick, and was not found at the front of the building

CDW reviewed architectural plans prepared by CDW reviewed Plans prepared by Korslund, LeNormand & Quann, Inc. and dated November 24, 1967. Some notable items include:

- Drawing 6 shows fireproofing plaster on steel beams enclosed within CMU at A-103, A-109, A-130, A-136
- Typical classroom elevations show a pipe enclosure behind each uninvent
- Thru wall flashing is shown on several drawings in several locations, and is unknown if it contains ACM
- Plan #15 depicts firebrick lining inside chimney
- A pipe tunnel is shown in the pool area

5.0 LEAD-BASED PAINT

5.1 Methods

CDW performed a visual inspection of painted surfaces. CDW collected samples from different color paints on various types of building component substrates. Samples were submitted to EMSL Analytical in Cinnaminson, New Jersey for lead analysis via Atomic Absorption Spectrometry (AAS).

5.2 Findings

The analytical results revealed that four of the nine samples analyzed had detectable concentrations of lead. The Environmental Protection Agency (EPA) defines LBP as any paint or surface coating that contains lead equal to exceeding one milligram per square centimeter (1.0 mg/cm2) or 5,000 ppm by weight. OSHA has not set numerical threshold limits for lead and the OSHA lead-in-construction standard defines lead containing paint (LCP) as a paint or coating containing any detectable level of lead. Based on the EPA and OSHA criteria listed above, 17 samples are LCP and six samples are LBP. The lead paint analytical results are provided in the below table. The laboratory analytical report is included in Appendix B.

Sample ID	Site	Lead Concentration (% Weight)
LP-1	White Paint on Wood-Sloped Roof Under Soffit	2.5
LP-2	White Paint on Wood Main Roof	6.7
LP-3	Red Paint-Steel Window Lintel	0.3
LP-4	Gray Paint on Roof Stair Rail	12
LP-5	Tan Door Paint on Metal Door #23	0.034
LP-6	Brown Paint Metal Door Assembly #23	0.068
LP-7	Brown Paint on Metal HVAC Ext. Near Kitchen	0.0084
LP-8	Tan Paint on Wood Garage Door	0.1
LP-9	Brown Paint Metal Door U2	0.12
LP-10	Brown Over Red Stair Rail Paint	20
LP-11A	White Textured Paint on Concrete- Front	0.035
LP-11B	White Textured Paint on Concrete- Front	0.013
LP-12	Tan Paint Ext. Metal Door	<0.008
LP-13	Brown Over Red Metal Door Assembly 109	0.42
LP-14	Pink- White Paint- Hall on CMU	0.0094
LP-15	Gray Paint Metal Door Dental	<0.008
LP-16	White Parking Stripe Paint Rear Near Kitchen	0.02
LP-17A	Yellow Paint on Curb	<0.008
LP-17B	Yellow Paint on Curb	0.6
LP-18	Gray Wall Paint on CMU Hall	<0.008
LP-19	Silver Paint on Bleachers Football Field	0.71
LP-20	DK Gray/Black/Green Announcement Booth	<0.008

5.3 Recommendations

Based on the conclusions of this testing, the following recommendations are offered:

- Renovation or demolition activities that disturb surfaces that contain lead must be conducted in accordance with the OSHA regulation 29 CFR 1926.62 "Lead Exposure in Construction: Interim Final Rule." This regulation requires that a site-specific health and safety plan be prepared before conducting activities that create airborne lead emissions. Such a plan should include the identification of lead components, an exposure assessment, and, if applicable, the required work procedures and personnel protection to be used. Handling or impacting components that are covered by LBP may require compliance with the OSHA lead standard. To minimize exposure to airborne dust or fumes, torch burning, cutting, grinding, or similar high impact work on components covered by LBP should be avoided. Such work would need

to be conducted by properly trained workers using appropriate worker protection and engineering controls.

- In addition to the worker protection requirements stipulated by OSHA, MassDEP and the USEPA regulate the disposal of wastes that are potentially hazardous. Such wastes may include paint chips and residue generated during abatement or repainting work, or whole components, such as wood windows, doors, and trim that are coated with LBP and that are disposed of as the result of renovation or demolition work. To determine the required method for disposing of permeable items coated with LBP, the MassDEP and the USEPA require representative sampling of the debris to determine the quantity of lead that would be expected to leach into the environment if the debris were disposed of in a landfill. The representative sample(s) must be analyzed by the Toxicity Characteristic Leaching Process (TCLP) to determine the proper disposal method.

- Those components/colors not tested, or in locations not inventoried in this report, should be sampled for lead content prior to disturbance that may cause airborne release of lead.

6.0 HAZARDOUS MATERIALS SURVEY

6.1 Methods

OHM Visual Inspection

CDW visually inspected the Site building for universal, special and hazardous wastes associated with building materials. These included but were not limited to the following:

- Mercury-containing devices (fluorescent light tubes, thermostats, gauges, etc.);
- Polychlorinated bi-phenyl (PCB)-containing articles, equipment and devices (light ballasts, electrical switches, etc.);
- Chlorofluorocarbon (CFC)-containing equipment (refrigerants, air conditioners/HVAC equipment, water bubblers, etc.)
- Tritium-containing devices (Exit signs);
- Lead-Acid batteries (emergency lights, etc.); and
- Pressurized-cylinders (fire extinguishers, etc.).

6.2 Findings

OHM

The visual survey for hazardous materials identified mercury-containing light tubes, electronic

ballasts, mercury containing thermostats and switches, lead and tritium batteries, hydraulic fluids, science chemicals, hair chemicals, lead wall in dentistry, Xray materials, gas cylinders, oils, drums of waste oil, underground fuel tank, transformer, refrigerants and other hazardous materials. No hazardous materials sampling or analysis was conducted as part of this preliminary survey. A list of OHMs identified are included in Table 2.

6.3 Recommendations

Prior to removal, light tubes, ballasts, compact florescent bulbs, lead and tritium batteries, thermostats and switches will require proper handling, removal, transportation and off-site recycling/reclamation. Hydraulic oil from the automobile lift reservoirs, transformer and refrigerants will require handling and disposal in accordance with regulations. Any sludge in the science sink traps and drainage structures trenches in floor in science rooms and cosmetology rooms will need to be sampled for laboratory analysis of lead and mercury and other constituents via TCLP to determine proper disposal requirements. Laboratory and hair chemicals, gas cylinders, Xray and other reusable items should be properly stored, in their original containers, and are recommended for re-use. The UST will have to be removed under local, federal and state regulations.

7.0 POLYCHLORINATED BIPHENYLS SURVEY

CDW conducted a visual survey for polychlorinated biphenyls (PCBs) in building materials. No sampling for laboratory analysis was conducted. Suspect PCB containing materials include: interior expansion joints in hallway near gym, interior of gym, interior of pool, exterior expansion joints at the gym and pool building and tech shops, window glaze on frosted and glass windows, exterior window, door and uninvent caulk. The list of assumed PCB containing materials and quantities are included in Table 1.

Limitations

The conclusions are limited to the information available at the time of the field survey and the scope of services, as defined. No subsurface soil or groundwater sampling and analysis was performed. Where access to portions of the Site or to structures on the site was unavailable or limited, CDW renders no opinion as to the presence of hazardous material or the presence of indirect evidence related to hazardous material in that portion of the site or structure. A through, destructive survey cannot occur until the building is vacant. This report cannot be solely relied upon for renovation or demolition. The testing performed forms the basis for conclusions expressed and areas inaccessible for testing limits those conclusions. No other conclusions, interpretations or recommendations are contained or implied in this report other than those expressed. While CDW followed industry standards during the inspection, we do not warrant that all suspect hazardous building materials were identified in or on the buildings and shall not be held liable related to future abatement costs related to hazardous materials that are either not discovered or not

appropriately characterized. This is due in part to inherent problems with every building inspection, such as, but not limited to:

- Seemingly homogeneous materials that are not in fact homogeneous;
- Seemingly representative locations that are not in fact representative;
- Layered materials that are not uniformly present or are isolated;
- Materials that are present and accessible but were not considered to be hazardous,
- Materials that are present in an isolated and limited quantity; and
- Material that is present in locations that are unsafe or otherwise difficult to access.

Client acknowledges that CDW's inspection is limited and all hazardous materials may only become apparent during the course of future renovation or demolition. During the course of future renovation/demolition work, it is likely that additional hazardous materials or materials suspected of being hazardous will be identified. Such materials should be assumed to be hazardous unless appropriate evaluation or sampling and analysis demonstrate otherwise. No other use of this report is warranted without the written consent of CDW Consultants, Inc.

CDW appreciates the opportunity to provide our services to you on this project.

Very truly yours,

CDW CONSULTANTS, INC.

Susan Cahalan, PG, ISSP-SA
Senior Environmental Geologist

TABLES

TABLE 1
ACM Quantities
Northeast Metro Tech High School
Wakefield, Massachusetts

Material Description	NESHAP Cat.	Location	Est. Quantity	Units
Pipe Insulation and Fittings >6-Inches in Diameter	Friable ACM	Pipe Trench, Behind Wet Walls, Boiler Room, Fixed Walls, Tunnels	2,500	LF
Pipe Insulation and Fittings < 6-Inches in Diameter	Friable ACM	Pipe Trench, Behind Wet Walls, Boiler Room, Fixed Walls, Tunnels	12,000	LF
Thermal System Insulation	Friable ACM	Breeching in Boiler Room, Generator Exhaust Insulation	800	SF
Vinyl Floor Tiles and Mastic, Various Colors	Cat. 1 Non-friable ACM	Classrooms and Offices	93,000	SF
Wood Doors with Fire Insulation	Friable ACM	Majority of Classroom Doors with Windows, Doors Without Windows and Ten Doors in Cafetorium	240	EA
Wood Door Window Glaze	Cat. 2 Non-friable ACM	Majority of Classroom Doors with Windows	200	EA
Pink and Black Sink Coating	Cat. 2 Non-friable ACM	Science, Art, Break Rooms, Various Rooms	50	EA
Interior Window Glaze	Cat. 2 Non-friable ACM	Doors and Sidelights in Hall Assemblies	20	EA
Interior Window Glaze	Cat. 2 Non-friable ACM	2'x3' Windows Above Doors to Classrooms and Other to Hallways and Some Divider	200	EA
Interior Window Glaze	Cat. 2 Non-friable ACM	Admin Area, Offices in Kitchen Areas, Locker Rooms, Tech Areas. Majority 4'x4'	80	EA
Interior Vertical Caulking	Cat. 2 Non-friable ACM	Room 162	100	LF
Slate Window Sills Including Grout	Cat. 2 Non-friable ACM	Classrooms, Offices, Some Tech	2,000	LF
Black Mastic	Cat. 2 Non-friable ACM	Under Wood Floor In Gym	8,200	SF

TABLE 1
ACM Quantities
Northeast Metro Tech High School
Wakefield, Massachusetts

Material Description	NESHAP Cat.	Location	Est. Quantity	Units
Slate Boards With Glue Daubs	Suspect ACM, Not Sampled	Classrooms	100	EA
Old Flex Connectors	Suspect ACM, Not Sampled	On HVAC Near Ceiling in Technical Classrooms (HVAC, Auto Shop, Etc.), Gym, Other Areas in Tunnel or Fixed Walls	50	EA
Gaskets	Suspect ACM, Not Sampled	Located on Piping Connections, Valves, Ts	500	EA
Walk In Refrigerator and Freezer Mastic	Suspect ACM, Not Sampled	Cafeteria Kitchen and Kitchen for Foodservice	4	EA
Boilers	Suspect ACM, Not Sampled	Interior Components, Boiler Room and Pool Area	3	EA
Vault Door Fireproofing	Suspect ACM, Not Sampled	Admin Area	1	EA
Dry Transformer Transite	Suspect ACM, Not Sampled	Noted on Walls in Tech Shops	20	EA
Transite in Switch Gear	Suspect ACM, Not Sampled	In Electric Room, Typical Panels are 12"x6" with 20 Per Switch	100	EA
Fire Brick	Suspect ACM, Not Sampled	Chimney Lining	1	EA
Transite Fume Hood	Suspect ACM, Not Sampled	Science, Chemistry	1	EA
Gray Caulk	Cat. 2 Non-friable ACM	On Metal Flashing, Wood Shop to Low Roof	200	LF
Gray Window Glaze *also assumed to contain PCBs	Cat. 2 Non-friable ACM	On Fiberglass Frosted Windows, Tech Shops, Gym, Pool. Approximate Sizes10'x4', 20'x10', 6'x4'	190	EA

TABLE 1
ACM Quantities
Northeast Metro Tech High School
Wakefield, Massachusetts

Material Description	NESHAP Cat.	Location	Est. Quantity	Units
Gray Window Caulk *assumed to contain PCBs	Non ACM, Sampled	Non ACM Exterior Window Caulk, Auumed to Contain PCBs	6,500	LF
Gray Window Glaze * also assumed to contain PCBs	Cat. 2 Non-friable ACM	On Exterior Windows, Various Sizes, Approximately 15'x4', 8'x4', 6'x4', 10'x4', 4'x4', other various sizes. Quantity includes any old caulk under new.	225	EA
Gray Caulk *also assumed to contain PCBs	Cat. 2 Non-friable ACM	Around Exterior Univents	480	LF
Dark Brown Caulk	Cat. 2 Non-friable ACM	Exterior of Chimney	40	LF
Roofing Asphaltic Type	Cat. 1 Non-friable ACM	Sloped Roof on Main School Building and Outbuilding with Football Training Gear	10,600	SF
Exterior Vapor Barrier	Cat. 2 Non-friable ACM	Black Coating on Copper Behind Brick Façade, Lower Courses Only	8,500	SF
Exterior Door Caulk *Also assumed to contain PCBs	Cat. 2 Non-friable ACM	Exterior Doors, Old Under New	600	LF
Subsurface Transite	Suspect ACM, Not Sampled	Subsurface	1,000	LF

Table 2
Hazardous Materials
Northeast Metrotech High School

Material Description	Location	Est. Quantity	Units
Compact Fluorescent Bulbs	Throughout	200	EA
Fluorescent Bulbs (Mercury)	Throughout	12000	Tubes
Electric Light Ballasts	Throughout	6000	Each
Thermostats and Switches (Mercury)	Throughout	500	Ampules
Emergency Light Batteries (Lead)	Throughout	80	EA
Refrigerants Associated With HVAC, Bubblers, HVAC Shop, Kitchen, Cooling Unit	Throughout	10000	Gallons
Fire Extinguishers (Compressed Gas)	Throughout	250	EA
Lead-Based Paint	Metal	NA	NA
Dark Room Chemicals	Dark Room	10	Gallons
Exit Signs (Tritium)	Throughout	80	EA
Chemicals in Sludge	Science Sink Traps, Drainage in Floor Trench, Science, Cosmetology, Xray, Auto Shop	50	Gallons
Laboratory Chemicals	Science Labs	Reuse	Reuse
Waste Oil and Other Fluids (Brake, Antifreeze, Etc.).	Automotive	20	Drums
Fuel Oil UST	Subsurface	1	Each
Lead Backed Wall and Door	Dental Shop	Reuse	Reuse
Xray	Dental Shop	Reuse	Reuse
Old Door Retractors	Remnant-Classrooms, Main Doors, Offices, Assemblies	50	Each

Table 2
Hazardous Materials
Northeast Metrotech High School

Material Description	Location	Est. Quantity	Units
Hydraulic Fluid	Old Hydraulic Reservoirs	200	Gallons
PCB Fluid	Transformers	200	Gallons

APPENDIX A

Asbestos Identification Laboratory

165 New Boston St., Ste 227
Woburn, MA 01801
781-932-9600

Web: www.asbestosidentificationlab.com
Email: mikemanning@asbestosidentificationlab.com

Batch: 51442

NVLAP®
Lab Code: 200919-0

March 10, 2020

Susan Cahalan
CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760

Project Name: *NE Metropolitan Technical Vocational School, Wakefield, MA*
Project Number:
Date Sampled: 2020-02-18
Work Received: 2020-03-04
Work Analyzed: 2020-03-09

Analysis Method: BULK PLM ANALYSIS EPA/600/R-93/116

Dear Susan Cahalan,

Asbestos Identification Laboratory has completed the analysis of the samples from your office for the above referenced project. The information and analysis contained in this report have been generated using the EPA /600/R-93/116 Method for the Determination of Asbestos in Bulk Building Materials. Materials or products that contain more than 1% of any kind or combination of asbestos are considered an asbestos containing building material as determined by the EPA. This Polarized Light Microscope (PLM) technique may be performed either by visual estimation or point counting. Point counting provides a determination of the area percentage of asbestos in a sample. If the asbestos is estimated to be less than 10% by visual estimation of friable material, the determination may be repeated using the point counting technique. The results of the point counting supersede visual PLM results. Results in this report only relate to the items tested. This report may not be used by the customer to claim product endorsement by NVLAP or any other U.S. Government Agency.
Laboratory results represent the analysis of samples as submitted by the customer. Information regarding sample location, description, area, volume, etc., was provided by the customer. Asbestos Identification Laboratory is not responsible for sample collection activities or analytical method limitations. Unless notified in writing to return samples, Asbestos Identification Laboratory discards customer samples after 30 days. Samples containing subsamples or layers will be analyzed separately when applicable. Reports are kept at Asbestos Identification Laboratory for three years. This report shall not be reproduced, except in full, without the written consent of Asbestos Identification Laboratory.

- NVLAP Lab Code: 200919-0
- Massachusetts Certification License: AA000208
- State of Connecticut, Department of Public Health Approved Environmental Laboratory Registration Number: PH-0142
- State of Maine, Department of Environmental Protection Asbestos Analytical Laboratory License Number: LB-0078(Bulk) LA-0087(Air)
- State of Rhode Island and Providence Plantations. Department of Health Certification: AAL-121
- State of Vermont, Department of Health Environmental Health License AL934461

Thank you Susan Cahalan for your business.

