

ASBESTOS-CONTAINING MATERIALS SURVEY

**3M EAST SIDE PLANT
BUILDING 42
900 BUSH AVENUE
ST. PAUL, MINNESOTA**

IHSC PROJECT NUMBER M07-493

Prepared by:

**INDUSTRIAL HYGIENE SERVICES CORPORATION
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August 30, 2007

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ASBESTOS-CONTAINING MATERIALS SURVEY

**3M EAST SIDE PLANT - BUILDING 42
900 BUSH AVENUE
ST. PAUL, MINNESOTA 55133
IHSC PROJECT NUMBER M07-493**

1.0 EXECUTIVE SUMMARY

Industrial Hygiene Services Corporation (IHSC) conducted a building inspection for accessible asbestos-containing materials (ACM) in Building 42 at the 3M East Side Plant at 900 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, cork wallboard and adhesive, wall plaster, cork, tar adhesive, various ceiling tiles and adhesives, various floor tiles and adhesives, various baseboard adhesives, ceramic tile adhesive, black sink undercoating, textures wall paper, gray floor till, transite panels, black window glazing, white window glazing, Tar on duct insulation, and brown duct adhesive.

Some materials were inferred from previous surveys. Materials inferred included most pipe insulation and fittings, and fireproofing. IHSC also assumed a few materials to be asbestos containing. IHSC assumed the following materials to contain asbestos; sheetrock and joint compound, plaster walls and ceilings. 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 900 Bush Avenue, St. Paul, Minnesota. The purpose of the survey was to define suspect asbestos-containing materials at Building 42 of the 3M East Side Plant.

The survey and sampling was performed to identify and estimate the quantity of ACM at Building 42. 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, Tim Schmit and Matt Lenz of IHSC performed the building survey between June 1 and June 22, 2007. IHSC collected approximately ninety building material samples. IHSC sampled the various pipe insulation, various pipe fittings, cork wallboard and adhesive, wall plaster, cork, tar adhesive, various ceiling tiles and adhesives, various floor tiles and adhesives, various baseboard adhesives, ceramic tile adhesive, black sink undercoating, textures wall paper, gray floor till, transite panels, black window glazing, white window glazing, Tar on duct insulation, and brown duct adhesive. 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 42. Materials found to contain asbestos included:

- Various Pipe Insulation (Some sampled others inferred)
- Various Pipe Fitting Insulation (Some sampled others inferred)
- Fireproofing (Inferred)
- Cork Wall Adhesive
- Basement Wall Plaster
- Brown Ceiling Tile Adhesive
- Various Floor Tiles and Adhesive
- Black Sink Undercoating
- Gray Floor Till
- Transite Panels
- Black Window Glazing
- White Window Glazing
- Tarpaper on Fiberglass Duct
- Tar on Fiberglass Duct Insulation
- Sheetrock and Joint Compound (Assumed)
- Plaster Walls and Ceilings (Assumed)

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 42, 900 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.

Asbestos-Containing Material Survey
3M East Side Plant – Building 42
St. Paul, Minnesota
IHSC Project Number: M07-493
August 30, 2007

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This report was prepared by

INDUSTRIAL HYGIENE SERVICES CORPORATION



Date: 8/30/07

Nicholas S. Mueller

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Minnesota Department of Health Asbestos Inspector Card Number AI3806

APPENDIX A

ASBESTOS MATERIAL TABLES

Building Name: Building 42, 3M Main Plant

IHSC Project No.: M07-493

Survey Date: July 24, 2007



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Location	Material Identification	Physical ID	Quantity	Units	Sample #	Results
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Basement

West Mechanical Room	1-4" Pipe Insulation	White Fibrous	306	Linear Feet	B0313	10%Chrysotile 40%Amosite
	1-4" Pipe Fitting Insulation on White Fibrous	White Fibrous	39	Each	B0316	24%Chrysotile 16%Amosite
	> 4" Pipe Insulation	White Fibrous	626	Linear Feet	B0307	18%Chrysotile 32%Amosite
	> 4" Pipe Fitting Insulation on White Fibrous	White Fibrous	65	Each	B0310	20%Chrysotile 25%Amosite
	1-4" Pipe Insulation	Felt	70	Linear Feet	B0337	18%Chrysotile
	1-4" Pipe Fitting Insulation on Felt	Gray Fibrous	4	Each	B0341	9%Chrysotile 18%Amosite
	> 4" Pipe Insulation	Felt	114	Linear Feet	B0331	3%Chrysotile
	> 4" Pipe Fitting Insulation on Felt	Gray Fibrous	1	Each	B0334	13%Chrysotile 16%Amosite
	1-4" Pipe Fitting Insulation on Fiberglass	Gray Fibrous	6	Each	B0341	9%Chrysotile 18%Amosite
	> 4" Pipe Fitting Insulation on Fiberglass	Gray Fibrous Cork	13	Each	1A	None Detected
	> 4" Pipe Insulation	Cork	311	Linear Feet	B0326	None Detected
	> 4" Pipe Fitting Insulation on Cork	Gray Fibrous	12	Each	B0328	17%Chrysotile 16%Amosite
	Fireproofing	Ceiling	5126	Square Feet	B0284	12%Chrysotile
	Plaster	Wall	3840	Square Feet	4A	2% Chrysotile (3% white layer)
Cork Wall	Under Plaster	3840	Square Feet	2A	None Detected	

