

1.0 Executive Summary

[Client] contracted with Parks Environmental Consulting, Inc. (Parks) to perform an inspection and sampling for asbestos-containing materials (ACM) and hazardous materials at the [Site Name and Location]. [Staff] of Parks conducted the inspection and sampling on [Date]. Accessible interior and exterior building materials and roofing materials were surveyed.

The following materials were found to contain asbestos:

TABLE 1 – Summary of Asbestos Containing Building Materials				
Homogeneous Area	Description	Location	Friable	Quantity
CTEX-01	Spray-applied Acoustical Ceiling Texture – off-white/cream	Sales Area	Yes	24,000 SF
CTEX-03	Spray-applied Acoustical Ceiling Texture – off-white/beige	Janitor Room off Sales Area	Yes	100 SF
FT-01	Black Adhesive associated with 12" FT, red, orange and brown mottle	Sales Area – entrance, central sales, main aisle, secondary aisles	No	13,000 SF
FT-02	Black Adhesive associated with 12" FT, off-white with black streaks and indentations	Sales Area – non-aisle areas on west end	No	
FT-03	12" FT, pale gray with light gray streaks, with black and yellow adhesives	West end offices, southwest corner room, patch tile in non-aisle areas	No	1,750 SF
FT-08	12" FT, pale gray with green/gray streaks, with black adhesive	Offices	No	
FT-05	12" FT, pale gray with black streaks, with black adhesive	Sales Area – non-aisle on east end	No	6,500 SF
FT-06	12" FT, orange-red, peach with brown mottle, with black adhesive	Break Room (east end of Sales Area)	No	350 SF
FT-09	12" FT, white with gray streaks, with black adhesive	Janitor Room	No	90 SF
FT-10	12" FT, light gray with dark gray and white streaks, with black and yellow adhesive	Janitor Room; patch tile in Sales Area	No	Included in quantities above
WBA-01*	Baseboard Adhesive, dark brown	Break Room, Restrooms, Sales Area	No	UND
WJC-01*	Sheetrock and Joint Compound	Throughout finished areas	No	UND

TABLE 1 – Summary of Asbestos Containing Building Materials				
Homogenous Area	Description	Location	Friable	Quantity
ECLK-01	Caulk – black (gray weathered)	Roof above Sales Area. On central HVAC Unit and pipe near east side HVAC Unit	No	200 LF
ERF-04*	Roofing Material, built-up tar and felt paper	Roof over west addition to warehouse	No	1,000 SF
ERF-05	Tar shingles (green and black) with black mastic	Roof over main entrance	No	750 SF

FT = Floor Tile SF = Square Feet LF = Linear Feet UND = Quantity Undetermined
 * Sample results were inconsistent for this material, with asbestos present in some samples and not detected in others.

The following hazardous materials were observed:

TABLE 2 – Summary of Hazardous / Special Waste Materials		
Description	Location	Quantity*
Thermostats	Sales Area; Office Areas	7
Smoke Detectors	Sales Area; Office Areas; Warehouse/Stock Area	12
Motion Detectors	Sales Area; Office Areas	6
Exit Signs	Sales Area; Office Areas; Warehouse/Stock Area	7
Door-Opening Motion Detectors	Sales Area; Office Areas	4
Miscellaneous small electronic devices (wall/ceiling mounted)	Sales Area; Office Areas	10
Timer-Controlled Switches	Sales Area	2
Magnehelic Gauge	Sales Area	3
Fire-Detection and Security-System Control Boxes	Sales Area	2
Ceiling-Mounted Speakers	Sales Area, Offices	40
Hydraulic Door-Closer	Sales Area	1
Small Electric-Motor	Stock Area, east side (fan in wall)	1
3-foot long Fluorescent Light Bulbs	Light Fixtures in Sales Area	1,200
	Light Fixtures in areas other than Sales Area	360
	Small Yard Office Building	12
6-foot long Fluorescent Light Bulbs	Light Fixtures on east side of Sales Area	42
5-foot long Fluorescent Light Bulbs	Stock / Warehouse Area	20