Michael Manning
Owner/Director

March 10, 2020

Susan Cahalan
CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760

Project Name: *NE Metropolitan Technical Vocational School, Wakefield, MA*
Project Number:
Date Sampled: 2020-02-18
Work Received: 2020-03-04
Work Analyzed: 2020-03-09

Analysis Method: BULK PLM ANALYSIS EPA/600/R-93/116

FieldID / LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
Roof-1A 572983	Tan Paper	Top of Roof Foam NW Core Wood Shop	tan	Fiberglass 10 Cellulose 10 Non-Fibrous 80	None Detected
Roof-1B 572984	Dark Gray Paper	Bottom Foam NW Core Wood Shop	gray	Fiberglass 10 Cellulose 60 Non-Fibrous 30	None Detected
Roof-1C 572985	Black Asphaltic Layer	Top of Roof Deck Gypsum NW Core Wood Shop	black	Fiberglass 20 Non-Fibrous 80	None Detected
Roof-1D 572986	Gypsum Decl	Roof Core- NE Wood Shop	gray	Cellulose 3 Non-Fibrous 97	None Detected
Roof-2A 572987	Grey Paper Top + Bottom Foam	Roof Core- North Over Auto	gray	Fiberglass 10 Cellulose 60 Non-Fibrous 30	None Detected
Roof-2B 572988	Asphaltic Layer	Roof Core- Norht Over Auto	black	Fiberglass 20 Non-Fibrous 80	None Detected
Roof-2C 572989	Gypsum Deck	Roof Core- North Over Auto	gray	Cellulose 3 Non-Fibrous 97	None Detected
Roof-3A 572990	Grey Paper	Top + Bottom Foam Roof Core Low Roof Near Gym	gray	Fiberglass 30 Cellulose 50 Non-Fibrous 20	None Detected
Roof-3B 572991	Asphaltic Layer	Roof Core Low Roof Near Gym	black	Fiberglass 20 Non-Fibrous 80	None Detected
Roof-3C 572992	Gypsum Roof Deck	Roof Core Low Roof NEar Gym	gray	Cellulose 3 Non-Fibrous 97	None Detected
Roof-4 572993	Gray Paper	Roof Expansion Joint N Side	gray	Fiberglass 20 Cellulose 60 Non-Fibrous 20	None Detected
Roof-5A 572994	Gray Paper	Top + Bttom Foam SW Roof Near Front	gray	Fiberglass 20 Cellulose 50 Non-Fibrous 30	None Detected
Roof-5B 572995	Asphaltic Layer	Roof- NW Near Core Front	black	Fiberglass 20 Non-Fibrous 80	None Detected
Roof-5C 572996	Gypsum	Roof Deck- Core SW	gray	Cellulose 3 Non-Fibrous 97	None Detected

FieldID LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
Roof-6A 572997	Tan Paper Top + Bottom Foam	Top Pool/Gym Roof	brown	Cellulose 98 Non-Fibrous 2	None Detected
Roof-6B 572998	White + Gray Membrane	Top Pool/Gym Roof	multi	Cellulose 20 Non-Fibrous 80	None Detected
Roof-6C 572999	Gupsum Roof Deck	Top Pool/Gym Roof	multi	Cellulose 40 Non-Fibrous 60	None Detected
Roof-7A 573000	Grey Paper Top + Bottom Roof Foam	Low Roof- Front	gray	Fiberglass 30 Cellulose 50 Non-Fibrous 20	None Detected
Roof-7B 573001	Asphaltic Layer	Low Roof Front	black	Fiberglass 20 Non-Fibrous 80	None Detected
Roof-7C 573002	Gypsum Deck	Low Roof Front	multi	Cellulose 5 Non-Fibrous 95	None Detected
Roof-8A 573003	DK Gray/Black Paper	Top + Bottom Roof Foam Middle Front	gray	Fiberglass 30 Cellulose 50 Non-Fibrous 20	None Detected
Roof-8B 573004	Asphaltic Layer	Roof Core Middle Front	black	Fiberglass 20 Non-Fibrous 80	None Detected
Roof-8C 573005	Gypsum	Roof Deck Middle Front	gray	Cellulose 3 Non-Fibrous 97	None Detected
Roof-9A 573006	Gray Paper	Top + Bottom Roof Foam Main Entrance Roof	gray	Fiberglass 20 Cellulose 50 Non-Fibrous 30	None Detected
Roof-9B 573007	Asphaltic Layer	Core- Main Entrance Roof	black	Fiberglass 20 Non-Fibrous 80	None Detected
Roof-9C 573008	Gypsum	Roof Deck Main Entrance Roof	gray	Cellulose 3 Non-Fibrous 97	None Detected
Roof-10A 573009	Gray Paper Top + Bottom Roof Foam	Roof Core Center	gray	Fiberglass 20 Cellulose 60 Non-Fibrous 20	None Detected
Roof-10B 573010	Asphaltic Layer	Roof Core Center	black	Fiberglass 20 Non-Fibrous 80	None Detected
Roof-10C 573011	Gypsum	Roof Deck Roof Core Center	gray	Cellulose 2 Non-Fibrous 98	None Detected
Roof-11A 573012	Gray Paper Top + Bottom Roof Foam	Roof Over Kitchen Cafe	gray	Fiberglass 20 Cellulose 60 Non-Fibrous 20	None Detected
Roof-11B 573013	Asphaltic Layer	Roof Over Kitchen Cafe	black	Fiberglass 20 Non-Fibrous 80	None Detected
Roof-11C 573014	Gypsum Deck	Roof Over Kitchen Cafe	gray	Cellulose 2 Non-Fibrous 98	None Detected

FieldID LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
Roof-12A 573015	Dark Gray Paper	Top + Bottom Roof Foam Sloped Roof	gray	Fiberglass 30 Cellulose 50 Non-Fibrous 20	None Detected
Roof-12B 573016	Asphaltic Layer	Sloped Roof	black	Non-Fibrous 80	**Detected** **Chrysotile 20**
Roof-12C 573017	Gypsum	Sloped Roof	multi	Cellulose 5 Non-Fibrous 95	None Detected
Roof-13A 573018	Gray Paper Top + Bottom Foam	Sloped Roof	gray	Fiberglass 30 Cellulose 50 Non-Fibrous 20	None Detected
Roof-13B 573019	Asphalt Layer	Curb Cut at Chimney	black	Fiberglass 20 Non-Fibrous 80	None Detected
Roof-13C 573020	Gypsum Deck	Curb Cut at Chimney	gray	Cellulose 3 Non-Fibrous 97	None Detected
Roof-13D 573021	Black Tar	Curb Cut at Chimney Original Tar (Old)	black	Non-Fibrous 100	None Detected
Roof-14A 573022	Gray Paper	Top + Bottom Foam Front Older Roof	gray	Fiberglass 30 Cellulose 50 Non-Fibrous 20	None Detected
Roof-14B 573023	Asphaltic Layer	Front Older Roof	black	Fiberglass 20 Non-Fibrous 80	None Detected
Roof-14C 573024	Gypsum Deck	Front Older Roof	gray	Cellulose 3 Non-Fibrous 97	None Detected
Roof-15A 573025	Gray Paper	Top + Bottom Foam Front Older Roof	gray	Fiberglass 20 Cellulose 60 Non-Fibrous 20	None Detected
Roof-15B 573026	Asphaltic Material	Older Front Roof	black	Fiberglass 20 Non-Fibrous 80	None Detected
Roof-15C 573027	Gypsum Deck	Older Front Roof	gray	Cellulose 3 Non-Fibrous 97	None Detected

Tuesday 10 March

Analyzed by: Erik Gorgas

End of Report

Batch: 51442

Northeast Metropolitan Technical Vocational School Wakefield, MA

CHAIN OF CUSTODY

EPA/600/R-93/116

Asbestos Identification Lab
165 New Boston St.
Suite 227
Woburn, MA 01801
(781)932-9600
www.asbestosidentificationlab.com

Client: CDW Consultants
Address: 16 Huron Drive, Natick, MA
Project Site & #: NE Metropolitan Technical Vocational School, Wakefield, MA.
Phone / email address: Scahala@cdwconsultants.com
Contact: Susan Cahala
Relinquish by/date: [signature] 3/3/2020
Received by/date: [signature] 3/4/2020
# of Samples Received: 45

Date Sampled: 2/18-19, 3/1-3/3 2020

BATCH# 51442 Rev 06/16

Turnaround Time: ☐ Less 3 Hrs ☐ Same Day ☐ Next Day ☐ Two Day (4 day)
Sample Method: ☒ Bulk ☐ Soil ☐ Wipe ☐ Point Count
Stop on 1st Positive? Yes/No
Notify Method: Mail/E-Mail/Verbal
Analyzed By: [signature]
Date: 3/9/2020

Temp in Celsius = 21

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: II	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
572483	Roof-1A	Material: Tan Paper Location: Top of Roof Foam NW Core Wood Shop	C	T	~	Fr	N	Chrysotile									2		12				
								Amosite															
								Crocidolite															
								Tremolite									10		10				80
								Anthophyllite															
								Actinolite															
572484	Roof-1B	Material: Dark Gray Paper Location: Bottom Foam NW Core Wood Shop	C	Gy	~	R	~	Chrysotile									2		8				
								Amosite															
								Crocidolite															
								Tremolite									10		60				30
								Anthophyllite															
								Actinolite															
572485	Roof-1C	Material: Black Asphaltic Layer Location: Top of Roof Deck Gypsum NW Core Wood Shop	C	Blk	~	Fr	~	Chrysotile									2						
								Amosite															
								Crocidolite															
								Tremolite									20						80
								Anthophyllite															
								Actinolite															

NE Metro Tech

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = 21 / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
82	Roof-1D	Material: Gypsum Deck Location: Roof Core - NE Wood Shop	0	gy	~	2%	~	Chrysotile											2				
								Amosite															
								Crocidolite															
								Tremolite											3				97
								Anthophyllite															
								Actinolite															
87	Roof-2A	Material: Grey Paper Top + Bottom foam Location: Roof Core - North over Auto	0	gy	~	1%	~	Chrysotile															
								Amosite															
								Crocidolite											1		2		
								Tremolite															
								Anthophyllite											10		60		30
								Actinolite															
88	Roof-2B	Material: Asphaltic Layer Location: Roof Core - North over Auto	C	blk	~	3%	~	Chrysotile															
								Amosite															
								Crocidolite											2				
								Tremolite															
								Anthophyllite											20				80
								Actinolite															
89	Roof-2C	Material: Gypsum Deck Location: Roof Core - North over Auto	0	gy	~	2%	~	Chrysotile															
								Amosite															
								Crocidolite													2		
								Tremolite															
								Anthophyllite													3		47
								Actinolite															
90	Roof-3A	Material: Grey Paper Location: Top + Bottom Roof Core foam low roof near gym	0	gy	~	1%	~	Chrysotile															
								Amosite															
								Crocidolite											2		1		
								Tremolite															
								Anthophyllite											30		50		20
								Actinolite															

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Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = 21 / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ≡	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
91	Roof-3B	Material: Asphaltic layer Location: Roof core Low roof near gym	0	blk	~	fg fr	~	Chrysotile															
								Amosite															
								Crocidolite									8						
								Tremolite									20						80
								Anthophyllite															
								Actinolite															
92	Roof-3C	Material: Gypsum roof Deck Location: Roof core low roof near gym	0	gy	~	fg fr	~	Chrysotile															
								Amosite															
								Crocidolite											2				
								Tremolite											3				97
								Anthophyllite															
								Actinolite															
93	Roof-4	Material: Gray paper Location: roof ~~Expansion~~ Joint N. side	0	gy	~	R	~	Chrysotile															
								Amosite															
								Crocidolite									3		2				
								Tremolite									20		60				20
								Anthophyllite															
								Actinolite															
94	Roof-5A	Material: Gray paper Location: Top + Bottom foam SW Roof near front	0	gy	~	R	~	Chrysotile															
								Amosite															
								Crocidolite									8		2				
								Tremolite									20		50				30
								Anthophyllite															
								Actinolite															
95	Roof-5B	Material: ~~Asphaltic~~ layer Location: Roof - SW near core front	0	blk	~	fg fr	~	Chrysotile															
								Amosite															
								Crocidolite									8						
								Tremolite									20						80
								Anthophyllite															
								Actinolite															

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Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = 21 / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
96	Roof-5C	**Material** Gypsum **Location** Roof Deck - core SW	0	gy	N	S	N	Chrysotile											2				
								Amosite															
								Crocidolite															
								Tremolite											3				97
								Anthophyllite															
								Actinolite															
97	Roof-6A	**Material** Tan Paper Top + Bottom Roof-foam **Location** Top Pool/gym Roof	0	br	N	R	N	Chrysotile											2				
								Amosite															
								Crocidolite															
								Tremolite											98				2
								Anthophyllite															
								Actinolite															
98	Roof-6B	**Material** White + Gray Membrane **Location** TOP Pool / gym Roof	0	wh	N	S	N	Chrysotile											2				
								Amosite															
								Crocidolite															
								Tremolite											20				80
								Anthophyllite															
								Actinolite															
99	Roof-6C	**Material** gypsum-Roof Deck **Location** TOP Pool / gym roof	0	wh	N	S	N	Chrysotile											2				
								Amosite															
								Crocidolite															
								Tremolite											40				60
								Anthophyllite															
								Actinolite															
57300	Roof-7A	**Material** Gray Paper Top + Bottom Roof foam **Location** Low Roof - front	0	gy	N	R	N	Chrysotile															
								Amosite															
								Crocidolite											2		R		
								Tremolite											30		50		20
								Anthophyllite															
								Actinolite															

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Temp in Celcius = 71

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
01	Roof - 7B	**Material** Asphaltic layer **Location** Low Roof front	C	Blk	~	~	~	Chrysotile															
								Amosite															
								Crocidolite									2						
								Tremolite															
								Anthophyllite									70						30
								Actinolite															
02	Roof - 7C	**Material** gypsum Deck **Location** low Roof front	One	~	~	~	~	Chrysotile															
								Amosite															
								Crocidolite											2				
								Tremolite															
								Anthophyllite											5				95
								Actinolite															
03	Roof - 8A	**Material** DK gray/Black Paper **Location** top + Bottom Roof foam Middle front	0	gry	~	~	~	Chrysotile															
								Amosite															
								Crocidolite									2		2				
								Tremolite															
								Anthophyllite									30		50				20
								Actinolite															
04	Roof - 8B	**Material** Asphaltic layer **Location** Roof Core Middle front	0	Blk	~	~	~	Chrysotile															
								Amosite															
								Crocidolite									2						
								Tremolite															
								Anthophyllite									98					2	
								Actinolite															
05	Roof - 8C	**Material** gypsum **Location** Roof Deck Middle front	0	Gry	~	~	~	Chrysotile															
								Amosite															
								Crocidolite											2				
								Tremolite															
								Anthophyllite											3				4
								Actinolite															

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Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = 21 / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
06	Roof-9A	Material: Gray Paper Location: Top+Bottom Roof Foam Main entrance roof	0	gy	~	R	~	Chrysotile											12				
								Amosite									8						
								Crocidolite															
								Tremolite									70		30				30
								Anthophyllite															
								Actinolite															
07	Roof-9B	Material: Asphaltic layer Location: core- Main Entrance roof	0	blk	~	R	~	Chrysotile															
								Amosite									8						
								Crocidolite															
								Tremolite									70						30
								Anthophyllite															
								Actinolite															
08	Roof-9C	Material: Gypsum Location: Roof Deck Main Entrance roof	0	gy	~	R	~	Chrysotile															
								Amosite															
								Crocidolite											12				
								Tremolite											3				97
								Anthophyllite															
								Actinolite															
09	Roof-10A	Material: Gray Paper Location: Roof Core Center Top + Bottom Roof Foam	0	gy	~	R	~	Chrysotile															
								Amosite									8		12				
								Crocidolite															
								Tremolite									70		60				30
								Anthophyllite															
								Actinolite															
10	Roof-10B	Material: Asphaltic Layer Location: Roof core Center	0	blk	~	R	~	Chrysotile															
								Amosite									8						
								Crocidolite															
								Tremolite									70						30
								Anthophyllite															
								Actinolite															

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Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = 21 / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
11	Roof-10C	Material: Gypsum Location: Roof Deck Roof Core Center	0	gy	~	R	~	Chrysotile											2				
								Amosite											R				
								Crocidolite															
								Tremolite											2				98
								Anthophyllite															
								Actinolite															
12	Roof-11A	Material: Gray Paper Top + Bottom roof foam Location: Roof over kitchen cafe	0	gy	~	R	~	Chrysotile															
								Amosite															
								Crocidolite									8		2				
								Tremolite									90		60				20
								Anthophyllite															
								Actinolite															
13	Roof-11B	Material: Asphaltic layer Location: Roof over kitchen cafe	0	Blk	~	R	~	Chrysotile															
								Amosite															
								Crocidolite									8						
								Tremolite									20						80
								Anthophyllite															
								Actinolite															
14	Roof-11C	Material: Gypsum Deck Location: Roof over kitchen cafe	0	gy	~	R	~	Chrysotile															
								Amosite															
								Crocidolite											2				
								Tremolite											2				98
								Anthophyllite															
								Actinolite															
15	Roof-12A	Material: Dark gray Paper Location: Top Bottom Sloped roof foam roof	0	gy	~	R	~	Chrysotile															
								Amosite															
								Crocidolite									8		2				
								Tremolite									30		50				20
								Anthophyllite															
								Actinolite															