* = This result is inferred as consistent with an analyzed sample of the same material from another area.
NSMO = No Suspect Materials Observed.
Samples starting with B are samples taken in previous surveys.

Location	Material Identification	Physical ID	Quantity	Units	Sample #	Results
	Cork Adhesive	Black	3840	Square Feet	3A	3% Chrysotile
East Mechanical Room	1-4" Pipe Insulation	White Fibrous	492	Linear Feet	B0313	10%Chrysotile 40%Amosite
	1-4" Pipe Fitting Insulation on White Fibrous	White Fibrous	56	Each	B0316	24%Chrysotile 16%Amosite
	> 4" Pipe Insulation	White Fibrous	198	Linear Feet	B0307	18%Chrysotile 32%Amosite
	> 4" Pipe Fitting Insulation on White Fibrous	White Fibrous	24	Each	B0310	20%Chrysotile 25%Amosite
	1-4" Pipe Insulation	Felt	600	Linear Feet	B0337	18%Chrysotile
	1-4" Pipe Fitting Insulation on Felt	Gray Fibrous	57	Each	B0341	9%Chrysotile 18%Amosite
	> 4" Pipe Insulation	Felt	78	Linear Feet	B0369	11%Chrysotile
	> 4" Pipe Fitting Insulation on Felt	Gray Fibrous	7	Each	B0372	60%Chrysotile 5%Amosite
	> 4" Pipe Insulation	Cork	269	Linear Feet	B0326	None Detected
	> 4" Pipe Fitting Insulation on Cork	Gray Fibrous	13	Each	B0328	17%Chrysotile 16%Amosite
	Fireproofing	Ceiling	4583	Square Feet	B0358	25%Chrysotile 2% Chrysotile (3% white layer)
	Plaster	Wall	1935	Square Feet	4*	None Detected
	Cork Wall	Under Plaster	1935	Square Feet	2*	None Detected
	Cork Adhesive	Black	1935	Square Feet	3*	3% Chrysotile
	Tar Paper on Fiberglass	On Ducting	180	Square Feet	74A	5% Chrysotile
	Electrical Room	1-4" Pipe Insulation	White Fibrous	21	Linear Feet	B0313
1-4" Pipe Fitting Insulation on White Fibrous		White Fibrous	12	Each	B0316	24%Chrysotile 16%Amosite
> 4" Pipe Insulation		White Fibrous	26	Linear Feet	B0307	18%Chrysotile 32%Amosite
> 4" Pipe Fitting Insulation on White Fibrous		White Fibrous	3	Each	B0310	20%Chrysotile 25%Amosite
Plaster		Wall	375	Square Feet	4*	2% Chrysotile (3% white layer)