TABLE 2 – Summary of Hazardous / Special Waste Materials		
Description	Location	Quantity*
High-Intensity Discharge (HID) light bulbs/lamps	Stock / Warehouse Area	18
	Outside Yard Lights on Buildings	8
Light Ballast (most PCB)	Light Fixtures throughout site	375 - 425
Dry-Chemical Fire Extinguisher	Warehouse; Out Building storage	2
Appliances / HVAC Equipment		
Water Heater	Janitor Room off Sales Area	1
Electric Baseboard-Heaters	Sales Area, Offices, Warehouse	4
Ceiling-Mounted Electric Heater	Warehouse	1
Furnace / AC Unit	Warehouse (mezzanine)	3
Rooftop HVAC Units	Roof above Sales Area	3
Small Storage Shed		
Barrel labeled "gasoline & sand" (20 gallons)		1 drum
Asbestos Containing Material Waste Bags		3 - 4 bags
Roof Sealant; Asphalt Driveway Sealant (5 gallon buckets)		20 - 25
Unknown substance in small plastic bags labeled "Hazardous Waste"		4 - 8 bags
Gallon containers of automotive anti-freeze		4
Gallon containers of unknown liquids		6

* Quantities are approximations.

The hazardous materials listed above should be removed from the building prior to demolition. The materials should be properly packaged and disposed, or recycled. Refrigerants should be properly recovered and recycled/disposed. Two Minnesota Pollution Control Agency (MPCA) Guidance Documents covering environmental and hazardous materials as related to building demolition are included for reference in Appendix E.

Details of the inspections are provided in the following sections. A table listing each sampled suspect asbestos homogeneous material, its location and analytical result is located in Section 4.0 of this report. A site drawing indicating sample and approximate ACM locations is provided in Appendix A. Photographs of ACM are provided in Appendix B. The site inspectors' credentials are included in Appendix C. The laboratory reports are included in Appendix D.

2.0 Background

[Client] requested that Parks complete an inspection, sampling, and analysis of building materials suspected to contain asbestos, and perform a hazardous materials inspection, at the [Site]. The site consists of a former lumber and building supply store comprised of one large sales/warehouse building approximately 60,000 SF in size and two out building structures (Building E and a large garage) that are approximately 5,000 and 2,000 SF, respectively. A small (250 SF) shed is located south of the main retail/warehouse building. The yard office out-building is located to the northwest of the main building.

On [Dates], [Parks Staff], Minnesota Department of Health (MDH) Accredited Asbestos Inspectors conducted the inspections and collected 96 suspect asbestos-containing material samples. The samples were analyzed for asbestos content at Schneider Laboratories in Richmond, Virginia.

The following building materials were considered, for the purposes of this survey, suspect ACM, and thus sampled:

- 2' x 2' Ceiling Tile, 3 types
- 2' x 4' Ceiling Tile, 4 types
- 12" Floor Tile, 11 types
- Floor Tile Adhesive, black and yellow
- Baseboard Adhesive, dark brown
- Sheetrock and Joint Compound
- Roofing Materials, and Mastic, 5 types
- Sprayed-on Acoustical Ceiling Texture, 4 types
- Attic Insulation
- Tar Paper
- Caulk, black

3.0 Methods

Suspect ACM was categorized into three principle material groups (homogeneous materials): surfacing material (sprayed or troweled-on); thermal system insulation (e.g. pipe, tank, duct, boiler insulation); or miscellaneous materials (e.g. floor tiles, ceiling tiles, wallboards). A homogeneous material is a building material that appears to be the same in color, texture, age and composition, and appears to have been installed at the same time. Friable materials are those that can be crushed or reduced to powder by hand pressure.

Parks' inspector identified homogeneous material types and collected samples of each material type in general accordance with EPA-AHERA sampling protocols. At least three samples of each suspect material were collected unless Parks' inspector determined that fewer samples were sufficient based on the quantity of the material present in the facility, or if we could only access the material in one or two locations.

The asbestos survey intent was to identify and estimate the quantity of accessible ACM in the building. Accessible interior building materials and roofing and rooftop materials were surveyed and sampled.

Material samples were analyzed for asbestos content by Polarized Light Microscopy, EPA Method 600/R-93/116, at Schneider Laboratories, Richmond, Virginia. Schneider's laboratory is accredited for asbestos bulk material analysis under the National Institute of Sciences' National Voluntary Laboratory Accreditation Program (NVLAP). The analytical method's lower detection limit is one-percent asbestos by volume. The method provides a visual estimation of asbestos in the material sample.