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Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Material / Location (Temp in Celcius = 21)	% of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI ‖	RI ⊥	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
16	Roof- 12B	Material: Asphaltic layer Location: Sloped Roof	0	blk	~	[illegible]	✓	Chrysotile 30 Amosite Crocidolite Tremolite Anthophyllite Actinolite	~~[illegible]~~	w	=	+	(	~	[illegible]	[illegible]							80
17	Roof- 12C	Material: Gypsum Location: Sloped Roof	0	wt	~	[illegible]	✓	Chrysotile Amosite Crocidolite Tremolite Anthophyllite Actinolite											5				95
18	Roof- 13A	Material: Gray paper Top+Bottom-foam Location: Curb cut at Chimney	0	gy	~	R	✓	Chrysotile Amosite Crocidolite Tremolite Anthophyllite Actinolite									30		50				20
19	Roof- 13B	Material: Asphalt layer Location: Curb cut at Chimney	0	blk	~	[illegible]	✓	Chrysotile Amosite Crocidolite Tremolite Anthophyllite Actinolite									20						80
20	Roof- 13C	Material: Gypsum Deck Location: Curb cut at Chimney	0	gy	~	[illegible]	✓	Chrysotile Amosite Crocidolite Tremolite Anthophyllite Actinolite											3				97

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Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = 21 / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
21	Roof-13D	Material: Black Tar Location: curb cut at chimney original tar (old)	0	Blk	~	~	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															10
								Anthophyllite															
								Actinolite															
22	Roof-14A	Material: Gray Paper Location: Top + Bottom foam from older roof	0	Gy	~	R	~	Chrysotile															
								Amosite															
								Crocidolite									R		R				
								Tremolite									30		50				20
								Anthophyllite															
								Actinolite															
23	Roof-14B	Material: Asphatic layer Location: front older roof	0	Blk	~	~	~	Chrysotile															
								Amosite															
								Crocidolite									R						
								Tremolite									20						80
								Anthophyllite															
								Actinolite															
24	Roof-14C	Material: Gypsum Deck Location: front older roof	0	Gy	~	~	~	Chrysotile															
								Amosite															
								Crocidolite											R				
								Tremolite											3				97
								Anthophyllite															
								Actinolite															
25	Roof-15A	Material: Gray Paper Location: Top Bottom foam front older roof	0	Gy	~	R	~	Chrysotile															
								Amosite															
								Crocidolite									R		R				
								Tremolite									20		60				20
								Anthophyllite															
								Actinolite															

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Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Material / Location (Temp in Celcius = [illegible])	% of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI ∥	RI ⊥	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
26	Roof-15B	Material: Asphaltic Material	0	blk	~	[illegible]	~	Chrysotile									2						
								Amosite															
								Crocidolite															
		Location: older front roof						Tremolite									20						80
								Anthophyllite															
								Actinolite															
S73027	Roof-15C	Material: Gypsum Deck	0	[illegible]	~	[illegible]	~	Chrysotile											2				
								Amosite															
								Crocidolite															
		Location: older front roof -						Tremolite											3				60
								Anthophyllite															
								Actinolite															
		Material						Chrysotile															
								Amosite															
								Crocidolite															
		Location						Tremolite															
								Anthophyllite															
								Actinolite															
		Material						Chrysotile															
								Amosite															
								Crocidolite															
		Location						Tremolite															
								Anthophyllite															
								Actinolite															
		Material						Chrysotile															
								Amosite															
								Crocidolite															
		Location						Tremolite															
								Anthophyllite															
								Actinolite															

Asbestos Identification Laboratory

165 New Boston St., Ste 227
Woburn, MA 01801
781-932-9600

Web: www.asbestosidentificationlab.com
Email: mikemanning@asbestosidentificationlab.com

Batch: 51493

NVLAP®
Lab Code: 200919-0

March 11, 2020

Susan Cahalan
CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760

Project Name: *Northeast Metropolitan Vocational Technical School, Wakefield, MA*
Project Number:
Date Sampled: 2020-03-02
Work Received: 2020-03-05
Work Analyzed: 2020-03-09

Analysis Method: BULK PLM ANALYSIS EPA/600/R-93/116

Dear Susan Cahalan,

Asbestos Identification Laboratory has completed the analysis of the samples from your office for the above referenced project. The information and analysis contained in this report have been generated using the EPA /600/R-93/116 Method for the Determination of Asbestos in Bulk Building Materials. Materials or products that contain more than 1% of any kind or combination of asbestos are considered an asbestos containing building material as determined by the EPA. This Polarized Light Microscope (PLM) technique may be performed either by visual estimation or point counting. Point counting provides a determination of the area percentage of asbestos in a sample. If the asbestos is estimated to be less than 10% by visual estimation of friable material, the determination may be repeated using the point counting technique. The results of the point counting supersede visual PLM results. Results in this report only relate to the items tested. This report may not be used by the customer to claim product endorsement by NVLAP or any other U.S. Government Agency.
Laboratory results represent the analysis of samples as submitted by the customer. Information regarding sample location, description, area, volume, etc., was provided by the customer. Asbestos Identification Laboratory is not responsible for sample collection activities or analytical method limitations. Unless notified in writing to return samples, Asbestos Identification Laboratory discards customer samples after 30 days. Samples containing subsamples or layers will be analyzed separately when applicable. Reports are kept at Asbestos Identification Laboratory for three years. This report shall not be reproduced, except in full, without the written consent of Asbestos Identification Laboratory.

- NVLAP Lab Code: 200919-0
- Massachusetts Certification License: AA000208
- State of Connecticut, Department of Public Health Approved Environmental Laboratory Registration Number: PH-0142
- State of Maine, Department of Environmental Protection Asbestos Analytical Laboratory License Number: LB-0078(Bulk) LA-0087(Air)
- State of Rhode Island and Providence Plantations. Department of Health Certification: AAL-121
- State of Vermont, Department of Health Environmental Health License AL934461

Thank you Susan Cahalan for your business.

Michael Manning
Owner/Director

March 11, 2020

Susan Cahalan
CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760

Project Name: *Northeast Metropolitan Vocational Technical School, Wakefield, MA*
Project Number:
Date Sampled: 2020-03-02
Work Received: 2020-03-05
Work Analyzed: 2020-03-09

Analysis Method: BULK PLM ANALYSIS EPA/600/R-93/116

FieldID / LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
11A / 573703	Black Bumper Material	Kitchen Loading Dock		Cellulose 5 Non-Fibrous 95	None Detected
11B / 573704	Black Bumper Material	Kitchen Loading Dock		Cellulose 5 Non-Fibrous 95	None Detected
12A / 573705	Gray Caulk	Around Large Vent Near Kitchen Dock		Non-Fibrous 100	None Detected
12B / 573706	Gray Caulk	Around Large Vent Near Kitchen Dock		Non-Fibrous 100	None Detected
13A / 573707	Interior Gray Window Glaze	Office in Kitchen		Non-Fibrous 95	**Detected** **Chrysotile 5**
13B / 573708	Interior Gray Window Glaze	Office in Kitchen			Not Analyzed
14A / 573709	Gray/Black Mastic	Under Red Ceramic Tile in Kitchen		Non-Fibrous 100	None Detected
14B / 573710	Gray/Black Mastic	Under Red Ceramic Tile in Kitchen		Non-Fibrous 100	None Detected
14C / 573711	Gray/Black Mastic	Under Red Ceramic Tile in Kitchen		Non-Fibrous 100	None Detected
15A / 573712	2'x2' Pindot + Fissure Ceiling Tile	Kitchen Storage		Mineral Wool 30 Cellulose 60 Non-Fibrous 10	None Detected
15B / 573713	2'x2' Pindot + Fissure Ceiling Tile	Kitchen Storage		Mineral Wool 30 Cellulose 60 Non-Fibrous 10	None Detected
15C / 573714	2'x2' Pindot + Fissure Ceiling Tile	Kitchen Storage		Mineral Wool 30 Cellulose 60 Non-Fibrous 10	None Detected
16A / 573715	White Mastic	Under Ceramic Wall Tile, Kitchen		Non-Fibrous 100	None Detected
16B / 573716	White Mastic	Under Ceramic Wall Tile, Kitchen		Non-Fibrous 100	None Detected

FieldID / LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
16C 573717	White Mastic	Under Ceramic Wall Tile, Kitchen		Non-Fibrous 100	None Detected
17A 573718	Yellowish Grout	Under Ceramic Wall Tile, Kitchen		Non-Fibrous 100	None Detected
17B 573719	Yellowish Grout	Under Ceramic Wall Tile, Kitchen		Non-Fibrous 100	None Detected
17C 573720	Yellowish Grout	Under Ceramic Wall Tile, Kitchen		Non-Fibrous 100	None Detected
18A 573721	White Plaster	Kitchen Ceiling		Non-Fibrous 100	None Detected
18B 573722	White Plaster	Kitchen Ceiling		Non-Fibrous 100	None Detected
18C 573723	White Plaster	Kitchen Ceiling		Non-Fibrous 100	None Detected
18D 573724	White Plaster	Kitchen Ceiling		Non-Fibrous 100	None Detected
18E 573725	White Plaster	Kitchen Ceiling		Non-Fibrous 100	None Detected
19A 573726	Interior Door Assembly Window Glaze	Near Door 109		Non-Fibrous 98	**Detected** **Chrysotile 2**
19B 573727	Interior Door Assembly Window Glaze	Near Door 109			Not Analyzed
20 573728	White Material	Inside Wood Door Near 109		Non-Fibrous 75	**Detected** **Chrysotile 15** **Amosite 10**
21A 573729	Tan Expansion Joint-Vertical	Exterior Pool, Gym Near Front Door & Kitchen		Non-Fibrous 100	None Detected
21B 573730	Tan Expansion Joint-Vertical	Exterior Pool, Gym Near Front Door & Kitchen		Non-Fibrous 100	None Detected
21C 573731	Tan Expansion Joint-Vertical	Exterior Pool, Gym Near Front Door & Kitchen		Non-Fibrous 100	None Detected
21D 573732	Tan Expansion Joint-Vertical	Exterior Pool, Gym Near Front Door & Kitchen		Non-Fibrous 100	None Detected
21E 573733	Tan Expansion Joint-Vertical	Exterior Pool, Gym Near Front Door & Kitchen		Non-Fibrous 100	None Detected
22A 573734	Gray Caulk	Exterior Door #02		Other 2 Non-Fibrous 98	None Detected

FieldID / LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
22B 573735	Gray Caulk	Exterior Door #02		Other 2 Non-Fibrous 98	None Detected
23A 573736	Gray White Caulk	Exterior Door #23		Non-Fibrous 100	None Detected
23B 573737	Gray White Caulk	Exterior Door #23		Non-Fibrous 100	None Detected
24A 573738	Black Window Glaze on Metal Door	Door #02		Non-Fibrous 100	None Detected
25A 573739	Gray Window Glaze	Slde Light Windows Door #02		Non-Fibrous 97	**Detected** **Chrysotile 3**
25B 573740	Gray Window Glaze	Slde Light Windows Door #02			Not Analyzed
26A 573741	Gray Window Glaze, Exterior Windows	Door #23		Non-Fibrous 97	**Detected** **Chrysotile 3**
26B 573742	Gray Window Glaze, Exterior Windows	Door #23			Not Analyzed
27A 573743	White Caulk	Exterior Univents		Non-Fibrous 97	**Detected** **Chrysotile 3**
27B 573744	White Caulk	Exterior Univents			Not Analyzed
27C 573745	White Caulk	Exterior Univents			Not Analyzed

Wednesday 11 March

Analyzed by: Erik Gongas

End of Report

Batch: 51493

CHAIN OF CUSTODY

EPA/600/R-93/116

Asbestos Identification Lab

165 New Boston St.
Suite 227
Woburn, MA 01801
(781)932-9600
www.asbestosidentificationlab.com

Page 1 of 9

Client: CDW Consultants
Address: 6 Huron Drive Natick MA
Project Site & #: Northeast Metropolitan Vocational/Technical School, Wakefield MA
Phone / email address: [illegible]
Contact: [illegible]
Relinquish by/date: [illegible] 3/4/2020
Received by/date: [illegible] 3/5/2020
# of Samples Received: 43

Date Sampled: 3/1-3/2/2020
BATCH# 51493
Rev 06/16

Turnaround Time: [ ] Less 3 Hrs [ ] Same Day [ ] Next Day [ ] Two Day — 4 day
Sample Method: [X] Bulk [ ] Soil [ ] Wipe [ ] Point Count
Stop on 1st Positive? Yes/No
Notify Method: Mail/E-Mail/Verbal
Analyzed By: [illegible]
Date: 3/9/2020

Temp in Celsius = 21

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Material / Location	% of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	∥	⊥	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
513763	11A	Material: Black Bumper Material; Location: Kitchen Loading dock	0	blk	~	[illegible]	~	Chrysotile, Amosite, Crocidolite, Tremolite, Anthophyllite, Actinolite											5				95
04	11B	Material: " "; Location: " "	0	blk	~	[illegible]	~	Chrysotile, Amosite, Crocidolite, Tremolite, Anthophyllite, Actinolite											5				95
05	12A	Material: Gray Caulk; Location: Around Large Vent near Kitchen dock	0	[illegible]	y	[illegible]	~	Chrysotile, Amosite, Crocidolite, Tremolite, Anthophyllite, Actinolite															100

EC

NE Metro Tech

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = RT / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: =	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
20	12B	Material: 〃 〃 / Location: 〃 〃	0	We	y	Sm	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															NW
								Anthophyllite															
								Actinolite															
21	13A	Material: Interior gray under glaze / Location: Office in Kitchen	0	Gy	y	Sm	y	Chrysotile	S	W	=	+	C	N	[illegible]	[illegible]							
								Amosite															
								Crocidolite															
								Tremolite															ST
								Anthophyllite															
								Actinolite															
22	13B	Material: 〃 〃 / Location: 〃 〃						Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															
09	14A	Material: Gray/Black Matrix / Location: underfed Ceramic Tile in Kitchen	0	We	N	Sm	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															NW
								Anthophyllite															
								Actinolite															
01	14B	Material: 〃 〃 / Location: 〃 〃	0	We	N	Sm	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															NW
								Anthophyllite															
								Actinolite															

DUP

NE Metro Tech

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
11	14C	Material: 〃 〃 / Location: 〃 〃	0	NH	~	Sft	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															1%
								Anthophyllite															
								Actinolite															
21	15A	Material: 2x2' Pinhole + fissures Ceiling Tile / Location: Kitchen Storage	0	Gy	~	R	J	Chrysotile															
								Amosite															
								Crocidolite										8	R				
								Tremolite										30	60				10
								Anthophyllite															
								Actinolite															
31	15B	Material: 〃 〃 / Location: 〃 〃	0	Gy	~	R	J	Chrysotile															
								Amosite															
								Crocidolite										8	R				
								Tremolite										30	60				10
								Anthophyllite															
								Actinolite															
41	15C	Material: 〃 〃 / Location: 〃 〃	0	Gy	~	R	J	Chrysotile															
								Amosite															
								Crocidolite										8	R				
								Tremolite										30	60				10
								Anthophyllite															
								Actinolite															
51	16A	Material: White Mastic / Location: Ceramic under Wall Tile Kitchen	0	Wh	Y	Sft	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															1%
								Anthophyllite															
								Actinolite															

NE Metro Tech

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = 21 / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
91	16B	Material: 〃 〃 / Location: 〃 〃	0	wh	y	Sfw		Chrysotile															100
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															
91	16C	Material: 〃 〃 / Location: 〃 〃	0	wh	y	Sfw		Chrysotile															100
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															
91	17A	Material: Yellowish Grout Ceramic / Location: Under Wall Tile Kitchen	0	wh	y	Sfw		Chrysotile															100
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															
91	17B	Material: 〃 〃 / Location: 〃 〃	0	wh	y	Sfw		Chrysotile															100
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															
92	17C	Material: 〃 〃 / Location: 〃 〃	0	wh	y	Sfw		Chrysotile															100
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															

NE Metro Tech

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = 21 / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
1-a	18A	Material: White plastr Location: Kitchen Ceiling	0	white	grey	grey		Chrysotile															100
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															
2-a	18B	Material: " " Location: " "	0	white	grey	grey		Chrysotile															100
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															
3-a	18C	Material: " " Location: " "	0	white	grey	grey		Chrysotile															100
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															
4-a	18D	Material: " " Location: " "	0	white	grey	grey		Chrysotile															100
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															
5-a	18E	Material: " " Location: " "	0	white	grey	grey		Chrysotile															100
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															

NE Metrotech

Temp in Celcius = 21

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: II	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
18	19A	Material: Interior Door Assembly Location: Window glaze — near door 109	0	gry	gry	gry		Chrysotile	2	W	P	+	C	N	1.NV	1.NV							
								Amosite															
								Crocidolite															
								Tremolite															98
								Anthophyllite															
								Actinolite															
19	19B	Material: " " Location: " "						Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															
20	20	Material: White Material Location: Inside Wood door near 109	0	one	~	gry	y	Chrysotile	15	W	=	+	C	N	1.NV	1.NV							
								Amosite	10	S	=	+	M	N	1.NV	1.NV							75
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															
21	21A	Material: Expansion Joint-Vertical Location: Exterior pool, gym near front door kitchen	0	T	y	gry		Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															1W
								Actinolite															
22	21B	Material: " " Location: " "	0	T	y	gry		Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															1W
								Actinolite															

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NE Metro Tech

Temp in Celcius = 21

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Material / Location	% of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI ‖	RI ⊥	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
31	21C	Material: " " Location: " "	0	T	Y	GRN		Chrysotile Amosite Crocidolite Tremolite Anthophyllite Actinolite															100
32	21D	Material: " " Location: " "	0	T	Y	GRN		Chrysotile Amosite Crocidolite Tremolite Anthophyllite Actinolite															100
33	21E	Material: " " Location: " "	0	T	Y	GRN		Chrysotile Amosite Crocidolite Tremolite Anthophyllite Actinolite															100
34	22A	Material: Gray Caulk Location: Exterior Door # 02	0	TTY	Y	GRN		Chrysotile Amosite Crocidolite Tremolite Anthophyllite Actinolite														[illegible] 2	98
35	22B	Material: " " Location: " "	0	TTY	Y	GRN		Chrysotile Amosite Crocidolite Tremolite Anthophyllite Actinolite														[illegible] 2	98