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Location	Material Identification	Physical ID	Quantity	Units	Sample #	Results
	Cork Wall	Under Plaster	375	Square Feet	2*	None Detected
	Cork Adhesive	Black Wall	375	Square Feet	3*	3% Chrysotile
	Sheetrock	Wall	81	Square Feet	Not Sampled	Assumed Asbestos
West Mech. Rm. Entrance	2' x 4' Ceiling Tile	Pinhole Fissure	60	Square Feet	27A	None Detected
	12" x 12" Floor Tile	Brown Mottled Black	98	Square Feet	55A	None Detected
	Floor Tile Adhesive	Black	98	Square Feet	56A	7% Chrysotile
	Plaster (Smooth)	Wall and Ceiling	626	Square Feet	4A	2% Chrysotile (3% white layer)
	Base Board Adhesive	Brown	42	Linear Feet	62A	None Detected
	Floor Fill	Gray	98	Square Feet	68A	10% Chrysotile
	1-4" Pipe Insulation	Felt	42	Linear Feet	B0337	18%Chrysotile
West Mech. Rm. Bathroom	Plaster (Smooth)	Wall and Ceiling	626	Square Feet	4*	2% Chrysotile (3% white layer)
West Mech. Rm. Bathroom Pipe Chase	1-4" Pipe Insulation	Felt	40	Linear Feet	B0337	18%Chrysotile
	1-4" Pipe Fitting Insulation on Felt	Gray Fibrous	6	Each	B0341	9%Chrysotile 18%Amosite
Women's Restroom	Plaster (Smooth)	Wall and Ceiling	206	Square Feet	4A	2% Chrysotile (3% white layer)
Office 1	9" x 9" Floor Tile	Brown w/ Orange	144	Square Feet	32A	4% Chrysotile
	Floor Tile Adhesive	Black Wall	144	Square Feet	33A	10% Chrysotile
	Sheetrock	Tan	480	Square Feet	Not Sampled	Assumed Asbestos
	Base Board Adhesive	Longitudinal PH Fissure	12	Linear Feet	61*	None Detected
	2' x 4' Ceiling Tile		144	Square Feet	29A	None Detected
Office 2	9" x 9" Floor Tile	Brown w/ Orange	144	Square Feet	32*	4% Chrysotile
	Floor Tile Adhesive	Black Wall	144	Square Feet	33*	10% Chrysotile
	Sheetrock	Tan	480	Square Feet	Not Sampled	Assumed Asbestos
	Base Board Adhesive	Longitudinal PH Fissure	24	Linear Feet	61*	None Detected
	2' x 4' Ceiling Tile		144	Square Feet	29*	None Detected

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Location	Material Identification	Physical ID	Quantity	Units	Sample #	Results
Office 3	9" x 9" Floor Tile Floor Tile Adhesive Sheetrock Base Board Adhesive 2' x 4' Ceiling Tile	Brown w/ Orange Black Wall Tan Longitudinal PH Fissure	88	Square Feet	32*	4% Chrysotile
			88	Square Feet	33*	10% Chrysotile
			380	Square Feet	Not Sampled	Assumed Asbestos
			19	Linear Feet	61A	None Detected
			88	Square Feet	29*	None Detected
Office 4	9" x 9" Floor Tile Floor Tile Adhesive Sheetrock Base Board Adhesive 2' x 4' Ceiling Tile	Brown w/ Orange Black Wall Tan Longitudinal PH Fissure	132	Square Feet	32*	4% Chrysotile
			132	Square Feet	33*	10% Chrysotile
			460	Square Feet	Not Sampled	Assumed Asbestos
			12	Linear Feet	61*	None Detected
			132	Square Feet	29*	None Detected
Conference Room	9" x 9" Floor Tile Floor Tile Adhesive Sheetrock Base Board Adhesive 2' x 4' Ceiling Tile	Brown w/ Orange Black Wall Tan Longitudinal PH Fissure	418	Square Feet	32*	4% Chrysotile
			418	Square Feet	33*	10% Chrysotile
			800	Square Feet	Not Sampled	Assumed Asbestos
			22	Linear Feet	61*	None Detected
			418	Square Feet	29*	None Detected
Open Office Area	9" x 9" Floor Tile Floor Tile Adhesive Sheetrock Base Board Adhesive 2' x 4' Ceiling Tile 1-4" Pipe Insulation > 4" Pipe Insulation	Brown w/ Orange Black Wall Tan Longitudinal PH Fissure Felt Cork	1976	Square Feet	32*	4% Chrysotile
			1976	Square Feet	33*	10% Chrysotile
				Square Feet	Not Sampled	Assumed Asbestos
			132	Linear Feet	61*	None Detected
			308	Square Feet	29*	None Detected
	Linear Feet	B0337	18% Chrysotile			
	Linear Feet	B0326	None Detected			
East Corridor	9" x 9" Floor Tile Floor Tile Adhesive Sheetrock Base Board Adhesive	Brown w/ Orange Black Wall Tan	300	Square Feet	32*	4% Chrysotile
			300	Square Feet	33*	10% Chrysotile
			1200	Square Feet	Not Sampled	Assumed Asbestos
			120	Linear Feet	61*	None Detected

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NSMO = No Suspect Materials Observed.
Samples starting with B are samples taken in previous surveys.

