

ASBESTOS-CONTAINING MATERIALS SURVEY

**3M EAST SIDE PLANT
BUILDING 2
935 BUSH AVENUE
ST. PAUL, MINNESOTA**

IHSC PROJECT NUMBER M07-493

Prepared by:

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**3M EAST SIDE PLANT - BUILDING 2
935 BUSH AVENUE
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1.0 EXECUTIVE SUMMARY

Industrial Hygiene Services Corporation (IHSC) conducted a building inspection for accessible asbestos-containing materials (ACM) in Building 2 at the 3M East Side Plant at 935 Bush Avenue, St. Paul, Minnesota. The inspection was performed to identify and quantify accessible materials that are known to contain, or are suspect of containing asbestos. The inspection did not include destructive sampling techniques and only accessible building materials were evaluated. Mr. Dan Meier, 3M Installation Services, requested IHSC's services.

Suspect materials identified and sampled included: various pipe insulation, various pipe fittings, air handling unit seam insulation, various vinyl floor tiles and adhesives, various ceiling tiles and adhesive, various baseboard adhesives, sheetrock and joint compound plaster walls and ceilings, skim coat, wall texture, black lab tops, lab sinks, transite fume hood liners, sink undercoating, window caulking, and window glazing.

No materials asbestos content was inferred from previous surveys. IHSC did assume a few materials to be asbestos containing. IHSC assumed the 1'x1' ceiling tile and adhesive, 1-4" pipe insulation and pipe fitting insulation, black floor tile adhesive, sink undercoatings, 12"x12" off white with black streaks floor tile, 12"x12" brown with white streaks floor tile, and black bench tops to be asbestos containing. Materials not specifically referred to in this report should be presumed to be ACM until sampling and analysis proves them to be otherwise.

Details of the survey findings including location, material identification, physical identification, quantities and sample results are presented on the enclosed tables in Appendix A, Asbestos Material Tables. Drawings of sample locations are contained in Appendix B.

2.0 INTRODUCTION

Industrial Hygiene Services Corporation (IHSC) was contracted to perform an inspection for known and suspect ACM at 935 Bush Avenue, St. Paul, Minnesota. The purpose of the survey was to define suspect asbestos-containing materials at Building 2 of the 3M East Side Plant.

The survey and sampling was performed to identify and estimate the quantity of ACM at Building 2. The inspection was performed using nondestructive sampling techniques. Accessible interior

building materials and components were inspected. Tom Sogard, John Martin, Karen Malkowski, Terry Johnson, Dave Plourde, Matt Lenz, and Tim Schmit of IHSC performed the building survey between June 1 and June 30, 2007. IHSC collected approximately one hundred eighty building material samples. IHSC sampled the various pipe insulation, various pipe fittings, air handling unit seam insulation, various vinyl floor tiles and adhesives, various ceiling tiles and adhesive, various baseboard adhesives, sheetrock and joint compound plaster walls and ceilings, skim coat, wall texture, black lab tops, lab sinks, transite fume hood liners, sink undercoating, window caulking, and window glazing. Results can be found in the enclosed tables in Appendix A, Asbestos Material Tables and in Appendix C, Asbestos Analytical Results.

The roofing materials were not sampled at the time of the inspection. Roofing materials should be assumed to contain asbestos until sampling verifies otherwise.

3.0 ASBESTOS BULK SAMPLE RESULTS

Representative bulk samples of suspect materials were collected throughout Building 2. Materials found to contain asbestos included:

- Various Pipe Insulation
- Various Pipe Fitting Insulation
- Air Handling Unit Seam Insulation
- Various Floor Tiles and Adhesive
- Skim Coat
- Window Glazing
- Transite Fume Hood Liner
- Transite Walls and Ceilings

The materials above were found to contain asbestos using Environmental Protection Agency (EPA) definitions. Materials not specifically referred to in this report should be presumed to be ACM until sampling and analysis proves them to be otherwise.

Locations, materials identification, physical identification, quantities, and analytical results are summarized in Appendix A, Asbestos Material Tables. Sample locations are summarized in Appendix B, Floor Plans of Sample Locations.

