

**Angstrom Analytical &  
Environmental Services**

5501 Cedar Lake Rd.  
St. Louis Park, MN 55416  
952-252-0405 office  
952-252-0407 fax

Bill Buelow  
GMHC  
15 South Fifth Street Suite S710  
Minneapolis, MN 55402

March 18, 2013

7324 17th Ave S  
Richfield, MN

Steve Wallinga (AI1880), a representative of Angstrom Analytical, Inc., visited the above referenced property on March 18, 2013 for the purpose of conducting an asbestos renovation inspection. We are prepared to state that there are friable, category I and II non-friable asbestos containing building materials contained in or on the fabric of the structure.

The following materials tested positive for the presence of asbestos:

<b>Floor Tile &amp; Mastic</b>	<b>Window Glazing</b>	<b>Adhesive</b>
<b>TSI</b>	<b>Sink Undercoat</b>	

The friable materials are:

1. Approximately 2-3 linear feet of asbestos containing insuliton on A/C line in the basement.

The non-friable materials:

Category I:

2. Approximately 920-1040 square feet of asbestos containing 9x9 floor tile and mastic in the basement .
3. Approximately 15-20 square feet of asbestos containing adhesive on the wall in the basement.

Category II:

4. Approximately 11-12 windows with asbestos containing glazing compound on the exterior.
5. Approximately 1 sink with an asbestos containing undercoating, in the kitchen.

*(In order to maintain their integrity, the roofing materials and the vibration dampeners in the basement were not sampled and are assumed to be asbestos containing unless future testing proves otherwise).*

No samples other than from the fabric of the building that is planned for renovation were taken or analyzed and this report only relates only to 7324 17th Ave S. Sixty-nine samples of suspect building materials were collected and analyzed in our laboratory by Polarized Light Microscopy. Please see attached notes.

During the course of the survey the following hazardous materials were noted:

**Appliances**

1 A/C unit  
1 furnace  
1 water heater  
1 refrigerator  
1 dishwasher  
1 oven/stove  
1 dryer

**Mercury**

1 thermostat

**Deteriorated paint was noted, but not tested, on the exterior trim and bathroom ceiling.**

All friable and category II non-friable materials need to be removed, per applicable regulations, prior to and demolition efforts. Category I non-friable materials are allowed to be left in place for the demolition. However, the landfill must be made aware that the demolition debris will contain (minimal amounts of) category I non-friable asbestos containing material and is subject to the MPCA's rules and regulations pertinent to the demolition efforts (notifications, etc.). This survey should not be interpreted as a bidding document or as an asbestos project design. It is incumbent upon the contractor to verify quantities. Quantification of materials identified in this inspection report are approximations and based on observed quantities. Additional amounts of material may be present under floor, above ceilings and inside wall cavities and not fully quantified. For example, thermal system insulation identified in a basement may also exist inside wall cavities.

If you have any questions, please call us at the number above.

Sincerely,



Steve Wallinga  
Angstrom Analytical, Inc.



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Environmental Services**

**Material Identification Table**

Project #: On-site  
Date: March 18, 2013

5001 Cedar Lake Road  
St. Louis Park, MN 55416  
952-252-0405

Client: GMHC  
Address: 15 South Fifth Street Suite S710  
Minneapolis MN. 55402  
Phone: 612-339-0601 Ext.16  
Fax: bbuelow@gmhchousing.org

Project: Residential  
Address: 7324 17th Ave S  
Richfield, MN  
Contact: Bill Buelow  
Phone: 612-339-0601 Ext.16

N = no damage  
D = moderate damage  
SD = significant damage  
SF = square feet  
LF = linear feet

ND = none detected  
NS = Not Sampled  
NAC = not accessible  
EA = each  
NT = Not Tested

PD = potential damage  
PSD = potential for significant damage  
NS = Not Suspect  
NT = Not Tested