4.0 Analytical Results

Upon analysis, the following materials were found to contain asbestos:

- **Spray Applied Acoustical Ceiling Texture**
- **12" Floor Tile (four patterns/types)**
- **Black Floor Tile Adhesive**
- **Baseboard Adhesive**
- **Sheetrock Joint Compound**
- **Roof HVAC Equipment Caulk/Sealant**
- **Black Sealant associated with Built-up, Tar and Felt Paper Roofing**
- **Black Sealant associated with Green and Black Roof Shingles**

The following table summarizes materials sampled with their locations, and analytical results. Materials other than those listed here, and not sampled, were either: 1) not considered suspect for asbestos content (e.g. fiberglass insulation, concrete, brick, mortar); or, 2) inaccessible, such as materials in wall cavities, confined spaces. Inconsistent results on samples of the same material (i.e. asbestos present in some samples and absent in others) are indicated on the table; in this situation, all of the material is defined as asbestos containing, in accordance with regulatory requirements.

TABLE 3 – Identified Homogeneous Suspect ACM				
Homogeneous Area	Description	Location	Number of Samples	Results
CT-01	2' x 4' Ceiling Tile, white with widthwise fissures and pinholes	Sales Area – Alarm system room near entrance	2	Non-Asbestos
CT-02	2' x 2' Ceiling Tile, white with rough texture and small nail holes	Sales Area – Display model area, southeast side	2	Non-Asbestos
CT-03	2' x 4' Ceiling Tile, white with rough texture	Sales Area – Display model area, west-central area	2	Non-Asbestos
CT-04	2' x 2' Ceiling Tile, white with widthwise worm holes and nail holes	Sales Area – Display model area, northeast area	2	Non-Asbestos
CT-05	2' x 2' Ceiling Tile, white with small random fissures and pinholes	Sales Area – Display model area, northeast area	2	Non-Asbestos
CT-06	2' x 4' Ceiling Tile, white with widthwise worm holes and nail holes	Sales Area – Display model area, northeast area	2	Non-Asbestos
CT-07	2' x 4' Ceiling Tile, white	Out Building (Yard Office), northwest of main building	2	Non-Asbestos
CTEX-01	Spray-applied acoustical Ceiling Texture, off-white/cream	Sales Area	8	Asbestos < 1 - 2% Chy

TABLE 3 – Identified Homogeneous Suspect ACM				
Homogeneous Area	Description	Location	Number of Samples	Results
CTEX-02	Spray-applied acoustical Ceiling Texture , off-white	Sales Area – Display model area (central and west areas)	3	Non-Asbestos
CTEX-03	Spray-applied acoustical Ceiling Texture, off-white/beige	Janitor Room off Sales Area	3	Asbestos 2% Chy
CTEX-04	Spray-applied acoustical Ceiling Texture, off-white/cream	Sales Area – Display model area (central area above drop ceiling and textured ceiling)	3	Non-Asbestos
FT-01	12" FT, red, orange and brown mottle, with black Adhesive	Sales Area – entrance, central sales, main aisle, secondary aisles	5	Asbestos 4 - 5% Chy (Adh Only)
FT-02	12" FT, off-white with black streaks and indentations, with black Adhesive	Sales Area – non-aisle areas on west end	3	Asbestos 7% Chy (Adh Only)
FT-03	12" FT, pale gray with light gray streaks, with black and yellow Adhesives	West end offices, southwest corner room, patch tile in non-aisle areas	3	Asbestos 2% Chy (Tile) 7% Chy (Black Adh)
FT-04	12" FT, cream, beige and tan mottled, with yellow Adhesive	West end offices patch tile	2	Non-Asbestos
FT-05	12" FT, pale gray with black streaks, with black Adhesive	Sales Area – non-aisle on east end	4	Asbestos 2% Chy (Tile) 7% Chy (Black Adh)
FT-06	12" FT, orange-red, peach with brown mottle, with black Adhesive	Break Room (east end of Sales Area)	3	Asbestos 7% Chy (Adh Only)
FT-07	12" FT, tan with cream and tan streaks, with black Adhesive	Display model area (central)	3	Non-Asbestos
FT-08	12" FT, pale gray with green/gray streaks, with black Adhesive	Offices	2	Asbestos 2% Chy (Tile) 7% Chy (Black Adh)
FT-09	12" FT, white with gray streaks, with black Adhesive	Janitor Room	2	Asbestos 5% Chy (Adh Only)
FT-10	12" FT, light gray with dark gray and white streaks, with black and yellow Adhesives	Janitor Room; patch tile in Sales Area	2	Asbestos < 1 Chy (Tile) 5% Chy (Black Adh Only)
FT-11	12" FT, off-white with gray streaks, with yellow Adhesive	Utility room in central display area	2	Non-Asbestos
MINS-01	Ceiling Space Insulation, light gray	Above ceiling in Sales Area	5	Non-Asbestos