4.0 METHODOLOGY

Suspect ACM was categorized into three (3) principle material groupings: surfacing material, (sprayed-on or troweled-on material) thermal system insulation, or miscellaneous materials (e.g. flooring, ceiling tiles, wallboards).

Suspect ACM was further categorized into homogeneous-material types. A homogeneous-material type is defined as a suspect ACM that has the same visual appearance (same color, texture, and pattern) and appeared to be installed during the same general period of time. Materials are also categorized as friable or non-friable; friable materials are those that can be crushed, pulverized, or reduced to a powder by hand pressure when dry.

IHSC personnel who performed the building survey and sampling have completed, at a minimum, an EPA-approved training course in Asbestos Survey and the applicable refresher training courses. Copies of the asbestos inspector certifications are enclosed in Appendix D.

5.0 LIMITATIONS OF ASBESTOS SURVEY/REMARKS

Any discussion or recommendations contained in this report represent our professional opinions. These opinions are based on currently available information and are arrived at in accordance with currently accepted industrial hygiene practices at this time and location. Other than this, no guarantee is implied or intended.

Every effort was made to completely identify suspect materials using non-destructive techniques at Building 2, 935 Bush Avenue, St. Paul, Minnesota. Evaluation was based on past experience with similar materials, similar buildings, similar budgeting, and time constraints. Inspection of these areas may be necessary for renovation or demolition. IHSC maintains that materials observed and quantified are factual and accurate.

This report was prepared by

INDUSTRIAL HYGIENE SERVICES CORPORATION



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Minnesota Department of Health Asbestos Inspector Card Number AI3806

Date: 8/29/07

APPENDIX A
ASBESTOS MATERIAL TABLES

Building Name: Building 2, 3M Main Plant

IHSC Project No.: M07-493

Survey Date: June 12, 2007



Location	Material Identification	Physical ID	Quantity	Units	Sample #	Results
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BASEMENT

Room 59	1-4" Pipe Insulation-Above Ceiling Tile	White Fibrous	85	Linear Feet	79A	30% Chrysotile 15% Amosite
	1-4" Pipe Fitting Insulation-Above Ceiling Tile	White Fibrous	19	Each	78A	30% Amosite
	1' x 2' Ceiling Tile	Fissure	345	Square Feet	7A	None Detected
	12" x 12" Floor Tile	Black with White	60	Square Feet	67A	None Detected
	Floor Tile Mastic	Yellow	60	Square Feet	68A	None Detected
	12" x 12" Floor Tile	Gray Mottled	285	Square Feet	39A,B	None Detected
	Floor Tile Mastic	Yellow	285	Square Feet	40A,B	None Detected
	Baseboard Adhesive	Tan	75	Linear Feet	23A	None Detected
	Adhesive	Brown	1	Square Feet	22A	None Detected
	Sheetrock	Wall	490	Square Feet	18*	None Detected
Window Caulk	Gray	3	Each	30A	None Detected	

Room 1*	1-4" Pipe Insulation-Above Ceiling Tile	White Fibrous	10	Linear Feet	79*	30% Chrysotile 15% Amosite
	6-8" Pipe Insulation-Above Ceiling Tile	White Fibrous	10	Linear Feet	75*	35% Amosite
	1' x 2' Ceiling Tile	Fissure	135	Square Feet	7*	None Detected
	12" x 12" Floor Tile	Gray Mottled	135	Square Feet	39*	None Detected
	Floor Tile Mastic	Yellow Mastic	135	Square Feet	40*	None Detected
	Baseboard Adhesive	Brown	50	Linear Feet	22*	None Detected
Sheetrock	Wall	400	Square Feet	18*	None Detected	

Room 2*	1-4" Pipe Insulation-Above Ceiling Tile	White Fibrous	18	Linear Feet	79*	30% Chrysotile 15% Amosite
	1-4" Pipe Fitting Insulation-Above Ceiling Tile	White Fibrous	6	Each	78*	30% Amosite

* = This result is inferred as consistent with an analyzed sample of the same material from another area.