Location	Material Identification	Physical ID	Quantity	Units	Sample #	Results
East Corridor	2' x 4' Ceiling Tile	Longitudinal PH Fissure	300	Square Feet	29*	None Detected
	1-4" Pipe Insulation	Felt	54	Linear Feet	B0337	18%Chrysotile
	1-4" Pipe Fitting Insulation on Felt	Gray Fibrous	2	Each	B0341	9%Chrysotile
	> 4" Pipe Insulation	Cork	30	Linear Feet	B0326	18%Amosite
	> 4" Pipe Fitting Insulation on Cork	Gray Fibrous	3	Each	B0328	None Detected 17%Chrysotile 16%Amosite
South Corridor	9" x 9" Floor Tile	Brown w/ Orange	392	Square Feet	32*	4% Chrysotile
	Floor Tile Adhesive	Black	392	Square Feet	33*	10% Chrysotile
	Sheetrock	Wall	1120	Square Feet	Not Sampled	Assumed Asbestos
	Base Board Adhesive	Tan	224	Linear Feet	61*	None Detected
	2' x 4' Ceiling Tile	Longitudinal PH Fissure	392	Square Feet	29*	None Detected
Wall Hatch	NSMO					
Deli	Sheetrock	Wall and Ceiling	1596	Square Feet	Not Sampled	Assumed Asbestos
	Sink Undercoat	Black Felt	1	Each	66A	2% Chrysotile
	1-4" Pipe Insulation	Gray Fibrous	90	Linear Feet	B0337	18%Chrysotile
	1-4" Pipe Fitting Insulation on Felt	Cork	8	Each	B0341	9%Chrysotile
	> 4" Pipe Insulation	Gray Fibrous	48	Linear Feet	B0326	18%Amosite
	> 4" Pipe Fitting Insulation on Cork	White Fibrous	2	Each	B0328	None Detected
	1-4" Pipe Insulation	White Fibrous	36	Linear Feet	B0313	17%Chrysotile
> 4" Pipe Insulation	White Fibrous	72	Linear Feet	B0307	16%Amosite 10%Chrysotile 40%Amosite 18%Chrysotile 32%Amosite	
Elevator Lobby	Sheetrock	Wall	1120	Square Feet	Not Sampled	Assumed Asbestos
	2' x 2' Ceiling Tile	Pinhole	408	Square Feet	8A	None Detected
Kitchenette	Sheetrock	Wall	224	Square Feet	Not Sampled	Assumed Asbestos
	2' x 2' Ceiling Tile	Sheetrock	480	Square Feet	24A	None Detected

* = This result is inferred as consistent with an analyzed sample of the same material from another area.
NSMO = No Suspect Materials Observed.
Samples starting with B are samples taken in previous surveys.

Location	Material Identification	Physical ID	Quantity	Units	Sample #	Results
Wall Hatch	NSMO					
Dining Room Storage	Sheetrock 2' x 2' Ceiling Tile	Wall Pinhole	378 110	Square Feet Square Feet	Not Sampled 8*	Assumed Asbestos None Detected
Wall Hatch	NSMO					
Cafeteria	Sheetrock 2' x 2' Ceiling Tile 1-4" Pipe Insulation > 4" Pipe Insulation	Wall and Ceiling Pinhole Felt Cork	3656 3338 328 164	Square Feet Square Feet Linear Feet Linear Feet	Not Sampled 8* B0337 B0326	Assumed Asbestos None Detected 18%Chrysotile None Detected
Cafeteria Hallway	Sheetrock 2' x 2' Ceiling Tile 1-4" Pipe Insulation 1-4" Pipe Fitting Insulation on Felt > 4" Pipe Insulation > 4" Pipe Fitting Insulation on Felt 1-4" Pipe Insulation	Wall Pinhole Felt Gray Fibrous Felt Gray Fibrous White Fibrous	720 1620 6 2 19 6 180	Square Feet Square Feet Linear Feet Each Linear Feet Each Linear Feet	Not Sampled 8* B0337 B0341 B0331 B0334 B0313	Assumed Asbestos None Detected 18%Chrysotile 9%Chrysotile 18%Amosite 3%Chrysotile 13%Chrysotile 16%Amosite 10%Chrysotile 40%Amosite
Kitchen Hallway	1-4" Pipe Insulation 1-4" Pipe Fitting Insulation on White Fibrous 1-4" Pipe Insulation 1-4" Pipe Fitting Insulation on Felt Plaster (Smooth)	White Fibrous White Fibrous Felt Gray Fibrous Wall and Ceiling	214 24 21 7 626	Linear Feet Each Linear Feet Each Square Feet	B0313 B0316 B0337 B0341 Not Sampled	10%Chrysotile 40%Amosite 24%Chrysotile 16%Amosite 18%Chrysotile 9%Chrysotile 18%Amosite Assumed Asbestos
Kitchen Men's Restroom	Plaster (Smooth)	Wall and Ceiling	626	Square Feet	Not Sampled	Assumed Asbestos
Kitchen Women Restroom	Plaster (Smooth)	Wall and Ceiling	626	Square Feet	Not Sampled	Assumed Asbestos

* = This result is inferred as consistent with an analyzed sample of the same material from another area.
NSMO = No Suspect Materials Observed.
Samples starting with B are samples taken in previous surveys.