NE Metro Tech

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Material / Location (Temp in Celcius = 37)	% of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI ∥	RI ⊥	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
36	23A	Material: Gray White Caulk; Location: Exterior Door # 03	0	wh	y	grw		Chrysotile															100
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															
37	23B	Material: " "; Location: " "	0	wh	y	grw		Chrysotile															100
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															
38	24	Material: Black window glaze; Location: on metal door Door # 02	0	gy	y	grw		Chrysotile															100
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															
39	25A	Material: Gray window glaze; Location: Sidelight windows Door # 02	0	wh	y	grw		Chrysotile	3	w	=	+	L	~	[illegible]	[illegible]							97
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															
40	25B	Material: " "; Location: " "						Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															

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NE Metro Tech

Temp in Celcius = 21

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous	
41	26A	Material: Gray window glaze exterior windows Location: Door #23	None	Grey	Dry	Dry		Chrysotile	3	W	=	+	L	N	LVM	HVM							97	
								Amosite																
								Crocidolite																
								Tremolite																
								Anthophyllite																
								Actinolite																
42	26B	Material: " " Location: " "						Chrysotile																DNA
								Amosite																
								Crocidolite																
								Tremolite																
								Anthophyllite																
								Actinolite																
43	27A	Material: White Caulk Location: Exterior Univents	None	Grey	Dry	Dry		Chrysotile	3	W	=	+	C	N	HVM	HVM							97	
								Amosite																
								Crocidolite																
								Tremolite																
								Anthophyllite																
								Actinolite																
44	27B	Material: " " Location: " "						Chrysotile																DNA
								Amosite																
								Crocidolite																
								Tremolite																
								Anthophyllite																
								Actinolite																
57345	27C	Material: " " Location: " "						Chrysotile																DNA
								Amosite																
								Crocidolite																
								Tremolite																
								Anthophyllite																
								Actinolite																

Asbestos Identification Laboratory

165 New Boston St., Ste 227
Woburn, MA 01801
781-932-9600

Web: www.asbestosidentificationlab.com
Email: mikemanning@asbestosidentificationlab.com

Batch: 51443

NVLAP®
Lab Code: 200919-0

March 10, 2020

Susan Cahalan
CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760

Project Name: *Northeast Metropolitan Technical Vocational School- Wakefield, MA*
Project Number:
Date Sampled: 2020-02-18
Work Received: 2020-03-04
Work Analyzed: 2020-03-09

Analysis Method: BULK PLM ANALYSIS EPA/600/R-93/116

Dear Susan Cahalan,

Asbestos Identification Laboratory has completed the analysis of the samples from your office for the above referenced project. The information and analysis contained in this report have been generated using the EPA /600/R-93/116 Method for the Determination of Asbestos in Bulk Building Materials. Materials or products that contain more than 1% of any kind or combination of asbestos are considered an asbestos containing building material as determined by the EPA. This Polarized Light Microscope (PLM) technique may be performed either by visual estimation or point counting. Point counting provides a determination of the area percentage of asbestos in a sample. If the asbestos is estimated to be less than 10% by visual estimation of friable material, the determination may be repeated using the point counting technique. The results of the point counting supersede visual PLM results. Results in this report only relate to the items tested. This report may not be used by the customer to claim product endorsement by NVLAP or any other U.S. Government Agency.
Laboratory results represent the analysis of samples as submitted by the customer. Information regarding sample location, description, area, volume, etc., was provided by the customer. Asbestos Identification Laboratory is not responsible for sample collection activities or analytical method limitations. Unless notified in writing to return samples, Asbestos Identification Laboratory discards customer samples after 30 days. Samples containing subsamples or layers will be analyzed separately when applicable. Reports are kept at Asbestos Identification Laboratory for three years. This report shall not be reproduced, except in full, without the written consent of Asbestos Identification Laboratory.

- NVLAP Lab Code: 200919-0
- Massachusetts Certification License: AA000208
- State of Connecticut, Department of Public Health Approved Environmental Laboratory Registration Number: PH-0142
- State of Maine, Department of Environmental Protection Asbestos Analytical Laboratory License Number: LB-0078(Bulk) LA-0087(Air)
- State of Rhode Island and Providence Plantations. Department of Health Certification: AAL-121
- State of Vermont, Department of Health Environmental Health License AL934461

Thank you Susan Cahalan for your business.

Michael Manning
Owner/Director

March 10, 2020

Susan Cahalan
CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760

Project Name: *Northeast Metropolitan Technical Vocational School- Wakefield, MA*
Project Number:
Date Sampled: 2020-02-18
Work Received: 2020-03-04
Work Analyzed: 2020-03-09

Analysis Method: BULK PLM ANALYSIS EPA/600/R-93/116

FieldID / LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
1A / 573070	Gray Caulk	On Metal Flashing Wood Shop to Low Roof	gray	Non-Fibrous 98	**Detected** Chrysotile 2
1B / 573071	Gray Caulk	On Metal Flashing Wood Shop to Low Roof			Not Analyzed
1C / 573072	Gray Caulk	On Metal Flashing Wood Shop to Low Roof			Not Analyzed
2A / 573073	Gray Window Glaze	Exterior at Frosted Windows Roof Level Gym	gray	Non-Fibrous 90	**Detected** Chrysotile 10
2B / 573074	Gray Window Glaze	Exterior at Frosted Windows Roof Level Gym			Not Analyzed
2C / 573075	Gray Window Glaze	Exterior at Frosted Windows Roof Level Gym			Not Analyzed
2D / 573076	Gray Window Glaze	Exterior at Frosted Windows Roof Level Gym			Not Analyzed
2E / 573077	Gray Window Glaze	Exterior at Frosted Windows Roof Level Gym			Not Analyzed
3A / 573078	White Caulk	Gym Window Roof Level	white	Non-Fibrous 100	None Detected
3B / 573079	White Caulk	Gym Window Roof Level	white	Non-Fibrous 100	None Detected
3C / 573080	White Caulk	Gym Window Roof Level	white	Non-Fibrous 100	None Detected
3D / 573081	White Caulk	Gym Window Roof Level	white	Non-Fibrous 100	None Detected
3E / 573082	White Caulk	Gym Window Roof Level	white	Non-Fibrous 100	None Detected
4A / 573083	Tan/Pink-ish Hue Over Black Expansion Joint	Gym Upper Level	multi	Non-Fibrous 100	None Detected

FieldID LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
4B 573084	Tan/Pink-ish Hue Over Black Expansion Joint	Gym Upper Level	multi	Non-Fibrous 100	None Detected
4C 573085	Tan/Pink-ish Hue Over Black Expansion Joint	Gym Upper Level	multi	Non-Fibrous 100	None Detected
4D 573086	Tan/Pink-ish Hue Over Black Expansion Joint	Gym Upper Level	multi	Non-Fibrous 100	None Detected
4E 573087	Tan/Pink-ish Hue Over Black Expansion Joint	Gym Upper Level	multi	Non-Fibrous 100	None Detected
5A 573088	White Caulk on Silicone	Roof Stand Pipe Vents	gray	Non-Fibrous 100	None Detected
5B 573089	White Caulk on Silicone	Roof Stand Pipe Vents	gray	Non-Fibrous 100	None Detected
5C 573090	White Caulk on Silicone	Roof Stand Pipe Vents	gray	Non-Fibrous 100	None Detected
6A 573091	Black Brittle Tar	On Metal Flash Entrance Roof Top Lower Roof	black	Non-Fibrous 100	None Detected
6B 573092	Black Brittle Tar	On Metal Flash Entrance Roof Top Lower Roof	black	Non-Fibrous 100	None Detected
6C 573093	Black Brittle Tar	On Metal Flash Entrance Roof Top Lower Roof	black	Non-Fibrous 100	None Detected
7A 573094	Black Caulk	Around Roof Drains	black	Non-Fibrous 100	None Detected
7B 573095	Black Caulk	Around Roof Drains	black	Non-Fibrous 100	None Detected
7C 573096	Black Caulk	Around Roof Drains	black	Non-Fibrous 100	None Detected
8A 573097	White Caulk	On Steel Vents Near Chimney	clear	Non-Fibrous 100	None Detected
8B 573098	White Caulk	On Steel Vents Near Chimney	clear	Non-Fibrous 100	None Detected
8C 573099	White Caulk	On Steel Vents Near Chimney	clear	Non-Fibrous 100	None Detected
9A 573100	Dark Gray Caulk	Inside Roof Drain Under Rubber	gray	Non-Fibrous 100	None Detected
9B 573101	Dark Gray Caulk	Inside Roof Drain Under Rubber	gray	Non-Fibrous 100	None Detected

FieldID LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
9C 573102	Dark Gray Caulk	Inside Roof Drain Under Rubber	gray	Non-Fibrous 100	None Detected
10A 573103	Black Caulk	Corner of Chimney	black	Non-Fibrous 95	**Detected** **Chrysotile 5**
10B 573104	Black Caulk	Corner of Chimney			Not Analyzed

Tuesday 10 March

Analyzed by: 

End of Report

Batch: 51443

DUE 3/10/2020

Client: CAW Consultants
Address: 6 Huron Drive Natick MA
Project Site & #: Northeast Metropolitan Technical Vocational School – Wakefield MA
Phone / email address: scahalan@cawconsultants.com
Contact: Susan Cahalan
Relinquish by/date: 3/5/2020
Received by/date: 3/4/2020
# of Samples Received: 35

CHAIN OF CUSTODY

EPA/600/R-93/116

Asbestos Identification Lab
165 New Boston St.
Suite 227
Woburn, MA 01801
(781)932-9600
www.asbestosidentificationlab.com

Date Sampled: 2/18-2/19 3/1-3/2 2020

BATCH# 51443 Rev 06/16

Page 1 of 2

Turnaround Time
- [ ] Less 3 Hrs
- [ ] Same Day
- [ ] Next Day
- [ ] Two Day 4 day

Sample Method
- [x] Bulk
- [ ] Soil
- [ ] Wipe
- [ ] Point Count

Stop on 1st Positive? Yes/No
Notify Method: Mail/E-Mail/Verbal
Analyzed By:
Date: 3/9/2020

Temp in Celsius = 24

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
573070	1A	Material: Gray Caulk Location: Metal flashing on Wood Shop Top low Roof	0	gy	g	gw		Chrysotile	2-	W	=	+	C	2	1.NP	1.NP							98
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															
71	1B	Material: " " Location: " "						Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															
72	1C	Material: " " Location: " "						Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															

DUA

DUA

NE Metro Tech

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = 22 / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous	
73	2A	Material: Gray window glaze Location: Exterior at frosted windows @ roof level gym	0	gy	y	sm	N	Chrysotile	10	W	=	+	L	N	1.649	1.671							90	
								Amosite																
								Crocidolite																
								Tremolite																
								Anthophyllite																
								Actinolite																
74	2B	Material: " " Location: " "						Chrysotile																DNA
								Amosite																
								Crocidolite																
								Tremolite																
								Anthophyllite																
								Actinolite																
75	2C	Material: " " Location: " "						Chrysotile																DNA
								Amosite																
								Crocidolite																
								Tremolite																
								Anthophyllite																
								Actinolite																
76	2D	Material: " " Location: " "						Chrysotile																DNA
								Amosite																
								Crocidolite																
								Tremolite																
								Anthophyllite																
								Actinolite																
77	2E	Material: " " Location: " "						Chrysotile																DNA
								Amosite																
								Crocidolite																
								Tremolite																
								Anthophyllite																
								Actinolite																

NE Metro Tech

Temp in Celcius = 21

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
78	3A	Material: White Caulk Location: Gym windows Roof level	0	why	Hy	Hy	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
79	3B	Material: " " Location: " "	U	wh	y	Gr	W	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
80	3C	Material: " " Location: " "	C	why		Gr	W	Chrysotile															
								Amosite															
								Crocidolite															
								Trernolite															100
								Anthophyllite															
								Actinolite															
81	3D	Material: " " Location: " "	0	why		Gr	W	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
82	3E	Material: " " Location: " "	0	why		Gr	W	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															

NE Metro Tech

Temp in Celcius = 71

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Material / Location	Stereo Scope: % of Asbestos	Stereo Scope: Color	Stereo Scope: Homogeneity	Stereo Scope: Texture	Stereo Scope: Friable	Asbestos Minerals	Optical Properties: Asbestos %	Optical Properties: Morphology	Optical Properties: Extinction	Optical Properties: Sign of Elongation	Optical Properties: Birefringence	Optical Properties: Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
65	4A	Material: Tan/Pinkish Hue over Black Expansion Joint Location: Gym upper level	One		y	Grn		Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															1W
65	4B	Material: " " Location: " "	One		y	Grn		Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															1W
65	4C	Material: " " Location: " "	One		y	Grn		Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															1W
65	4D	Material: " " Location: " "	One		y	Grn		Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															1W
65	4E	Material: " " Location: " "	One		y	Grn		Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															1W

NE Metro

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = 21 Material / Location	Stereo Scope					Asbestos Minerals	Optical Properties						RI		Non-Asbestos Percentage (%)						
			% of Asbestos	Color	Homogeneity	Texture	Friable		Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	=	⊥	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
88	5A	Material: White Caulk on Silicone Location: Roof Stand pipe Vent	0	gy	y	gr	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
89	5B	Material: " " Location: " "	0	gy	y	gr	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
90	5C	Material: " " Location: " "	0	gy	y	gr	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
91	6A	Material: Black Brittle Tar Location: On Metal flash on entrance Roof to lower roof	0	Bk	y	gr	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
92	6B	Material: " " Location: " "	0	Bk	y	gr	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Material / Location (Temp in Celcius = 27)	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
93	6C	Material: " "	0	blk	y	gr	n	Chrysotile															100
		Location: " "						Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															
94	7A	Material: Black Caulk	0	blk	y	gr	n	Chrysotile															100
		Location: Around roof Drains						Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															
95	7B	Material: " "	0	blk	y	gr	n	Chrysotile															100
		Location: " "						Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															
96	7C	Material: " "	0	blk	y	gr	n	Chrysotile															100
		Location: " "						Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															
97	8A	Material: White Caulk	0	cl	y	gr	n	Chrysotile															100
		Location: on steel Vents near chimney						Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															

NE Metro

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = 21 Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ‖	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
98	8B	Material: " " Location: " "	0	[illegible]	y	grn		Chrysotile, Amosite, Crocidolite, Tremolite, Anthophyllite, Actinolite															lw
99	8C	Material: " " Location: " "	0	[illegible]	y	grn		Chrysotile, Amosite, Crocidolite, Tremolite, Anthophyllite, Actinolite															lw
01573100	9A	Material: Dark gray caulk Location: Inside roof Drain under rubber	0	gy	y	grn		Chrysotile, Amosite, Crocidolite, Tremolite, Anthophyllite, Actinolite															lw
01	9B	Material: " " Location: " "	0	gy	y	grn		Chrysotile, Amosite, Crocidolite, Tremolite, Anthophyllite, Actinolite															lw
02	9C	Material: " " Location: " "	0	gy	y	grn		Chrysotile, Amosite, Crocidolite, Tremolite, Anthophyllite, Actinolite															lw

NE Metro

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Material / Location (Temp in Celcius = 21)	% of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI ‖	RI ⊥	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
03	10A	Material: Black Caulk	0	Gray	y	Grn	N	Chrysotile	NA	W	=	+	L	~	im	im							
								Amosite															
								Crocidolite															
		Location: Corner of Chimney						Tremolite															95
								Anthophyllite															
								Actinolite															
5731 04	10B	Material: " "						Chrysotile															
								Amosite															
								Crocidolite															
		Location: " "						Tremolite															
								Anthophyllite															
								Actinolite															
		Material						Chrysotile															
								Amosite															
								Crocidolite															
		Location						Tremolite															
								Anthophyllite															
								Actinolite															
		Material						Chrysotile															
								Amosite															
								Crocidolite															
		Location						Tremolite															
								Anthophyllite															
								Actinolite															
		Material						Chrysotile															
								Amosite															
								Crocidolite															
		Location						Tremolite															
								Anthophyllite															
								Actinolite															

DMA

Asbestos Identification Laboratory

165 New Boston St., Ste 227
Woburn, MA 01801
781-932-9600

Web: www.asbestosidentificationlab.com
Email: mikemanning@asbestosidentificationlab.com

Batch: 51550

NVLAP®
Lab Code: 200919-0

March 12, 2020

Susan Cahalan
CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760

Project Name: *Northeast Metropolitan Vocational Technical School, Wakefield, MA*
Project Number:
Date Sampled: 2020-03-02
Work Received: 2020-03-09
Work Analyzed: 2020-03-10

Analysis Method: BULK PLM ANALYSIS EPA/600/R-93/116

Dear Susan Cahalan,

Asbestos Identification Laboratory has completed the analysis of the samples from your office for the above referenced project. The information and analysis contained in this report have been generated using the EPA /600/R-93/116 Method for the Determination of Asbestos in Bulk Building Materials. Materials or products that contain more than 1% of any kind or combination of asbestos are considered an asbestos containing building material as determined by the EPA. This Polarized Light Microscope (PLM) technique may be performed either by visual estimation or point counting. Point counting provides a determination of the area percentage of asbestos in a sample. If the asbestos is estimated to be less than 10% by visual estimation of friable material, the determination may be repeated using the point counting technique. The results of the point counting supersede visual PLM results. Results in this report only relate to the items tested. This report may not be used by the customer to claim product endorsement by NVLAP or any other U.S. Government Agency.
Laboratory results represent the analysis of samples as submitted by the customer. Information regarding sample location, description, area, volume, etc., was provided by the customer. Asbestos Identification Laboratory is not responsible for sample collection activities or analytical method limitations. Unless notified in writing to return samples, Asbestos Identification Laboratory discards customer samples after 30 days. Samples containing subsamples or layers will be analyzed separately when applicable. Reports are kept at Asbestos Identification Laboratory for three years. This report shall not be reproduced, except in full, without the written consent of Asbestos Identification Laboratory.