Rooms labeled with an asterisk (*) indicate IHSC named the room.

Location	Material Identification	Physical ID	Quantity	Units	Sample #	Results
Room 2*	1' x 2' Ceiling Tile	Fissure	120	Square Feet	7*	None Detected
	12" x 12" Floor Tile	Black with White	23	Square Feet	67B	None Detected
	Floor Tile Mastic	Yellow	23	Square Feet	68B	None Detected
	12" x 12" Floor Tile	Gray Mottled	97	Square Feet	39C	None Detected
	Floor Tile Mastic	Yellow	97	Square Feet	40C	None Detected
	Baseboard Adhesive	Brown	35	Linear Feet	22*	None Detected
	Sheetrock	Wall	375	Square Feet	18*	None Detected
	Window Caulk	Gray	1	Square Feet	30*	None Detected

Room 65A	1-4" Pipe Insulation-Above Ceiling Tile	White Fibrous	65	Linear Feet	79*	30% Chrysotile
	1-4" Pipe Fitting Insulation-Above Ceiling Tile	White Fibrous	7	Each	78*	15% Amosite
	6-8" Pipe Insulation-Above Ceiling Tile	White Fibrous	25	Linear Feet	75A	30% Amosite
	12" Pipe Insulation-Above Ceiling Tile	Cardboard	16	Linear Feet	73A,B	35% Amosite
	12" Pipe Fitting Insulation-Above Ceiling Tile	Gray Fibrous	4	Each	77A	None Detected
	1' x 2' Ceiling Tile	Fissure	615	Square Feet	7B	20% Chrysotile
	1' x 1' Ceiling Tile	Fissure	12	Square Feet	1A,B,C	None Detected
	12" x 12" Floor Tile	Black with White	100	Square Feet	67C	None Detected
	Floor Tile Mastic	Yellow	100	Square Feet	68C	None Detected
	12" x 12" Floor Tile	Gray Mottled	525	Square Feet	39*	None Detected
	Floor Tile Mastic	Yellow	525	Square Feet	40*	None Detected
	Baseboard Adhesive	Tan	100	Square Feet	23*	None Detected
	Sink Undercoat	Blue	1	Linear Feet	33A	None Detected
	Sheetrock	Wall	800	Each	18*	None Detected
Window Caulk	Gray	3	Square Feet	30B	None Detected	

Room 3*	1-4" Pipe Insulation-Above Ceiling Tile	White Fibrous	75	Square Feet	79*	30% Chrysotile
	1-4" Pipe Fitting Insulation-Above Ceiling Tile	White Fibrous	3	Each	78*	15% Amosite
	6-8" Pipe Insulation-Above Ceiling Tile	White Fibrous	225	Linear Feet	75*	30% Amosite
	6-8" Pipe Fitting Insulation-Above Ceiling Tile	White Fibrous	13	Each	74*	35% Amosite
	12" Pipe Insulation-Above Ceiling Tile	Cork and Tar	75	Linear Feet	72A,B,C	None Detected
	12" Pipe Fitting Insulation-Above Ceiling Tile	Gray Fibrous	10	Each	77B,C	20% Chrysotile
	1' x 2' Ceiling Tile	Fissure	2400	Square Feet	7C	None Detected
	1' x 2' Ceiling Tile	Rough	5	Square Feet	6A	None Detected

* = This result is inferred as consistent with an analyzed sample of the same material from another area.

Rooms labeled with an asterisk (*) indicate IHSC named the room.