Sample #	Location	Material	Description	Asbestos / %	Quantity / Unit	Condition	Damage Potential	Rating
1-3	Basement -Mech.	Floor tile	9x9 grey	CHR 3%	120-140 SF	N	PD	1
4-6	Basement -Mech.	Mastic	Black	CHR 2%	120-140 SF	N	PD	1
7-9	Basement	Floor tile	9x9 brown	CHR 5%	800-900 SF	N	PD	1
10-12	Basement	Mastic	Black	CHR 2%	800-900 SF	N	PD	1
13-15	Basement	Ceiling Tile	tan w/pin holes	ND	50-60 SF	N	PD	0
16-18	Basement	Ceiling tile	white w/pin holes	ND	5-10 SF	N	PD	0
19-21	Basement	Ceiling tile	white w/holes	ND	800-900 SF	N	PD	0
22-24	Basement	Wall/Mirror adhesive	Black	CHR 3%	15-20 SF	N	PD	1
25-27	Main floor	Ceiling plaster -skim	White	ND	1600-1800 SF	N	PD	0
28-30	Main floor	Ceiling plaster -base	cementitious	ND	1600-1800 SF	N	PD	0
31-33	Main floor	Wall plaster -skim	White	ND	2000-2400 SF	N	PD	0
34-36	Main floor	Wall plaster -base	cementitious	ND	2000-2400 SF	N	PD	0
37-39	Living room	ceiling texture	white thin coat	ND	200-220 SF	N	PD	0
40-42	Entry & closet	Linoleum	Tan	ND	15-20 SF	N	PD	0
43-45	Kitchen	Sink Undercoat	Light pink	CHR 2%	1 EA	N	PD	1
46-48	Kitchen & closet	Linoleum	Grey	ND	120-140 SF	N	PD	0
49-51	Bathroom	Tile/Mortar/Grout -wall	White	ND	80-100 SF	N	PD	0
52-54	Bathroom	Tile/Mortar/Grout -floor	White	ND	50-60 SF	N	PD	0
55-57	Attic	insulation	Cellulose -grey	ND	1600-1800 SF	N	PD	0
58-60	Attic	insulation	Woolen / tan	ND	1600-1800 SF	N	PD	0
61-63	Exterior	Window Glazing	light grey	CHR 3%	11 EA	D	PD	1

CHR-Chrysothile  
AM-Amosite

TREM-Tremolite  
CROC-Crocidolite

ACT-Actinolite  
ANTH-Anthophyllite

B-basement  
K-kitchen  
M-mech.  
M-mech.

BR-bedroom  
BA-bath

H-hall  
M-mech.

DR-dining rm  
LR-living rm

FR-family rm  
G-garage

C-corridor  
U-utility  
ST-stairway



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Date:

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Address: 15 South Fifth Street Suite 710  
Minneapolis MN. 55402  
Phone: 612-339-0601 Ext.16  
Fax:

Project: Residential  
Address: 3339 Oliver Ave N  
Minneapolis, MN  
Contact: Bill Buelow  
Phone: 612-339-0601 Ext.16

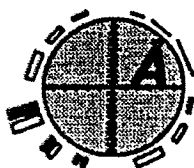
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SF = square feet  
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PD = potential damage  
PSD = potential for significant damage  
NS-Not Suspect  
NT-Not Tested

Sample #	Location	Material	Description	Asbestos / %	Quantity / Unit	Condition	Damage Potential	Rating
64-66	Exterior	Door & Window caulk	White	ND	13 EA	N	PD	0
67-69	Basement -mech	TSI - A/C line	Black/stickey	CHR 2%	2-3 LF	N	PD	2
NS	Basement -mech	Vibration Dampener	Dark cloth	NT -Assumed	2 EA	N	PD	2
NS	Exterior	Roofing	Shingles	NT -Assumed	2200-2400 SF	N	PD	1

CHR-Chrysotile	TREM-Tremolite	ACT-Actinolite	B-basement	BR-bedroom	H-hall	DR-dining rm	FR-family rm	C-corridor	CL-closet
AM-Amosite	CROC-Crocidolite	ANTH-Anthophyllite	K-kitchen	BA-bath	M-mech.	LR-living rm	G-garage	U-utility	ST-stairway



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**Analysis of Bulk Samples for Asbestos Using Polarized Light Microscopy (PLM)**