- NVLAP Lab Code: 200919-0
- Massachusetts Certification License: AA000208
- State of Connecticut, Department of Public Health Approved Environmental Laboratory Registration Number: PH-0142
- State of Maine, Department of Environmental Protection Asbestos Analytical Laboratory License Number: LB-0078(Bulk) LA-0087(Air)
- State of Rhode Island and Providence Plantations. Department of Health Certification: AAL-121
- State of Vermont, Department of Health Environmental Health License AL934461

Thank you Susan Cahalan for your business.

Michael Manning
Owner/Director

March 12, 2020

Susan Cahalan
CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760

Project Name: *Northeast Metropolitan Vocational Technical School, Wakefield, MA*

Project Number:

Date Sampled: 2020-03-02

Work Received: 2020-03-09

Work Analyzed: 2020-03-10

Analysis Method: BULK PLM ANALYSIS EPA/600/R-93/116

FieldID / LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
28 / 574208	Interior Door Material	Next to Main Office Assembly	multi	Cellulose 95 Non-Fibrous 5	None Detected
29 / 574209	Interior Door Material	Assembly Near Dental	multi	Cellulose 95 Non-Fibrous 5	None Detected
30 / 574210	Interior Door Material	Gym Door	multi	Cellulose 95 Non-Fibrous 5	None Detected
31 / 574211	Interior Tan Material	Door 104	multi	Cellulose 95 Non-Fibrous 5	None Detected
32 / 574212	Interior Tan Door Material	Door 107	multi	Cellulose 95 Non-Fibrous 5	None Detected
33 / 574213	Gray Glaze	Interior Door Window Above Rm 107	gray	Non-Fibrous 98	**Detected** **Chrysotile 2**
34 / 574214	Gray Glaze on Interior Window	On Wood Door #107	gray	Non-Fibrous 98	**Detected** **Chrysotile 2**
35 / 574215	Gray Glaze on Interior Window Glaze	On Door Rm 121	gray	Non-Fibrous 98	**Detected** **Chrysotile 2**
36 / 574216	Gray Glaze Interior Window	Window Above Door Rm 121	gray	Non-Fibrous 98	**Detected** **Chrysotile 2**
37 / 574217	Window Glaze Gray	Interior Hall Assembly Near 109	gray	Non-Fibrous 98	**Detected** **Chrysotile 2**
38A / 574218	Gray Glaze	Interior Windows Main Office	black	Non-Fibrous 100	None Detected
38B / 574219	Gray Glaze	Interior Windows Main Office	black	Non-Fibrous 100	None Detected
39A / 574220	2x2 Tan/Brown Textured Ceiling Tile	All Hallway	gray	Fiberglass 40 Mineral Wool 50 Non-Fibrous 10	None Detected
39B / 574221	2x2 Tan/Brown Textured Ceiling Tile	All Hallway	gray	Fiberglass 40 Mineral Wool 50 Non-Fibrous 10	None Detected

FieldID LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
39C 574222	2x2 Tan/Brown Textured Ceiling Tile	All Hallway	gray	Fiberglass 40 Mineral Wool 50 Non-Fibrous 10	None Detected
39D 574223	2x2 Tan/Brown Textured Ceiling Tile	All Hallway	gray	Fiberglass 40 Mineral Wool 50 Non-Fibrous 10	None Detected
39E 574224	2x2 Tan/Brown Textured Ceiling Tile	All Hallway	gray	Fiberglass 40 Mineral Wool 50 Non-Fibrous 10	None Detected
39F 574225	2x2 Tan/Brown Textured Ceiling Tile	All Hallway	gray	Fiberglass 40 Mineral Wool 50 Non-Fibrous 10	None Detected
39G 574226	2x2 Tan/Brown Textured Ceiling Tile	All Hallway	gray	Fiberglass 40 Mineral Wool 50 Non-Fibrous 10	None Detected
39H 574227	2x2 Tan/Brown Textured Ceiling Tile	All Hallway	gray	Fiberglass 40 Mineral Wool 50 Non-Fibrous 10	None Detected
39I 574228	2x2 Tan/Brown Textured Ceiling Tile	Classrooms	gray	Fiberglass 40 Mineral Wool 50 Non-Fibrous 10	None Detected
40A 574229	1x1 Ceiling Tile Pin Dot + Small Fissures	Classrooms	tan	Fiberglass 40 Mineral Wool 50 Non-Fibrous 10	None Detected
40B 574230	1x1 Ceiling Tile Pin Dot + Small Fissures	Classrooms	tan	Fiberglass 40 Mineral Wool 50 Non-Fibrous 10	None Detected
40C 574231	1x1 Ceiling Tile Pin Dot + Small Fissures	Classrooms	tan	Fiberglass 40 Mineral Wool 50 Non-Fibrous 10	None Detected
40D 574232	1x1 Ceiling Tile Pin Dot + Small Fissures	Classrooms	tan	Fiberglass 40 Mineral Wool 50 Non-Fibrous 10	None Detected
40E 574233	1x1 Ceiling Tile Pin Dot + Small Fissures	Classrooms	tan	Fiberglass 40 Mineral Wool 50 Non-Fibrous 10	None Detected
40F 574234	1x1 Ceiling Tile Pin Dot + Small Fissures	Classrooms	tan	Fiberglass 40 Mineral Wool 50 Non-Fibrous 10	None Detected
40G 574235	1x1 Ceiling Tile Pin Dot + Small Fissures	Classrooms	tan	Fiberglass 40 Mineral Wool 50 Non-Fibrous 10	None Detected
41A 574236	Black Vinyl Cove Base	Gym	black	Non-Fibrous 100	None Detected
41B 574237	Black Vinyl Cove Base	Gym	black	Non-Fibrous 100	None Detected
41C 574238	Black Vinyl Cove Base	Gym	black	Non-Fibrous 100	None Detected

FieldID LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
42A 574239	Yellow Glue	Under Black Cove Base Gym	tan	Non-Fibrous 100	None Detected
42B 574240	Yellow Glue	Under Black Cove Base Gym	tan	Non-Fibrous 100	None Detected
42C 574241	Yellow Glue	Under Black Cove Base Gym	tan	Non-Fibrous 100	None Detected
43A 574242	Black Tar	On Gym Deck Under Wood	black	Cellulose 20 Non-Fibrous 75	**Detected** **Chrysotile 5**
43B 574243	Black Tar	On Gym Deck Under Wood			Not Analyzed
43C 574244	Black Tar	On Gym Deck Under Wood			Not Analyzed
44A 574245	DK Gray Grout Under Stone WIndow Sills	123 + 107 -121 Classrooms	gray	Non-Fibrous 98	**Detected** **Chrysotile 2**
44B 574246	DK Gray Grout Under Stone WIndow Sills	123 + 107 -121 Classrooms			Not Analyzed
44C 574247	DK Gray Grout Under Stone WIndow Sills	123 + 107 -121 Classrooms			Not Analyzed
45A 574248	Stone (Slate) Window Sills	132 + 107 + 121 Classrooms	black	Non-Fibrous 95	**Detected** **Chrysotile 5**
45B 574249	Stone (Slate) Window Sills	132 + 107 + 121 Classrooms			Not Analyzed
45C 574250	Stone (Slate) Window Sills	132 + 107 + 121 Classrooms			Not Analyzed
46A 574251	Plaster Skim on Walls	Rms 103 + 104 + 118 + 123 + 125 + 121 + Dental	white	Non-Fibrous 100	None Detected
46B 574252	Plaster Skim on Walls	Rms 103 + 104 + 118 + 123 + 125 + 121 + Dental	white	Non-Fibrous 100	None Detected
46C 574253	Plaster Skim on Walls	Rms 103 + 104 + 118 + 123 + 125 + 121 + Dental	white	Non-Fibrous 100	None Detected
46D 574254	Plaster Skim on Walls	Rms 103 + 104 + 118 + 123 + 125 + 121 + Dental	white	Non-Fibrous 100	None Detected
46E 574255	Plaster Skim on Walls	Rms 103 + 104 + 118 + 123 + 125 + 121 + Dental	white	Non-Fibrous 100	None Detected
46F 574256	Plaster Skim on Walls	Rms 103 + 104 + 118 + 123 + 125 + 121 + Dental	white	Non-Fibrous 100	None Detected

FieldID LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
46G 574257	Plaster Skim on Walls	Rms 103 + 104 + 118 + 123 + 125 + 121 + Dental	white	Non-Fibrous 100	None Detected
47A 574258	Black Mastic	Under Terrazzo Halls + Stairs	black	Cellulose 10 Non-Fibrous 90	None Detected
47B 574259	Black Mastic	Under Terrazzo Halls + Stairs	black	Cellulose 10 Non-Fibrous 90	None Detected
47C 574260	Black Mastic	Under Terrazzo Halls + Stairs	black	Cellulose 10 Non-Fibrous 90	None Detected
47D 574261	Black Mastic	Under Terrazzo Halls + Stairs	black	Cellulose 10 Non-Fibrous 90	None Detected
47E 574262	Black Mastic	Under Terrazzo Halls + Stairs	black	Cellulose 10 Non-Fibrous 90	None Detected
47F 574263	Black Mastic	Under Terrazzo Halls + Stairs	black	Cellulose 10 Non-Fibrous 90	None Detected
47G 574264	Black Mastic	Under Terrazzo Halls + Stairs	black	Cellulose 10 Non-Fibrous 90	None Detected
48A 574265	NO SAMPLE	NO SAMPLE			Not Analyzed
48B 574266	Black Mastic	Under Terrazzo in Cafereria	gray	Cellulose 10 Non-Fibrous 90	None Detected
48C 574267	Black Mastic	Under Terrazzo in Cafereria	gray	Cellulose 10 Non-Fibrous 90	None Detected
49A 574268	Black Mastic	Under Side of Stage	brown	Cellulose 5 Non-Fibrous 95	None Detected
49B 574269	Black Mastic	Under Side of Stage	brown	Cellulose 5 Non-Fibrous 95	None Detected
50A 574270	DK Brown Vinyl Cove Base	Science- Chem + Biology	black	Non-Fibrous 100	None Detected
50B 574271	DK Brown Vinyl Cove Base	Science- Chem + Biology	black	Non-Fibrous 100	None Detected
50C 574272	DK Brown Vinyl Cove Base	Science- Chem + Biology	black	Non-Fibrous 100	None Detected
51A 574273	White Mastic	Under DK Brown Vinyl Cove Base	brown	Non-Fibrous 100	None Detected
51B 574274	White Mastic	Under DK Brown Vinyl Cove Base	brown	Non-Fibrous 100	None Detected

FieldID LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
51C 574275	White Mastic	Under DK Brown Vinyl Cove Base	brown	Non-Fibrous 100	None Detected
52A 574276	Black Vinyl Cove Base	Base of Science Tables	black	Non-Fibrous 100	None Detected
52B 574277	Black Vinyl Cove Base	Base of Science Tables	black	Non-Fibrous 100	None Detected
52C 574278	Black Vinyl Cove Base	Base of Science Tables	black	Non-Fibrous 100	None Detected
53A 574279	Black/Brown Mastic	Under Black Vinyl Cove Base	black	Other 10 Non-Fibrous 90	None Detected
53B 574280	Black/Brown Mastic	Under Black Vinyl Cove Base	black	Other 10 Non-Fibrous 90	None Detected
53C 574281	Black/Brown Mastic	Under Black Vinyl Cove Base	black	Other 10 Non-Fibrous 90	None Detected
54A 574282	Brown Glue Daubs	Behind Acoustical Panels-Pool	brown	Non-Fibrous 100	None Detected
54B 574283	Brown Glue Daubs	Behind Acoustical Panels-Pool	brown	Non-Fibrous 100	None Detected
54C 574284	Brown Glue Daubs	Behind Acoustical Panels-Pool	brown	Non-Fibrous 100	None Detected
55A 574285	Tan Grout	Under Ceramic Wall Tile-Pool	tan	Cellulose 5 Non-Fibrous 95	None Detected
55B 574286	Tan Grout	Under Ceramic Wall Tile-Pool	tan	Non-Fibrous 100	None Detected
55C 574287	Tan Grout	Under Ceramic Wall Tile-Pool	tan	Non-Fibrous 100	None Detected
55D 574288	Tan Grout	Under Ceramic Wall Tile-Pool	tan	Non-Fibrous 100	None Detected
55E 574289	Tan Grout	Under Ceramic Wall Tile-Pool	tan	Non-Fibrous 100	None Detected
56A 574290	White Mastic	Under Wall Ceramic Tile-Pool	white	Non-Fibrous 100	None Detected
56B 574291	White Mastic	Under Wall Ceramic Tile-Pool	white	Non-Fibrous 100	None Detected
56C 574292	White Mastic	Under Wall Ceramic Tile-Pool	white	Non-Fibrous 100	None Detected

FieldID LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
56D 574293	White Mastic	Under Wall Ceramic Tile-Pool	white	Non-Fibrous 100	None Detected
56E 574294	White Mastic	Under Wall Ceramic Tile-Pool	white	Non-Fibrous 100	None Detected
57A 574295	Mastic Gray	Under Ceramic Tile on Pool Deck	gray	Non-Fibrous 100	None Detected
57B 574296	Mastic Gray	Under Ceramic Tile on Pool Deck	gray	Non-Fibrous 100	None Detected
57C 574297	Mastic Gray	Under Ceramic Tile on Pool Deck	gray	Non-Fibrous 100	None Detected
57F 574298	Mastic Gray	Under Ceramic Tile on Pool Deck	gray	Non-Fibrous 100	None Detected
57E 574299	Mastic Gray	Under Ceramic Tile on Pool Deck	gray	Non-Fibrous 100	None Detected

Thursday 12 March End of Report

Analyzed by: 

Batch: 51550

DUE Thursday 3-12-20

Client: CDW Consultants
Address: 16 Huron Drive Natick MA
Project Site & #: Northeast Metropolitan Vocational Technical School Wakefield, MA
Phone / email address: scahalan@cdwconsultants.com
Contact: Susan Cahalan
Relinquish by/date: 3/6/2020
Received by/date: 3-9-20
# of Samples Received: 92

CHAIN OF CUSTODY

EPA/600/R-93/116

Asbestos Identification Lab
165 New Boston St.
Suite 227
Woburn, MA 01801
(781)932-9600
www.asbestosidentificationlab.com

Date Sampled: 3/2/2020 - 3/3/2020

BATCH# 51550 Rev 06/16

Page 1 of 4

Turnaround Time	Sample Method
☐ Less 3 Hrs	☒ Bulk
☐ Same Day	☐ Soil
☐ Next Day	☐ Wipe
☒ 3 Day Two Day	☐ Point Count

Stop on 1st Positive? Yes/No
Notify Method: Mail/E-Mail/Verbal
Analyzed By:
Date: 3/10/2020

Temp in Celsius = 23

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
57428	28	Material: Interior Door Material Location: Next to main door Assembly	0	n	~	Sft	s	Chrysotile															
								Amosite															
								Crocidolite											R				
								Tremolite															
								Anthophyllite											TS				5
								Actinolite															
09	29	Material: Interior Door Material Location: Assembly near Dental	0	n	~	Sft	s	Chrysotile															
								Amosite															
								Crocidolite											R				
								Tremolite															
								Anthophyllite											TS				5
								Actinolite															
10	30	Material: Interior door Material Location: Gym Door	0	n	~	Sft	s	Chrysotile															
								Amosite															
								Crocidolite											R				
								Tremolite															
								Anthophyllite											TS				5
								Actinolite															

DUE: Thursday 3-12-20

NE

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
11	31	Material: Interior Material Tan Location: Door 104	0	tan	~	fg	y	Chrysotile											R				
								Amosite															
								Crocidolite															
								Tremolite											95				5
								Anthophyllite															
								Actinolite															
12	32	Material: Interior Tan Door Material Location: Door 107	0	tan	~	fg	y	Chrysotile															
								Amosite															
								Crocidolite											R				
								Tremolite															
								Anthophyllite											95				5
								Actinolite															
13	33	Material: Gray Glaze Location: Interior Door rm 107 Window above	0	gy	~	fg	y	Chrysotile	2	~	0	+	C	~	1.551	1.551							
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															98
								Actinolite															
14	34	Material: Gray Glaze on Interior window Location: on Door # Wall 107	0	gy	~	fg	y	Chrysotile	2	~	0	+	C	~	1.551	1.551							
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															98
								Actinolite															
15	35	Material: Gray glaze on Interior window glaze Location: on Door 121 rm.	0	gy	~	fg	y	Chrysotile	2	~	0	+	C	~	1.551	1.551							
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															98
								Actinolite															

DMA

NE Metro Tech

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Material / Location (Temp in Celcius = ____)	% of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI ∥	RI ⊥	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
16	36	Material: Gray Glaze ~~Interior Window~~ Location: window above door fm 121	0	Gy	~	g	y	Chrysotile	J	~	P	J	C	~	1.551	1.53							98
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															
17	37	Material: Window Glaze gray Location: Interior Hall Assembly near 109	0	Gy	~	g	y	Chrysotile	J	~	P	+	C	~	1.551	1.53							98
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															
18	38A	Material: Gray Glaze Location: Interior windows main office	0	Br	y	g	y	Chrysotile															100
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															
19	38B	Material: " " Location: " "	0	Br	y	g	g	Chrysotile															100
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															
20	39A	Material: 2'x2' Tan/Brown Textured Ceiling Tile Location: All Hallways	0	Gy	~	fib	y	Chrysotile									I 40	I 50					10
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															