Location	Material Identification	Physical ID	Quantity	Units	Sample #	Results
Room 3*	12" x 12" Floor Tile	Tan with Brown and White Streaks	880	Square Feet	69A,B	None Detected
	Floor Tile Mastic	Yellow	880	Square Feet	70A,B	None Detected
	Baseboard Adhesive	Tan	170	Linear Feet	23*	None Detected
	Sheetrock	Wall	1700	Square Feet	18*	None Detected
Room 51	12" Pipe Insulation	Cork and Tar	15	Linear Feet	72*	None Detected
	Sheetrock	Wall	25	Square Feet	18*	None Detected
Room 74	12" Pipe Insulation-Above Ceiling Tile	Cardboard	25	Linear Feet	73*	None Detected
	1' x 2' Ceiling Tile	Fissure	135	Square Feet	7*	None Detected
	9" x 9" Floor Tile	Gray with Black and White Streaks	135	Square Feet	43*	15% Chrysotile
	Floor Tile Mastic	Black	135	Square Feet	44*	None Detected
	Baseboard Adhesive	Tan	45	Linear Feet	23*	None Detected
	Sheetrock	Wall	185	Square Feet	18*	None Detected
Room 70	12" Pipe Insulation-Above Ceiling Tile	Cardboard	65	Linear Feet	73*	None Detected
	1' x 2' Ceiling Tile	Fissure	285	Square Feet	7*	None Detected
	9" x 9" Floor Tile	Gray with Black and White Streaks	285	Square Feet	43*	15% Chrysotile
	Floor Tile Mastic	Black	285	Square Feet	44*	None Detected
	Baseboard Adhesive	Tan	75	Linear Feet	23*	None Detected
	Sheetrock	Wall	575	Square Feet	18*	None Detected
Hallway 1*	1' x 2' Ceiling Tile	Fissure	315	Square Feet	7*	None Detected
	12" x 12" Floor Tile	Tan with Brown and White Streaks	315	Square Feet	69C	None Detected
	Floor Tile Mastic	Black	315	Square Feet	50A	None Detected
	Floor Tile Mastic	Yellow	315	Square Feet	70C	None Detected
	Baseboard Adhesive	Tan	140	Linear Feet	23*	None Detected
	Sheetrock	Wall	1080	Square Feet	18*	None Detected
Room 76	12" Pipe Insulation-Above Ceiling Tile	Cardboard	40	Linear Feet	73*	None Detected
	12" Pipe Fitting Insulation-Above Ceiling Tile	Gray Fibrous	3	Each	77*	20% Chrysotile
	1' x 2' Ceiling Tile	Fissure	190	Square Feet	7*	None Detected

* = This result is inferred as consistent with an analyzed sample of the same material from another area.

Rooms labeled with an asterisk (*) indicate IHSC named the room.

Location	Material Identification	Physical ID	Quantity	Units	Sample #	Results
Room 76	1' x 2' Ceiling Tile	Rough	10	Square Feet	6B,C	None Detected
	Baseboard Adhesive	Tan	30	Linear Feet	23*	None Detected
Mechanical Room 1*	1-4" Pipe Insulation	White Fibrous	210	Linear Feet	79B	30% Chrysotile 15% Amosite
	1-4" Pipe Fitting Insulation	White Fibrous	55	Each	78B	30% Amosite
	6-8" Pipe Insulation	White Fibrous	405	Linear Feet	75B	35% Amosite
	6-8" Pipe Fitting Insulation	White Fibrous	45	Each	74A	35% Amosite
	12" Pipe Insulation	White Fibrous	20	Linear Feet	75*	35% Amosite
	12" Pipe Fitting Insulation	White Fibrous	2	Each	76A,B	30% Chrysotile 20% Amosite
	Air Handling Seam Insulation Transite	Gray Fibrous Ceiling	700 1260	Linear Feet Square Feet	71A,B,C 36A	50% Chrysotile 25% Chrysotile
Room 85	12" x 12" Floor Tile	Tan Mottled	350	Square Feet	48A,B	None Detected
	Floor Tile Mastic	Yellow	350	Square Feet	49A,B	None Detected
	Baseboard Adhesive	Tan	75	Linear Feet	23*	None Detected
	Sheetrock	Wall and Ceiling	930	Square Feet	16*	None Detected
Room 4*	1-4" Pipe Fitting Insulation Patch on Fiberglass-Above Ceiling Tile	Gray	1	Each	84A	5% Chrysotile
	1-4" Pipe Insulation-Above Ceiling Tile	White Fibrous	75	Linear Feet	79*	30% Chrysotile 15% Amosite
	6-8" Pipe Insulation-Above Ceiling Tile	White Fibrous	115	Linear Feet	75*	35% Amosite
	1' x 2' Ceiling Tile	Fissure	2900	Square Feet	7*	None Detected
	12" x 12" Floor Tile	Tan with Brown and White Streaks	290	Square Feet	69*	None Detected
	Floor Tile Mastic	Yellow	290	Square Feet	70*	None Detected
	9" x 9" Floor Tile	Gray with Black and White Streaks	315	Square Feet	43A,B,C	15% Chrysotile
	Floor Tile Mastic	Black	315	Square Feet	44A,B,C	None Detected
	Baseboard Adhesive	Off White	40	Linear Feet	20A	None Detected
	Baseboard Adhesive	Dark Brown	40	Linear Feet	21A	None Detected
	Sheetrock	Wall	1200	Square Feet	18*	None Detected
Window Caulk	Gray	5	Each	30*	None Detected	