Bill Buelow  
GMHC  
15 South Fifth Street Suite S710  
Minneapolis, MN 55402

Re: 7324 17th Ave S

Number of Samples: 69

**Methods and Definitions**

*The submitted samples were analyzed using the EPA Interim Method #600/M4-82-020 (polarized light microscopy with dispersion staining). The method defines an asbestos containing material as one that contains greater than 1% asbestos by weight and asbestos is defined as the fibrous forms of serpentine and certain amphiboles. While the fibrous and non-fibrous forms of minerals are discernible microscopically in hand specimens, the distinction between them is not clear on a microscopic level, especially after processing or manufacturing. Fibrous amphiboles are generally those whose mean aspect ratios (length over width) under the microscope are approximately >10; non-fibrous amphiboles are generally those whose mean aspect ratios are approximately <6. During analysis, morphology and an estimate of mean aspect ratio are used to assign a given mineral fiber population to fibrous and non-fibrous categories. That non-fibrous amphiboles are not reported as asbestos is consistent with mineralogical definitions, but does not imply that non-fibrous amphiboles are not hazardous. Airborne concentrations of them may be regulated by OSHA under certain circumstances. The type of dispersion staining used is generally phase contrast, although central stop dispersion staining may also be used.*

**Percentage Reporting**

*The percentage of each fiber type present was determined using volume percents estimated from stereoscopic examination, projected area percents from mounted slide examination and percents from comparison to weight percent standards. Such estimations are suitable for most samples, but do have large error ranges. Errors are estimated to be 100 relative percent uncertainty for percentage estimates under 10% ranging down to as little as 10 relative percent uncertainty for percentage estimates greater than 50%. Friable samples which have been estimated by the above methods to contain less than 10% asbestos can be point-counted, according to the EPA Interim Methods, as required by NESHAPS. In low percentage samples, point counting may produce false negatives or positives, due to the small number of points counted. For samples consisting of more than one apparent type of material or layer, the percentage of each fiber type in each type of material or layer is determined and reported separately; an overall average for the sample of each fiber type is then calculated. The reported friability of a sample refers to that friability observed in the condition analyzed (broken, crushed, etc.), and is not to be substituted for an on-site assessment of friability. Each Angstrom Analytical lab report relates only to the sample tested and may not, due to the sampling process be representative of the material sampled.*

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Kevin Hagen, Angstrom Analytical, Inc.

March 18, 2013



**Angstrom Analytical &  
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**Asbestos Bulk Sample Chain of Custody**

5001 Cedar Lake Road  
St. Louis Park, MN 55416  
952-252-0405

Project # On-site  
Received: 3/18/2013 Analyzed: 3/21/2013

Client: GMHC  
Address: 15 South Fifth Street Suite S710  
Minneapolis MN. 55402

Project: Residential  
Address: 7324 17th Ave S  
Richfield, MN

Phone: bbelow@gmhousing.org  
Contact: Bill Buelow  
Phone: 612-339-0601 Ext.1



1	Basement -Mech.	Floor tile	9x9 grey	CHR 3%
2	Basement -Mech.	Floor tile	9x9 grey	CHR 3%
3	Basement -Mech.	Floor tile	9x9 grey	CHR 3%
4	Basement -Mech.	Mastic	Black	CHR 2%
5	Basement -Mech.	Mastic	Black	CHR 2%
6	Basement -Mech.	Mastic	Black	CHR 2%
7	Basement	Floor tile	9x9 brown	CHR 5%
8	Basement	Floor tile	9x9 brown	CHR 5%
9	Basement	Floor tile	9x9 brown	CHR 5%
10	Basement	Mastic	Black	CHR 2%
11	Basement	Mastic	Black	CHR 2%
12	Basement	Mastic	Black	CHR 2%
13	Basement	Ceiling Tile	tan w/pin holes	ND
14	Basement	Ceiling Tile	tan w/pin holes	ND
15	Basement	Ceiling Tile	tan w/pin holes	ND
16	Basement	Ceiling tile	white w/pin holes	ND
17	Basement	Ceiling tile	white w/pin holes	ND
18	Basement	Ceiling tile	white w/pin holes	ND
19	Basement	Ceiling tile	white w/holes	ND
20	Basement	Ceiling tile	white w/holes	ND
21	Basement	Ceiling tile	white w/holes	ND