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Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Material / Location	% of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI ∥	RI ⊥	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
		Temp in Celcius = ____	Stereo Scope						Optical Properties						RI		Non-Asbestos Percentage (%)						
21	39B	Material: " " Location: " "	0	gr	~	[illegible]	[illegible]	Chrysotile Amosite Crocidolite Tremolite Anthophyllite Actinolite									I 40	I 50					10
22	39C	Material: " " Location: " "	0	gr	~	[illegible]	[illegible]	Chrysotile Amosite Crocidolite Tremolite Anthophyllite Actinolite									I 40	I 50					10
23	39D	Material: " " Location: " "	0	gr	~	[illegible]	[illegible]	Chrysotile Amosite Crocidolite Tremolite Anthophyllite Actinolite									I 40	I 50					10
24	39E	Material: " " Location: " "	0	gr	~	[illegible]	[illegible]	Chrysotile Amosite Crocidolite Tremolite Anthophyllite Actinolite									I 40	I 50					10
25	39F	Material: " " Location: " "	0	gr	~	[illegible]	[illegible]	Chrysotile Amosite Crocidolite Tremolite Anthophyllite Actinolite									I 40	I 50					10

AE Metro

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ‖	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
26	39G	Material: " " Location: " "	0	gy	[illegible]	[illegible]	y?	Chrysotile, Amosite, Crocidolite, Tremolite, Anthophyllite, Actinolite									T / 40	T / 50					10
27	39H	Material: " " Location: " "	0	gy	n	[illegible]	y	Chrysotile, Amosite, Crocidolite, Tremolite, Anthophyllite, Actinolite									T / 40	T / 50					10
28	39I	Material: " " Location: " "	0	gy	n	[illegible]	y	Chrysotile, Amosite, Crocidolite, Tremolite, Anthophyllite, Actinolite									T / 40	T / 50					10
29	40A	Material: 1'x1' Ceiling Tile Andor + small fissures Location: Classrooms	0	+ gy RA?	n	[illegible]	y	Chrysotile, Amosite, Crocidolite, Tremolite, Anthophyllite, Actinolite									T / 40	T / 50					10
30	40B	Material: " " Location: " "	0	+	n	[illegible]	y	Chrysotile, Amosite, Crocidolite, Tremolite, Anthophyllite, Actinolite									T / 40	T / 50					10

NE Metro

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Material / Location (Temp in Celcius = ____)	% of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI ∥	RI ⊥	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
31	40C	Material " " Location " "	0	+	^	[illegible]	[illegible]	Chrysotile Amosite Crocidolite Tremolite Anthophyllite Actinolite									I 40	I 50					10
32	40D	Material " " Location " "	0	+	^	[illegible]	[illegible]	Chrysotile Amosite Crocidolite Tremolite Anthophyllite Actinolite									I 40	I 50					10
33	40E	Material " " Location " "	0	+	^	[illegible]	[illegible]	Chrysotile Amosite Crocidolite Tremolite Anthophyllite Actinolite									I 40	I 50					10
34	40F	Material " " Location " "	0	+	^	[illegible]	[illegible]	Chrysotile Amosite Crocidolite Tremolite Anthophyllite Actinolite									I 40	I 50					10
35	40G	Material " " Location " "	0	+	^	[illegible]	[illegible]	Chrysotile Amosite Crocidolite Tremolite Anthophyllite Actinolite									I 40	I 50					10

NE Metro

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope					Asbestos Minerals	Optical Properties						RI		Non-Asbestos Percentage (%)						
			% of Asbestos	Color	Homogeneity	Texture	Friable		Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	=	⊥	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
36	41A	Material: Black Vinyl Cove base Location: Gym	O	Bk	hg	s	—	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															lw
37	41B	Material: " " Location: " "	O	Bk	s	s	—	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															lw
38	41C	Material: " " Location: " "	O	Bk	s	s	—	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															lw
39	42A	Material: Yellow Glue Location: under black Cove base-Gym	O	t	s	s	n	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															lw
40	42B	Material: " " Location: " "	O	t	s	s	—	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															lw

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Material / Location (Temp in Celcius = ____)	% of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI ∥	RI ⊥	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
41	42C	Material: " " Location: " "	0	+	g	g	r	Chrysotile															100
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															
42	43A	Material: Black Tar Location: on Gym Deck under wood	0	BK	^	Sf	^	Chrysotile	5	~	P	+	L	~	1.555	1.553			20				75
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															
43	43B	Material: " " Location: " "						Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															
44	43C	Material: " " Location: " "						Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															
45	44A	Material: Dk Gray Grout Location: under window Stone Sills 123+107 121 Classrooms	0	88	^	g	2	Chrysotile	2	~	P	+	L	~	1.55	1.551							88
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															

P.NA (beside 43)

D.NA (beside 44)

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Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous	
46	44B	Material: " / " Location: " / "						Chrysotile																DNA
								Amosite																
								Crocidolite																
								Tremolite																
								Anthophyllite																
								Actinolite																
47	44C	Material: " / " Location: " / "						Chrysotile																DNA
								Amosite																
								Crocidolite																
								Tremolite																
								Anthophyllite																
								Actinolite																
48	45A	Material: Stone (Slate) window Sills / Location: 123+107+121 Classrooms	0	Dk	~	Rgh	~	Chrysotile	5	~	R	L	L	~	1.551	1.521							95	
								Amosite																
								Crocidolite																
								Tremolite																
								Anthophyllite																
								Actinolite																
49	45B	Material: " / " Location: " / "						Chrysotile																DNA
								Amosite																
								Crocidolite																
								Tremolite																
								Anthophyllite																
								Actinolite																
50	45C	Material: " / " Location: " / "						Chrysotile																DNA
								Amosite																
								Crocidolite																
								Tremolite																
								Anthophyllite																
								Actinolite																

NE Metro Tech

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope					Asbestos Minerals	Optical Properties						RI		Non-Asbestos Percentage (%)						
			% of Asbestos	Color	Homogeneity	Texture	Friable		Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	=	⊥	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
54	46A	Material: Plaster Skim on Walls Location: Rms 103+107+118+123+125+121+Dental	O	w	~	s	s	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															lw
								Anthophyllite															
								Actinolite															
52	46B	Material: 〃 Location: 〃 〃	O	w	~	s	s	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															lw
								Anthophyllite															
								Actinolite															
53	46C	Material: 〃 Location: 〃	O	w	~	s	s	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															lw
								Anthophyllite															
								Actinolite															
54	46D	Material: 〃 Location: 〃	O	w	~	s	s	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															lw
								Anthophyllite															
								Actinolite															
55	46E	Material: 〃 Location: 〃	O	w	~	s	s	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															lw
								Anthophyllite															
								Actinolite															

NE Moto Tech

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
56	46F	Material: 11 / 11 Location: 11 / 11	0	w	n	g	g	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
57	46G	Material: 11 / 11 Location: 11 / 11	0	w	n	g	g	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
58	47A	Material: Black mastic Location: Terrazzo under Halls + Stairs	0	Bk	g	g	w	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															90
								Anthophyllite															
								Actinolite															
59	47B	Material: 11 / 11 Location: 11 / 11	0	Bk	g	g	w	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															90
								Anthophyllite															
								Actinolite															
60	47C	Material: 11 / x Location: 11 / 11	0	Bk	g	g	w	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															90
								Anthophyllite															
								Actinolite															

NE Metro Tech

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
61	47D	Material: 〃 〃 / Location: 〃 〃	0	BN	g	s	—	Chrysotile															
								Amosite															
								Crocidolite											R				
								Tremolite											D				70
								Anthophyllite															
								Actinolite															
62	47E	Material: 〃 〃 / Location: 〃 〃	0	BN	g	s	—	Chrysotile															
								Amosite															
								Crocidolite											R				
								Tremolite											D				30
								Anthophyllite															
								Actinolite															
63	47F	Material: 〃 〃 / Location: 〃 〃	0	BN	g	s	—	Chrysotile															
								Amosite															
								Crocidolite											R				
								Tremolite											D				50
								Anthophyllite															
								Actinolite															
64	47G	Material: 〃 〃 / Location: 〃 〃	0	BN	g	s	—	Chrysotile															
								Amosite															
								Crocidolite											R				
								Tremolite											D				90
								Anthophyllite															
								Actinolite															
65	48A	Material: Black Mastic / Location: Terrazzo under in cafeteria						Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															

N.S.

NE Metro Tech

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
66	49B	Material: 〃 〃 / Location: 〃 〃	0	gs	~	s	^	Chrysotile															
								Amosite															
								Crocidolite											R				
								Tremolite															
								Anthophyllite											(J)				Fib
								Actinolite															
67	49C	Material: 〃 〃 / Location: 〃 〃	0	gs	~	s	~	Chrysotile															
								Amosite															
								Crocidolite											R				
								Tremolite															
								Anthophyllite											(J)				Fib
								Actinolite															
68	49A	Material: Black Mastic / Location: underside of wood Stage	0	Br	s	o	~	Chrysotile															
								Amosite															
								Crocidolite											R				
								Tremolite															
								Anthophyllite											5				Fib
								Actinolite															
69	49B	Material: 〃 〃 / Location: 〃 〃	0	Br	s	o	~	Chrysotile															
								Amosite															
								Crocidolite											R				
								Tremolite															
								Anthophyllite											5				Fib
								Actinolite															
70	50A	Material: DK brown vinyl Corebase / Location: Science – Chem + Biology	0	Bk	~	s	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															Ku

NE Metrotech

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Material / Location (Temp in Celcius = ____)	% of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI ‖	RI ⊥	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
71	50B	Material: " " Location: " "	0	Bn	g	g	~	Chrysotile, Amosite, Crocidolite, Tremolite, Anthophyllite, Actinolite															100
72	50C	Material: " " Location: " "	0	Bn	g	g	~	Chrysotile, Amosite, Crocidolite, Tremolite, Anthophyllite, Actinolite															100
73	51A	Material: White Mastic Location: under Dk brown vinyl Cove base	0	Br	g	g	~	Chrysotile, Amosite, Crocidolite, Tremolite, Anthophyllite, Actinolite															100
74	51B	Material: " " Location: " "	0	Bf	g	g	~	Chrysotile, Amosite, Crocidolite, Tremolite, Anthophyllite, Actinolite															100
75	51C	Material: " " Location: " "	0	Br	g	g	~	Chrysotile, Amosite, Crocidolite, Tremolite, Anthophyllite, Actinolite															100

NE Metrotech

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
76	52A	Material: Black Vinyl Cove Base Location: Base of Sciatic Tables	0	BK	S	S	—	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															Lev
								Anthophyllite															
								Actinolite															
77	52B	Material: " " Location: " "	0	BK	S	S	—	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															Ja
								Anthophyllite															
								Actinolite															
78	52C	Material: " " Location: " "	0	BK	S	S	—	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															Lu
								Anthophyllite															
								Actinolite															
79	53A	Material: Black/Brown Mastic Location: Under Black Vinyl Cove Base	0	BK	S	S	—	Chrysotile															
								Amosite															
								Crocidolite														+/-	
								Tremolite														10	90
								Anthophyllite															
								Actinolite															
80	53B	Material: " " Location: " "	0	BK	S	S	—	Chrysotile															
								Amosite															
								Crocidolite														4	
								Tremolite														10	90
								Anthophyllite															
								Actinolite															

NE METROTECH

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
81	53C	Material: 〃 〃 / Location: 〃 〃	0	BK	3	5	—	Chrysotile															
								Amosite															
								Crocidolite														+/-	
								Tremolite															
								Anthophyllite														10	90
								Actinolite															
82	54A	Material: Brown/Blue dark Acoustical / Location: Behind panels-Pool	0	Br	3	5	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite														10	TRA
								Actinolite															
83	54B	Material: 〃 〃 / Location: 〃 〃	0	Br	3	5	—	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															la
								Actinolite															
84	54C	Material: 〃 〃 / Location: 〃 〃	0	Br	3	3	—	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															la
								Actinolite															
85	55A	Material: Tan Grout / Location: Under Ceramic Wall Tile-Pool	0	+	~	5	~	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite													5		95
								Actinolite															

Reanalyzed

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Material / Location (Temp in Celcius = ____)	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
86	SSB	Material " " Location " "	0	t	n	g	g	Chrysotile, Amosite, Crocidolite, Tremolite, Anthophyllite, Actinolite															100
87	SSC	Material " " Location " "	0	t	n	g	g	Chrysotile, Amosite, Crocidolite, Tremolite, Anthophyllite, Actinolite															100
88	SSD	Material " " Location " "	0	t	n	g	g	Chrysotile, Amosite, Crocidolite, Tremolite, Anthophyllite, Actinolite															100
89	SSE	Material " " Location " "	0	t	n	g	g	Chrysotile, Amosite, Crocidolite, Tremolite, Anthophyllite, Actinolite															100
90	SCA	Material White Mastic Location Wall ceramic under Tile - pool	0	[illegible]	n	[illegible]	n	Chrysotile, Amosite, Crocidolite, Tremolite, Anthophyllite, Actinolite															100

AE Metrotect

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Material / Location (Temp in Celcius = ____)	% of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI ∥	RI ⊥	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
91	56B	Material: " " Location: " "	0	[illegible]	[illegible]	[illegible]	[illegible]	Chrysotile Amosite Crocidolite Tremolite Anthophyllite Actinolite															100
92	56C	Material: " " Location: " "	0	[illegible]	[illegible]	[illegible]	[illegible]	Chrysotile Amosite Crocidolite Tremolite Anthophyllite Actinolite															100
93	56D	Material: " " Location: " "	0	[illegible]	[illegible]	[illegible]	[illegible]	Chrysotile Amosite Crocidolite Tremolite Anthophyllite Actinolite															100
94	56E	Material: " " Location: " "	0	[illegible]	[illegible]	[illegible]	[illegible]	Chrysotile Amosite Crocidolite Tremolite Anthophyllite Actinolite															100
95	57A	Material: Mastic - Gray Location: Under Ceramic Tile on Pool Deck	0	[illegible]	[illegible]	[illegible]	[illegible]	Chrysotile Amosite Crocidolite Tremolite Anthophyllite Actinolite															100

NE MetroTech

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Material / Location (Temp in Celcius = ____)	% of Asbestos (Stereo Scope)	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Asbestos % (Optical Properties)	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	∥ (RI)	⊥	Fiberglass (Non-Asbestos Percentage (%))	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
96	57B	Material " " Location " "	0	[illegible]	[illegible]	[illegible]	[illegible]	Chrysotile															[illegible]
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															
97	57C	Material " " Location " "	0	[illegible]	[illegible]	[illegible]	[illegible]	Chrysotile															[illegible]
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															
98	57D	Material " " Location " "	0	[illegible]	[illegible]	[illegible]	[illegible]	Chrysotile															[illegible]
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															
574294	57E	Material " " Location " "	0	[illegible]	[illegible]	[illegible]	[illegible]	Chrysotile															[illegible]
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															
		Material Location						Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															

Asbestos Identification Laboratory

165 New Boston St., Ste 227
Woburn, MA 01801
781-932-9600

Web: www.asbestosidentificationlab.com
Email: mikemanning@asbestosidentificationlab.com

Batch: 51610

NVLAP®
Lab Code: 200919-0

March 16, 2020

Susan Cahalan
CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760

Project Name: *Northeast Metro Technical Vocational H.S., Wakefield, MA*
Project Number:
Date Sampled: 2020-03-04
Work Received: 2020-03-11
Work Analyzed: 2020-03-12

Analysis Method: BULK PLM ANALYSIS EPA/600/R-93/116

Dear Susan Cahalan,

Asbestos Identification Laboratory has completed the analysis of the samples from your office for the above referenced project. The information and analysis contained in this report have been generated using the EPA /600/R-93/116 Method for the Determination of Asbestos in Bulk Building Materials. Materials or products that contain more than 1% of any kind or combination of asbestos are considered an asbestos containing building material as determined by the EPA. This Polarized Light Microscope (PLM) technique may be performed either by visual estimation or point counting. Point counting provides a determination of the area percentage of asbestos in a sample. If the asbestos is estimated to be less than 10% by visual estimation of friable material, the determination may be repeated using the point counting technique. The results of the point counting supersede visual PLM results. Results in this report only relate to the items tested. This report may not be used by the customer to claim product endorsement by NVLAP or any other U.S. Government Agency.
Laboratory results represent the analysis of samples as submitted by the customer. Information regarding sample location, description, area, volume, etc., was provided by the customer. Asbestos Identification Laboratory is not responsible for sample collection activities or analytical method limitations. Unless notified in writing to return samples, Asbestos Identification Laboratory discards customer samples after 30 days. Samples containing subsamples or layers will be analyzed separately when applicable. Reports are kept at Asbestos Identification Laboratory for three years. This report shall not be reproduced, except in full, without the written consent of Asbestos Identification Laboratory.

- NVLAP Lab Code: 200919-0
- Massachusetts Certification License: AA000208
- State of Connecticut, Department of Public Health Approved Environmental Laboratory Registration Number: PH-0142
- State of Maine, Department of Environmental Protection Asbestos Analytical Laboratory License Number: LB-0078(Bulk) LA-0087(Air)
- State of Rhode Island and Providence Plantations. Department of Health Certification: AAL-121
- State of Vermont, Department of Health Environmental Health License AL934461

Thank you Susan Cahalan for your business.