* = This result is inferred as consistent with an analyzed sample of the same material from another area.

Rooms labeled with an asterisk (*) indicate IHSC named the room.

Location	Material Identification	Physical ID	Quantity	Units	Sample #	Results
Room 36A	6-8" Pipe Insulation-Above Ceiling Tile	White Fibrous	20	Linear Feet	75*	35% Amosite
	6-8" Pipe Fitting Insulation-Above Ceiling Tile	White Fibrous	2	Each	74*	35% Amosite
	1"x2' Ceiling Tile	Fissure	165	Square Feet	7*	None Detected
	Baseboard Adhesive	Dark Brown	60	Linear Feet	21*	None Detected
	12"x12" Floor Tile	Tan Mottled	165	Square Feet	48C	None Detected
	Floor Tile Mastic	Black	165	Square Feet	85A	Assumed Asbestos
	Sheetrock	Wall	440	Square Feet	18*	None Detected
	Window Caulking	Gray	1	Each	30*	None Detected
Room 24	Transite	Wall	80	Square Feet	37A	25% Chrysotile
Room 5*	6-8" Pipe Insulation-Above Ceiling Tile	White Fibrous	110	Linear Feet	75*	35% Amosite
	6-8" Pipe Fitting Insulation-Above Ceiling Tile	White Fibrous	13	Each	74*	35% Amosite
	1' x 2' Ceiling Tile	Fissure	1315	Square Feet	7*	None Detected
	12" x 12" Floor Tile	Tan with Brown and White Streaks	225	Square Feet	69*	None Detected
	Floor Tile Mastic	Yellow	225	Square Feet	70*	None Detected
	Sheetrock	Wall	1000	Square Feet	18*	None Detected
	Window Caulk	Gray	7	Each	30*	None Detected
Hallway 2*	12" Pipe Insulation-Behind North Wall	Cardboard	20	Linear Feet	73*	None Detected
	1' x 2' Ceiling Tile	Fissure	310	Square Feet	7*	None Detected
	2' x 2' Ceiling Tile	Fissure	90	Square Feet	9A	None Detected
	12" x 12" Floor Tile	Tan with Brown and White Streaks	400	Square Feet	69*	None Detected
	Floor Tile Mastic	Yellow	400	Square Feet	70*	None Detected
	Baseboard Adhesive	Tan	100	Linear Feet	23*	None Detected
	Sheetrock	Wall	650	Square Feet	18*	None Detected
Room 6*	6-8" Pipe Insulation-Above Ceiling Tile	White Fibrous	80	Linear Feet	75*	35% Amosite
	6-8" Pipe Fitting Insulation-Above Ceiling Tile	White Fibrous	15	Each	74*	35% Amosite
	1' x 2' Ceiling Tile	Fissure	850	Square Feet	7*	None Detected
	12" x 12" Floor Tile	Tan with Brown and White Streaks	850	Square Feet	69*	None Detected
	Floor Tile Mastic	Black	850	Square Feet	70*	None Detected
	Baseboard Adhesive	Dark Brown	120	Linear Feet	21*	None Detected

* = This result is inferred as consistent with an analyzed sample of the same material from another area.

Rooms labeled with an asterisk (*) indicate IHSC named the room.