TABLE 3 – Identified Homogeneous Suspect ACM				
Homogeneous Area	Description	Location	Number of Samples	Results
WBA-01	Baseboard Adhesive, dark brown	Break Room, Restrooms, Sales Area	3	Asbestos* ¹ 2% Chy
WJC-01	Sheetrock and Joint Compound	Throughout finished areas	9	Asbestos* 2% Chy (Joint Compound Only)
WTP-01	Tar Paper, black	Behind wood paneling	3	Non-Asbestos
ECLK-01	Caulk, black (gray weathered)	Roof above Sales Area – on central HVAC Unit and pipe near east side HVAC Unit	2	Asbestos 8% Chy
ERF-01	Tar Shingle, green, over black mastic, over tar paper	Roof over Warehouse area	2	Non-Asbestos
ERF-02	Rubber membrane, over foam, over tar and gravel, over Insulation	Roof over west Sales Area	2	Non-Asbestos
ERF-03	Roofing Field, built-up tar and gravel	Roof over east end Sales Area	3	Non-Asbestos
ERFF-03	Tar and Felt Roof Flashing	Roof parapet wall	2	Non-Asbestos
ERF-04	Roofing Material, built-up, tar and Felt Paper, with black Mastic	Roof over west addition to warehouse	2	Asbestos * 3% Chy (Black Mastic Only)
ERF-05	Tar shingles (green and black) with black Mastic	Roof over main entrance	2	Asbestos 7% Chy (Black Mastic Only)

FT = Floor Tile

Adh = Adhesive

Chy = Chrysotile

* Sample results were inconsistent for this material, with asbestos present in some samples and not detected in others.

¹ Asbestos detected in this sample may be from sheetrock joint compound adhered to the sample.

5.0 Inspection and Sampling Limitations

It is possible that some suspect asbestos, or asbestos containing, materials and hazardous materials were not identified during the course of Park's inspection at this site. Such unidentified materials would be those that are hidden from view, such as floor tile under floor tile or carpet, pipe insulation in wall cavities, materials out of reach in high ceiling areas, or materials located under or behind finish materials. Building materials known to possibly contain asbestos which were not evaluated as part of this survey should be assumed to be asbestos containing until proven otherwise.

Quantities of asbestos and hazardous materials given in this report and illustrated on the report drawings are approximations and not intended for asbestos abatement budgeting or bidding purposes.

Material samples collected by Parks were analyzed by an independent outside laboratory; the results of their laboratory analyses are presented herein.

Exterior cinder block walls have been known to contain vermiculite insulation. US EPA and the MDH have warned that vermiculite insulation may contain asbestos minerals. If vermiculite is found in concrete block walls, or as insulation in other areas, it may need to be treated as an ACM. Parks did not demolish or open concrete cinder blocks as part of this asbestos survey

For reference, MPCA building demolition guidance documents are provided in Appendix E. These documents should be reviewed, and applicable material removal/disposal recommendations followed prior to building demolition.

The information contained in this report represents Parks' best efforts to determine the presence of asbestos containing and other hazardous materials at the site given the project time and cost limitations. Parks warrants that its efforts are consistent with prevalent environmental and industrial hygiene standards for building hazardous material surveys and analytical work at this time and place.

Parks Environmental Consulting, Inc.

Environmental Specialist
MDH Asbestos Inspector

Date

Project Manager
MDH Asbestos Inspector

Date