Michael Manning
Owner/Director

March 16, 2020

Susan Cahalan
CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760

Project Name: *Northeast Metro Technical Vocational H.S., Wakefield, MA*

Project Number:

Date Sampled: 2020-03-04

Work Received: 2020-03-11

Work Analyzed: 2020-03-12

Analysis Method: BULK PLM ANALYSIS EPA/600/R-93/116

FieldID / LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
58A / 575062	Gray Mastic	Under Ceramic Pool Deck Tiles	gray	Non-Fibrous 100	None Detected
58B / 575063	Gray Mastic	Under Ceramic Pool Deck Tiles	gray	Non-Fibrous 100	None Detected
58C / 575064	Gray Mastic	Under Ceramic Pool Deck Tiles	gray	Non-Fibrous 100	None Detected
59A / 575065	White Expansion Joint	Pool Area Interior Walls	white	Non-Fibrous 100	None Detected
59B / 575066	White Expansion Joint	Pool Area Interior Walls	white	Non-Fibrous 100	None Detected
59C / 575067	White Expansion Joint	Pool Area Interior Walls	white	Non-Fibrous 100	None Detected
60A / 575068	White Ceiling Plaster	Girls Locker Room	white	Non-Fibrous 100	None Detected
60B / 575069	White Ceiling Plaster	Girls Locker Room	white	Non-Fibrous 100	None Detected
60C / 575070	White Ceiling Plaster	Girls Locker Room	white	Non-Fibrous 100	None Detected
61A / 575071	White Ceiling Plaster	Boys Locker Room	white	Non-Fibrous 100	None Detected
61B / 575072	White Ceiling Plaster	Boys Locker Room	white	Non-Fibrous 100	None Detected
61C / 575073	White Ceiling Plaster	Boys Locker Room	white	Non-Fibrous 100	None Detected
62A / 575074	Gray Grout	Under Ceramic Floor Tile, Girls Locker Room	gray	Non-Fibrous 100	None Detected
62B / 575075	Gray Grout	Under Ceramic Floor Tile, Girls Locker Room	gray	Non-Fibrous 100	None Detected

FieldID LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
62C 575076	Gray Grout	Under Ceramic Floor Tile, Girls Locker Room	gray	Non-Fibrous 100	None Detected
63A 575077	Dark Gray Mastic	Under Ceramic Floor Tile, Girls Locker Room	gray	Cellulose 10 Non-Fibrous 90	None Detected
63B 575078	Dark Gray Mastic	Under Ceramic Floor Tile, Girls Locker Room	gray	Cellulose 10 Non-Fibrous 90	None Detected
63C 575079	Dark Gray Mastic	Under Ceramic Floor Tile, Girls Locker Room	gray	Cellulose 10 Non-Fibrous 90	None Detected
64A 575080	Gray Mastic	Under Ceramic Wall Tile - Halls	gray	Non-Fibrous 100	None Detected
64B 575081	Gray Mastic	Under Ceramic Wall Tile - Halls	gray	Non-Fibrous 100	None Detected
64C 575082	Gray Mastic	Under Ceramic Wall Tile - Halls	gray	Non-Fibrous 100	None Detected
64D 575083	Gray Mastic	Under Ceramic Wall Tile - Halls	gray	Non-Fibrous 100	None Detected
64E 575084	Gray Mastic	Under Ceramic Wall Tile - Halls	gray	Non-Fibrous 100	None Detected
64F 575085	Gray Mastic	Under Ceramic Wall Tile - Halls	gray	Non-Fibrous 100	None Detected
64G 575086	Gray Mastic	Under Ceramic Wall Tile - Halls	gray	Non-Fibrous 100	None Detected
65A 575087	Black Coating on Copper	Behind Brick Facade	black	Cellulose 10 Non-Fibrous 80	**Detected** **Chrysotile 10**
65B 575088	Black Coating on Copper	Behind Brick Facade			Not Analyzed
65C 575089	Black Coating on Copper	Behind Brick Facade			Not Analyzed
65D 575090	Black Coating on Copper	Behind Brick Facade			Not Analyzed
65E 575091	Black Coating on Copper	Behind Brick Facade			Not Analyzed
66A 575092	Thin Copper Flashing With Black Coating	Top Foundation Sill	black	Cellulose 20 Non-Fibrous 80	None Detected
66B 575093	Thin Copper Flashing With Black Coating	Top Foundation Sill	black	Cellulose 15 Non-Fibrous 85	None Detected

FieldID LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
66C 575094	Thin Copper Flashing With Black Coating	Top Foundation Sill	black	Cellulose 15 Non-Fibrous 85	None Detected
67A 575095	Gray Concrete Skim	Exterior Gym Roof Level	gray	Non-Fibrous 100	None Detected
67B 575096	Gray Concrete Skim	Exterior Gym Roof Level	gray	Non-Fibrous 100	None Detected
67C 575097	Gray Concrete Skim	Exterior Gym Roof Level	gray	Non-Fibrous 100	None Detected
68A 575098	Green Paper	Under Concrete Skim	green	Non-Fibrous 100	None Detected
68B 575099	Green Paper	Under Concrete Skim	green	Non-Fibrous 100	None Detected
68C 575100	Green Paper	Under Concrete Skim	green	Non-Fibrous 100	None Detected
65A.1 575101	Plaster		white	Non-Fibrous 100	None Detected
65B.1 575102	Plaster		white	Non-Fibrous 100	None Detected
65C.1 575103	Plaster		white	Non-Fibrous 100	None Detected
65D.1 575104	Plaster		white	Non-Fibrous 100	None Detected
65E.1 575105	Plaster		white	Non-Fibrous 100	None Detected
65F.1 575106	Plaster		white	Non-Fibrous 100	None Detected
65G.1 575107	Plaster		white	Non-Fibrous 100	None Detected

Monday 16 March

Analyzed by: Elena Blatus

End of Report

Batch: 51610

OKAY DUE MONDAY 3/16 per Susan

Client: CDW Consultants
Address: 6 Huron Drive Natick MA
Project Site & #: Northeast Metro Technical Vocational H.S. Wakefield MA
Phone / email address: SCahalan@cdwconsultants.com
Contact: Susan Cahalan
Relinquish by/date: 3/9/2020
Received by/date: 3/11/20
# of Samples Received: 3 4 6 0

CHAIN OF CUSTODY

EPA/600/R-93/116

Asbestos Identification Lab
165 New Boston St.
Suite 227
Woburn, MA 01801
(781)932-9600
www.asbestosidentificationlab.com

Date Sampled: 3/4/2020

BATCH# 51610 Rev 06/16

Page 1 of 10

Turnaround Time	Sample Method
☐ Less 3 Hrs	☒ Bulk
☐ Same Day	☐ Soil
☐ Next Day	☐ Wipe
☒ Two Day	☐ Point Count

Stop on 1st Positive? Yes/No
Notify Method: Mail/E-Mail/Verbal
Analyzed By: Elena Bladus
Date: 3/12/2020

Temp in Celsius = 25C

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
57606	58A	Material: Gray Mastic Location: Under Ceramic Pool Deck Tiles	0	Gy	N	Gr	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
59	58B	Material: 〃 〃 Location: 〃 〃	0	Gy	N	Gr	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
60	58C	Material: 〃 〃 Location: 〃 〃	0	Gy	N	Gr	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															

NE Metro Kcl

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
58	59A	Material: White Expansion Joint Location: Pool Area Interior Wall	0	W	N	Gr	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
59	59B	Material: " " Location: " "	0	W	N	Gr	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
60	59C	Material: " " Location: " "	0	W	N	Gr	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
61	60A	Material: White Ceiling Plaster Location: Girls locker room	0	W	N	Gr	Y	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
62	60B	Material: " " Location: " "	0	W	N	Gr	Y	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															

NE Method

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
61	60C	Material: 〃 〃 / Location: 〃 〃	0	W	N	Gr	Y	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
62	60A	Material: White Ceiling Plaster / Location: Boys locker room	0	W	N	Gr	Y	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
63	60B	Material: 〃 〃 / Location: 〃 〃	0	W	N	Gr	Y	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
64	60C	Material: 〃 〃 / Location: 〃 〃	0	W	N	Gr	Y	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
65	60A	Material: Gray Grout / Location: Under Ceramic Floor Tile girls locker room	0	Gy	N	Gr	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															

NE Notated

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: II	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
75	62B	Material / Location	0	Gy	N	Gr	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
76	62C	Material / Location	0	Gy	N	Gr	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
77	63A	Material: Dark Gray Mastic / Location: Under Ceramic Floor Tile 9in x 9in	0	Gy	N	Gr	N	Chrysotile															
								Amosite															
								Crocidolite											R				
								Tremolite											10				90
								Anthophyllite															
								Actinolite															
78	63B	Material / Location	0	Gy	N	Gr	N	Chrysotile															
								Amosite															
								Crocidolite											R				
								Tremolite											10				90
								Anthophyllite															
								Actinolite															
79	63C	Material / Location	0	Gy	N	Gr	N	Chrysotile															
								Amosite															
								Crocidolite											R				
								Tremolite											10				90
								Anthophyllite															
								Actinolite															

NE Metrotech

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ≡	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
28	LAA	Material: Gray MASTIC Location: under ceramic wall TILE-Halls	0	Gy	N	Gr	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
31	LAB	Material: 〃 〃 Location: 〃 〃	0	Gy	N	Gr	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
32	LAC	Material: 〃 〃 Location: 〃 〃	0	Gy	N	Gr	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
33	LAD	Material: 〃 〃 Location: 〃 〃	0	Gy	N	Gr	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
28	LAE	Material: 〃 〃 Location: 〃 〃	0	Gy	N	Gr	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															

NE MetroTech

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Material / Location (Temp in Celcius = ____)	% of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI ∥	RI ⊥	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous	
85	64F	Material: " "	0	Gy	N	Gr	N	Chrysotile															100	
		Location: " "						Amosite																
								Crocidolite																
								Tremolite																
								Anthophyllite																
								Actinolite																
86	64G	Material: " "	0	Gy	N	Gr	N	Chrysotile															100	
		Location: " "						Amosite																
								Crocidolite																
								Tremolite																
								Anthophyllite																
								Actinolite																
87	65A	Material: Black coating on copper	0	Blk	N	aw	N	Chrysotile	10	w	P	+	L	w	1556	1550								
		Location: Behind Brick facade						Amosite											R					
								Crocidolite																
								Tremolite																
								Anthophyllite											10				80	
								Actinolite																
88	65B	Material: " "						Chrysotile																DNA
		Location: " "						Amosite																
								Crocidolite																
								Tremolite																
								Anthophyllite																
								Actinolite																
89	65C	Material: " "						Chrysotile																DNA
		Location: " "						Amosite																
								Crocidolite																
								Tremolite																
								Anthophyllite																
								Actinolite																

NE MetroTech

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous	
[illegible]	65D	Material " " Location " "						Chrysotile, Amosite, Crocidolite, Tremolite, Anthophyllite, Actinolite																DNA
[illegible]	65E	Material " " Location " "						Chrysotile, Amosite, Crocidolite, Tremolite, Anthophyllite, Actinolite																DNA
[illegible]	66A	Material Thin copper flashing with black coating Location Top foundation sill	0	BLK	N	anw		Chrysotile, Amosite, Crocidolite, Tremolite, Anthophyllite, Actinolite											R 20				80	
[illegible]	66B	Material near Kitchen " " Location " "	0	BLK	N	arw		Chrysotile, Amosite, Crocidolite, Tremolite, Anthophyllite, Actinolite											R 15				85	
[illegible]	66C	Material " " Location " "	0	BLK	N	arw		Chrysotile, Amosite, Crocidolite, Tremolite, Anthophyllite, Actinolite											R 15				85	

NE Retrotech

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: II	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
95	67A	Material: Gray Concrete Skim Location: Exterior gym Roof Level	0	Gy	N	Gr	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
96	67B	Material: 〃 〃 Location: 〃 〃	0	Gy	N	Gr	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
97	67C	Material: 〃 〃 Location: 〃 〃	0	Gy	N	Gr	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
98	68A	Material: Green Paper Location: under Concrete Skim — gym	0	Gn	N	Gr	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
99	68B	Material: 〃 〃 Location: 〃 〃	0	Gn	N	Gr	N	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															

NE Retested

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: =	⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
02	68C	Material: 〃 〃 / Location: 〃 〃	0	Gn	N	Gr	N	Chrysotile																
								Amosite																
								Crocidolite																
								Tremolite																100
								Anthophyllite																
								Actinolite																
01	65A.1	Material: Plaster / Location	0	W	N	Gr	Y	Chrysotile																
								Amosite																
								Crocidolite																
								Tremolite																100
								Anthophyllite																
								Actinolite																
02	65B.1	Material: 〃 〃 / Location	0	W	N	Gr	Y	Chrysotile																
								Amosite																
								Crocidolite																
								Tremolite																100
								Anthophyllite																
								Actinolite																
03	65C.1	Material: 〃 〃 / Location	0	W	N	Gr	Y	Chrysotile																
								Amosite																
								Crocidolite																
								Tremolite																110
								Anthophyllite																
								Actinolite																
04	65D.1	Material: 〃 〃 / Location	0	W	N	Gr	Y	Chrysotile																
								Amosite																
								Crocidolite																
								Tremolite																100
								Anthophyllite																
								Actinolite																

Temp in Celcius = ____

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: =	⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
50	65E.1	Material / Location	0	W	N	Gr	Y	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
50	65F.1	Material / Location	0	W	N	Gr	Y	Chrysotile															
								Amosite.															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
50	65G.1	Material / Location	0	W	N	Gr	Y	Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															100
								Anthophyllite															
								Actinolite															
		Material / Location						Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															
		Material / Location						Chrysotile															
								Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															
								Actinolite															

APPENDIX B

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax: (856) 303-2500 / (856) 786-5974
http://www.EMSL.com cinnaminsonleadlab@emsl.com

EMSL Order:	202003023
CustomerID:	CDWC26
CustomerPO:	
ProjectID:	

Attn: **Susan Cahalan**
CDW Consultants
6 Huron Drive
Natick, MA 01760

Phone:	(508) 875-2657
Fax:	
Received:	03/12/20 10:15 AM
Collected:	3/5/2020

Project: **NE Metro Tech Voc Wakefield**

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

Client Sample Description	*Lab ID*	*Collected*	*Analyzed*	*Weight*	*Lead Concentration*
LP-1	*202003023-0001*	3/5/2020	3/13/2020	0.2537 g	2.5 % wt
	Site: White Paint on Wood Sloped Roof				
LP-2	*202003023-0002*	3/5/2020	3/13/2020	0.2523 g	6.7 % wt
	Site: White Paint on Wood Main Roof				
LP-3	*202003023-0003*	3/5/2020	3/13/2020	0.2521 g	0.30 % wt
	Site: Red Paint - Steel Window Lintel				
LP-4	*202003023-0004*	3/5/2020	3/13/2020	0.2647 g	12 % wt
	Site: Gray Paint on Roof Stair Rail				
LP-5	*202003023-0005*	3/5/2020	3/13/2020	0.2529 g	0.034 % wt
	Site: Tan Door Paint on Metal #23				
LP-6	*202003023-0006*	3/5/2020	3/13/2020	0.2925 g	0.068 % wt
	Site: Brown Paint Metal Door Assembly #23				
LP-7	*202003023-0007*	3/5/2020	3/13/2020	0.2636 g	0.0084 % wt
	Site: Brown Paint on Metal HVAC Ext Near Kitch				
LP-8	*202003023-0008*	3/5/2020	3/13/2020	0.2531 g	0.10 % wt
	Site: Tan Paint On Wood Garage Door				
LP-9	*202003023-0009*	3/5/2020	3/13/2020	0.2512 g	0.12 % wt
	Site: Brown Paint Metal Door U2				
LP-10	*202003023-0010*	3/5/2020	3/13/2020	0.2592 g	20 % wt
	Site: Brown Over Red Stair Rail Paint				
LP-11A	*202003023-0011*	3/5/2020	3/13/2020	0.2865 g	0.035 % wt
	Site: White Textured Paint on Concrete - Front				
LP-11B	*202003023-0012*	3/5/2020	3/13/2020	0.2897 g	0.013 % wt
	Site: White Textured Paint on Concrete - Front				
LP-12	*202003023-0013*	3/5/2020	3/13/2020	0.2516 g	<0.0080 % wt
	Site: Tan Paint Ext Metal Door				
LP-13	*202003023-0014*	3/5/2020	3/13/2020	0.2571 g	0.42 % wt
	Site: Brown Over Red Metal Door Assembly 109				
LP-14	*202003023-0015*	3/5/2020	3/13/2020	0.2587 g	0.0094 % wt
	Site: Pink - White Paint - Hall on CMU				

Phillip Worby, Lead Laboratory Manager
or other approved signatory

*Analysis following Lead in Paint by EMSL SOP/Determination of Environmental Lead by FLAA. Reporting limit is 0.008 % wt based on the minimum sample weight per our SOP. Unless noted, results in this report are not blank corrected. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities. Samples received in good condition unless otherwise noted. "<" (less than) result signifies that the analyte was not detected at or above the reporting limit. Measurement of uncertainty is available upon request. The QC data associated with the sample results included in this report meet the recovery and precision requirements unless specifically indicated otherwise. Definitions of modifications are available upon request.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NELAP Certifications: NJ 03036, NY 10872, PA 68-00367, AIHA-LAP, LLC ELLAP 100194, A2LA 2845.01

Initial report from 03/14/2020 10:31:44

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax: (856) 303-2500 / (856) 786-5974
http://www.EMSL.com cinnaminsonleadlab@emsl.com

EMSL Order:	202003023
CustomerID:	CDWC26
CustomerPO:	
ProjectID:	