CHR-Chrysotile  
AM-Amosite

TREM-Tremolite  
CROC-Crocidolite

ACT-Actinolite  
ANTH-Anthophyllite

NS-Not Suspect  
NT-Not Tested

ND-None Detected



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**Asbestos Bulk Sample Chain of Custody**

**5001 Cedar Lake Road** Project # On-site  
**St. Louis Park, MN 55416** Received: 3/18/2013 Analyzed: 3/21/2013  
**952-252-0405**

**Client:** GIMHC Project: Residential  
**Address:** 15 South Fifth Street S710 Address: 7324 17th Ave S  
 Minneapolis MN. 55402 Richfield, MN  
**Phone:** bbelow@gmhchousing.org Contact: Bill Buelow  
**Fax:** Phone: 612-339-0601 Ext.1

Sample No.	Location	Material	Color	Asbestos %
22	Basement	Wall/Mirror adhesive	Black	CHR 3%
23	Basement	Wall/Mirror adhesive	Black	CHR 3%
24	Basement	Wall/Mirror adhesive	Black	CHR 3%
25	Main floor	Ceiling plaster -skim	White	ND
26	Main floor	Ceiling plaster -skim	White	ND
27	Main floor	Ceiling plaster -skim	White	ND
28	Main floor	Ceiling plaster -base	cementitious	ND
29	Main floor	Ceiling plaster -base	cementitious	ND
30	Main floor	Ceiling plaster -base	cementitious	ND
31	Main floor	Wall plaster -skim	White	ND
32	Main floor	Wall plaster -skim	White	ND
33	Main floor	Wall plaster -skim	White	ND
34	Main floor	Wall plaster -base	cementitious	ND
35	Main floor	Wall plaster -base	cementitious	ND
36	Main floor	Wall plaster -base	cementitious	ND
37	Living room	ceiling texture	white thin coat	ND
38	Living room	ceiling texture	white thin coat	ND
39	Living room	ceiling texture	white thin coat	ND
40	Entry & closet	Linoleum	Tan	ND
41	Entry & closet	Linoleum	Tan	ND
42	Entry & closet	Linoleum	Tan	ND

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43	Kitchen	Sink Undercoat	Light pink	CHR 2%
44	Kitchen	Sink Undercoat	Light pink	CHR 2%
45	Kitchen	Sink Undercoat	Light pink	CHR 2%
46	Kitchen & closet	Linoleum	Grey	ND
47	Kitchen & closet	Linoleum	Grey	ND
48	Kitchen & closet	Linoleum	Grey	ND
49	Bathroom	Tile/Mortar/Grout -wall	White	ND
50	Bathroom	Tile/Mortar/Grout -wall	White	ND
51	Bathroom	Tile/Mortar/Grout -wall	White	ND
52	Bathroom	Tile/Mortar/Grout -floor	White	ND
53	Bathroom	Tile/Mortar/Grout -floor	White	ND
54	Bathroom	Tile/Mortar/Grout -floor	White	ND
55	Attic	insulation	Cellulose -grey	ND
56	Attic	insulation	Cellulose -grey	ND
57	Attic	insulation	Cellulose -grey	ND
58	Attic	insulation	Woolen / tan	ND
59	Attic	insulation	Woolen / tan	ND
60	Attic	insulation	Woolen / tan	ND
61	Exterior	Window Glazing	light grey	CHR 3%
62	Exterior	Window Glazing	light grey	CHR 3%
63	Exterior	Window Glazing	light grey	CHR 3%

CHR-Chrysotile  
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Minneapolis MN. 55402      Minneapolis, MN  
Phone:      Contact: Bill Buelow  
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64	Exterior	Door & Window caulk	White	ND
65	Exterior	Door & Window caulk	White	ND
66	Exterior	Door & Window caulk	White	ND
67	Basement -mech	TSI - A/C line	Black/stickey	CHR 2%
68	Basement -mech	TSI - A/C line	Black/stickey	CHR 2%
69	Basement -mech	TSI - A/C line	Black/stickey	CHR 2%

CHR-Chrysotile	TREM-Tremolite	ACT-Actinolite	NS-Not Suspect	ND-None Detected
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