Attn: **Susan Cahalan**
CDW Consultants
6 Huron Drive
Natick, MA 01760

Phone:	(508) 875-2657
Fax:	
Received:	03/12/20 10:15 AM
Collected:	3/5/2020

Project: **NE Metro Tech Voc Wakefield**

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

Client Sample Description	*Lab ID*	*Collected*	*Analyzed*	*Weight*	*Lead Concentration*
LP-15	*202003023-0016*	3/5/2020	3/13/2020	0.2560 g	<0.0080 % wt
	Site: Gray Paint Metal Door Dental				
LP-16	*202003023-0017*	3/5/2020	3/13/2020	0.2634 g	0.020 % wt
	Site: White Parking Stripe Paint Rear Near Kitchen				
LP-17A	*202003023-0018*	3/5/2020	3/13/2020	0.2769 g	<0.0080 % wt
	Site: Yellow Paint on Curb				
LP-17B	*202003023-0019*	3/5/2020	3/13/2020	0.2586 g	0.60 % wt
	Site: Yellow Paint on Curb				
LP-18	*202003023-0020*	3/5/2020	3/13/2020	0.2531 g	<0.0080 % wt
	Site: Gray Wall Paint on CMU Hall				
LP-19	*202003023-0021*	3/5/2020	3/13/2020	0.2503 g	0.71 % wt
	Site: Silver Paint on Bleachers FB Field				
LP-20	*202003023-0022*	3/5/2020	3/13/2020	0.2703 g	<0.0080 % wt
	Site: Dk Gray/Black/Green Annocement Both				

Phillip Worby, Lead Laboratory Manager
or other approved signatory

*Analysis following Lead in Paint by EMSL SOP/Determination of Environmental Lead by FLAA. Reporting limit is 0.008 % wt based on the minimum sample weight per our SOP. Unless noted, results in this report are not blank corrected. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities. Samples received in good condition unless otherwise noted. "<" (less than) result signifies that the analyte was not detected at or above the reporting limit. Measurement of uncertainty is available upon request. The QC data associated with the sample results included in this report meet the recovery and precision requirements unless specifically indicated otherwise. Definitions of modifications are available upon request.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NELAP Certifications: NJ 03036, NY 10872, PA 68-00367, AIHA-LAP, LLC ELLAP 100194, A2LA 2845.01

Initial report from 03/14/2020 10:31:44

OrderID: 202003023

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Lead (Pb) Chain of Custody

EMSL Order ID *(Lab Use Only):* 202003023

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: 1-800-220-3675
FAX: (856) 786-5974

Company : CDW Consultants		**EMSL-Bill to:** ☑ Same ☐ Different If Bill to is Different note instructions in Comments** *Third Party Billing requires written authorization from third party*	
Street: 6 Huron Drive			
City: Natick	**State/Province:** MA	**Zip/Postal Code:** 01760	**Country:** US
Report To (Name): susan cahalan		**Telephone #:** 5088752657	
Email Address: scahalan@cdwconsultants.com		**Fax #:**	**Purchase Order:**
Project Name/Number: NE Metro Tech Voc Wakefield		**Please Provide Results:** ☐ Fax ☑ Email	
U.S. State Samples Taken: MA		**CT Samples:** ☐ Commercial/Taxable ☐ Residential/Tax Exempt	

Turnaround Time (TAT) Options* - Please Check

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

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

Matrix	Method	Instrument	Reporting Limit	Check
Chips ☒ % by wt. ☐ mg/cm² ☐ ppm (mg/kg)	SW846-7000B	Flame Atomic Absorption	0.01%	☒
Air	NIOSH 7082	Flame Atomic Absorption	4 µg/filter	☐
	NIOSH 7105	Graphite Furnace AA	0.03 µg/filter	☐
	NIOSH 7300M/NIOSH 7303	ICP-OES	0.5 µg/filter	☐
Wipe* ASTM ☐ non ASTM ☐ *if no box checked, non-ASTM Wipe assumed	SW846-7000B	Flame Atomic Absorption	10 µg/wipe	☐
	SW846-6010B or C	ICP-OES	1.0 µg/wipe	☐
TCLP	SW846-1311/7000B/SM 3111B	Flame Atomic Absorption	0.4 mg/L (ppm)	☐
	SW846-1311/SW846-6010B or C	ICP-OES	0.1 mg/L (ppm)	☐
SPLP	SW846-1312/7000B/SM 3111B	Flame Atomic Absorption	0.4 mg/L (ppm)	☐
	SW846-1312/SW846-6010B or C	ICP-OES	0.1 mg/L (ppm)	☐
TTLC	22 CCR App. II, 7000B/7420	Flame Atomic Absorption	40 mg/kg (ppm)	☐
	22 CCR App. II, SW846-6010B or C	ICP-OES	2 mg/kg (ppm)	☐
STLC	22 CCR App. II, 7000B/7420	Flame Atomic Absorption	0.4 mg/L (ppm)	☐
	22 CCR App. II, SW846-6010B or C	ICP-OES	0.1 mg/L (ppm)	☐
Soil	SW846-7000B	Flame Atomic Absorption	40 mg/kg (ppm)	☐
	SW846-6010B or C	ICP-OES	2 mg/kg (ppm)	☐
Wastewater Unpreserved ☐ Preserved with HNO_3 pH < 2 ☐	SM3111B/SW846-7000B	Flame Atomic Absorption	0.4 mg/L (ppm)	☐
	EPA 200.9	Graphite Furnace AA	0.003 mg/L (ppm)	☐
	EPA 200.7	ICP-OES	0.020 mg/L (ppm)	☐
Drinking Water Unpreserved ☐ Preserved with HNO_3 pH < 2 ☐	EPA 200.8	ICP-MS	0.001 mg/L (ppm)	☐
	EPA 200.9	Graphite Furnace AA	0.003 mg/L (ppm)	☐
	EPA 200.5	ICP-OES	0.003 mg/L (ppm)	☐
TSP/SPM Filter	40 CFR Part 50	ICP-OES	12 µg/filter	☐
	40 CFR Part 50	Graphite Furnace AA	3.6 µg/filter	☐
Other:				☐

Name of Sampler: Susan Cahalan **Signature of Sampler:**

	Sample #	Location	Volume/Area	Date/Time Sampled
1	LP-1	White Paint on Wood Sloped Roof	-	3/5/2020
2	LP-2	White Paint on Wood Main Roof	-	↓

Client Sample #s - **Total # of Samples:**

Relinquished (Client): **Date:** 3/11/2020 **Time:**

Received (Lab): **Date:** 3/12/2020 **Time:** 10:15am

Comments:

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: 1-800-220-3675
FAX: (856) 786-5974

LEAD (Pb) CHAIN OF CUSTODY

EMSL ORDER ID *(Lab Use Only)*: 202003023

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

	Sample #	Location	Volume/Area	Date/Time Sampled
3	LP-3	Red paint - steel window lintel	—	3/5/2020
4	LP-4	Gray paint on roof stair rail	—	
5	LP-5	Tan door paint on metal #23	—	
6	LP-6	Brown paint Metal Door Assembly #23	—	
7	LP-7	Brown paint on Metal HVAC ext near kitch	—	
8	LP-8	Tan paint on wood garage door	—	
9	LP-9	Brown paint metal door 02	—	
10	LP-10	Brown over red stair rail paint	—	
11	LP-11A	White Textured paint on concrete - front	—	
12	LP-11B	" " " "	—	
13	LP-12	Tan paint ext Metal door	—	
14	LP-13	Brown over Red Metal door Assembly 109	—	
15	LP-14	Pink-White paint - Hall on CMU	—	
16	LP-15	Gray paint Metal door Dental	—	
17	LP-16	White parking Stripe paint Rear near kitchen	—	
18	LP-17A	Yellow paint on Curb	—	
19	LP-17B	" " "	—	
20	LP-18	~~Silver paint on Bleachers~~ FA field EC	—	

Comments/Special Instructions: ↑ Gray Wall paint on CMU Hall

Page 2 of 3 pages

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: 1-800-220-3675
FAX: (856) 786-5974

LEAD (Pb) CHAIN OF CUSTODY

EMSL ORDER ID *(Lab Use Only)*: 202003023

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

	Sample #	Location	Volume/Area	Date/Time Sampled
21	LP-19	Silver paint on Bleachers for field	-	3/5/2020
22	LP-20	Dk gray/black/green announcement booth	-	↓

Comments/Special Instructions:

Page 3 of 3 pages

CDW CONSULTANTS, INC.
CIVIL & ENVIRONMENTAL ENGINEERS

April 14, 2020

Mr. Vladimir Lyubetsky
Drummey Rosane Anderson, Inc.
235 Bear Hill Road, 4th Floor
Waltham, MA 02451

RE: Northeast Metro Tech High School
Hazmat Study Cost Estimate
Wakefield, Massachusetts

Dear Mr. Lyubetsky:

Attached please find the updated cost estimate for abatement at the Northeast Metro Tech High School. The costs are provided in the tables in the following pages.

Very truly yours,

CDW CONSULTANTS, INC.

Susan Cahalan, P.G., ISSP-SA
Senior Environmental Geologist

Table 1
Abatement Cost Estimates
Northeast Metrotech High School
Wakefield, Massachusetts

Material Description	NESHAP Cat.	Location	Est. Quantity	Units	Unit Cost	Total Cost
Pipe Insulation and Fittings >6-Inches in Diameter	Friable ACM	Pipe Trench, Behind Wet Walls, Boiler Room, Fixed Walls, Tunnels	2,500	LF	$ 17.00	**$ 42,500.00**
Pipe Insulation and Fittings < 6-Inches in Diameter	Friable ACM	Pipe Trench, Behind Wet Walls, Boiler Room, Fixed Walls, Tunnels	12,000	LF	$ 15.00	**$ 180,000.00**
Thermal System Insulation	Friable ACM	Breeching in Boiler Room, Generator Exhaust Insulation	800	SF	$ 14.00	**$ 11,200.00**
Vinyl Floor Tiles and Mastic, Various Colors	Cat. 1 Non-friable ACM	Classrooms and Offices	93,000	SF	$ 3.00	**$ 279,000.00**
Doors with Fire Insulation	Friable ACM	Majority of Classroom Doors with Windows, Doors Without Windows, Ten Doors in Cafetorium and Metal Doors at Electric and Transformer Room	245	EA	$ 125.00	**$ 30,625.00**
Wood Door Window Glaze	Cat. 2 Non-friable ACM	Majority of Classroom Doors with Windows	200	EA	$ 125.00	**$ 25,000.00**
Pink and Black Sink Coating	Cat. 2 Non-friable ACM	Science, Art, Break Rooms, Various Rooms	50	EA	$ 50.00	**$ 2,500.00**
Interior Window Glaze	Cat. 2 Non-friable ACM	Doors and Sidelights in Hall Assemblies	25	EA	$ 250.00	**$ 6,250.00**
Interior Window Glaze	Cat. 2 Non-friable ACM	2'x3' Windows Above Doors to Classrooms and Other to Hallways and Some Divider	200	EA	$ 200.00	**$ 40,000.00**
Interior Window Glaze	Cat. 2 Non-friable ACM	Admin Area, Offices in Kitchen Areas, Locker Rooms, Tech Areas. Majority 4'x4'	80	EA	$ 250.00	**$ 20,000.00**
Interior Vertical Caulking	Cat. 2 Non-friable ACM	Room 162	100	LF	$ 14.00	**$ 1,400.00**
Slate Window Sills Including Grout	Cat. 2 Non-friable ACM	Classrooms, Offices, Some Tech	2,200	LF	$ 25.00	**$ 55,000.00**
Black Mastic	Cat. 2 Non-friable ACM	Under Wood Floor In Gym	8,200	SF	$ 7.00	**$ 57,400.00**
Slate Boards With Glue Daubs	Suspect ACM, Not Sampled	Classrooms	100	EA	$ 150.00	**$ 15,000.00**
Old Flex Connectors	Suspect ACM, Not Sampled	On HVAC Near Ceiling in Technical Classrooms (HVAC, Auto Shop, Etc.), Gym, Other Areas in Tunnel or Fixed Walls	50	EA	$ 25.00	**$ 1,250.00**

Table 1
Abatement Cost Estimates
Northeast Metrotech High School
Wakefield, Massachusetts

Material Description	NESHAP Cat.	Location	Est. Quantity	Units	Unit Cost	Total Cost
Gaskets	Suspect ACM, Not Sampled	Located on Piping Connections, Valves, Ts	500	EA	$ 25.00	**$ 12,500.00**
Walk In Refrigerator and Freezer Mastic	Suspect ACM, Not Sampled	Cafeteria Kitchen and Kitchen for Foodservice	4	EA	$ 500.00	**$ 2,000.00**
Boilers	Suspect ACM, Not Sampled	Interior Components, Boiler Room and Pool Area	3	EA	$ 10,000.00	**$ 30,000.00**
Vault Door Fireproofing	Suspect ACM, Not Sampled	Admin Area	1	EA	$ 500.00	**$ 500.00**
Dry Transformer Transite	Suspect ACM, Not Sampled	Noted on Walls in Tech Shops	20	EA	$ 50.00	**$ 1,000.00**
Transite in Switch Gear	Suspect ACM, Not Sampled	In Electric Room, Typical Panels are 12"x6" with 20 Per Switch	100	EA	$ 25.00	**$ 2,500.00**
Fire Brick	Suspect ACM, Not Sampled	Chimney Lining	1	EA	$ 25,000.00	**$ 25,000.00**
Transite Fume Hood	Suspect ACM, Not Sampled	Science, Chemistry	1	EA	$ 1,500.00	**$ 1,500.00**
Gray Caulk ***also assumed to contain PCBs**	Cat. 2 Non-friable ACM	On Metal Flashing, Wood Shop to Low Roof	200	LF	$ 35.00	**$ 7,000.00**
Expansion Joint Caulk * **assumed to contain PCBs**	Non ACM, Sampled	Non-ACM Caulk at Exterior Gym, Pool, Tech Shops, Interior Gym, Pool, Hall Near Gym	2,600	LF	$ 35.00	**$ 91,000.00**
Gray Window Glaze ***also assumed to contain PCBs**	Cat. 2 Non-friable ACM	On Fiberglass Frosted Windows, Tech Shops, Gym, Pool. Approximate Sizes10'x4', 20'x10', 6'x4'	190	EA	$ 350.00	**$ 66,500.00**
Gray Window Caulk ***also assumed to contain PCBs**	Non ACM, Sampled	Non ACM Exterior Window Caulk, Assumed to Contain PCBs	6,500	LF	$ 35.00	**$ 227,500.00**
Gray Window Glaze ***also assumed to contain PCBs**	Cat. 2 Non-friable ACM	On Exterior Windows, Various Sizes, Approximately 15'x4', 8'x4', 6'x4', 10'x4', 4'x4', other various sizes. Quantity includes any old caulk under new.	250	EA	$ 350.00	**$ 87,500.00**
Gray Caulk ***also assumed to contain PCBs**	Cat. 2 Non-friable ACM	Around Exterior Univents	480	LF	$ 35.00	**$ 16,800.00**
Dark Brown Caulk * **also assumed to contain PCBs**	Cat. 2 Non-friable ACM	Exterior of Chimney	40	LF	$ 35.00	**$ 1,400.00**

Table 1
Abatement Cost Estimates
Northeast Metrotech High School
Wakefield, Massachusetts

Material Description	NESHAP Cat.	Location	Est. Quantity	Units	Unit Cost	Total Cost
Roofing Asphaltic Type	Cat. 1 Non-friable ACM	Sloped Roof on Main School Building, Outbuilding with Football Training Gear and Wood Sheds Outside of Wood Shop	11,600	SF	$ 14.00	**$ 162,400.00**
Exterior Vapor Barrier	Cat. 2 Non-friable ACM	Black Coating on Copper Behind Brick Façade, Lower Courses Only	8,500	SF	$ 12.00	**$ 102,000.00**
Exterior Door Caulk ***also assumed to contain PCBs**	Cat. 2 Non-friable ACM	Exterior Doors, Old Under New	600	LF	$ 35.00	**$ 21,000.00**
Subsurface Transite	Suspect ACM, Not Sampled	Subsurface	1,000	LF	$ 25.00	**$ 25,000.00**
Other Latent/Inaccessible Items	Suspect ACM, Not Sampled	Inaccessible	--	--	$ 100,000.00	**$ 100,000.00**
* Assumed to contain PCBs greater than 50 mg/kg					**TOTAL**	**$ 1,750,225.00**

Table 1A
Other Hazardous Materials Costs
Northeast MetroTech High School

Material Description	Location	Est. Quantity	Units	Unit Cost	Total Coat	Comments
Compact Fluorescent Bulbs	Throughout	200	EA	$1	$200	
Fluorescent Bulbs (Mercury)	Throughout	12000	Tubes	$1	$12,000	
Electric Light Ballasts	Throughout	6000	Each	$5	$30,000	
Thermostats and Switches (Mercury)	Throughout	500	Ampules	$20	$10,000	
Emergency Light Batteries (Lead)	Throughout	80	EA	$20	$1,600	
Refrigerants Associated With HVAC, Bubblers, HVAC Shop, Kitchen, Cooling Unit	Throughout	10000	Gallons	$5	$50,000	
Fire Extinguishers (Compressed Gas)	Throughout	250	EA	$0	$0	Reuse Recommended
Lead-Based Paint	Metal	NA	NA	$0	$0	TCLP likely unnecessary, Recycle
Dark Room Chemicals	Dark Room	10	Gallons	$5	$50	
Exit Signs (Tritium)	Throughout	80	EA	$20	$1,600	
Chemicals in Sludge	Science Sink Traps, Drainage in Floor Trench, Science, Cosmetology, Xray, Auto Shop	50	Gallons	$250	$12,500	TCLP Laboratory Analytical Costs and Disposal
Laboratory Chemicals	Science Labs	Reuse	Reuse	$0	--	Reuse Recommended
Waste Oil and Other Fluids (Brake, Antifreeze, Etc.).	Automotive	20	Drums	$250	$5,000	
Fuel Oil UST	Subsurface	1	Each	$35,000	$35,000	
Lead Backed Wall and Door	Dental Shop	Reuse	Reuse	$0	--	
Xray	Dental Shop	Reuse	Reuse	$0	--	
Old Door Retractors	Remnant-Classrooms, Main Doors, Offices, Assemblies	50	Each	$50	$2,500	
Hydraulic Fluid	Old Hydraulic Reservoirs	200	Gallons	$10	$2,000	
PCB Fluid	Transformers	200	Gallons	$35	$7,000	
			TOTAL		**$169,450**	