

Limited Asbestos Inspection Summary

To:	Michael A. Ciofani, AIA NCARB
From:	Jeff Senn and Robert Peschel – Sigma
Project Number:	13110
Date:	May 21, 2012
RE:	VA Medical Center – Tomah Contract VA69D-P-0987 Consolidate Libraries and Construct Conference Room Building 401 First Floor, West Wing

Background

Chequamegon Bay Engineering, LLC (Chequamegon Bay) retained Sigma to conduct a supplemental pre-renovation asbestos survey at the VA Medical Center facility located in Tomah, Wisconsin. The purpose of the survey was to augment existing facility information in order to appropriately manage suspect asbestos-containing building materials (ACBM). Mr. Tom McCoy of Sigma, State of Wisconsin certified asbestos inspector (AII-117261), performed the supplemental survey on May 8, 2012. Mr. McCoy collected and submitted samples to Micro Analytical, Inc. (Micro) for polarized light microscopy (PLM) asbestos analysis.

Material Assessment Results

The VA previously identified Aircell pipe insulation, pipe fittings insulation, and transite panels as ACBM within the limits of renovation. The following materials were evaluated by Sigma for the presence of asbestos. The asbestos content is provided in parenthesis.

- Carpet mastic – tan (negative)
- Caulk – white on doorframe (4% asbestos)
- Caulk – white sink (negative)
- Ceiling tile and mastic – 12" white with fissures (negative)
- Ceramic tile, mortar, and grout – 1" beige/brown/cream (negative)
- Ceramic tile, mortar, and grout – 2" cream (negative)
- Ceramic tile, mortar, and grout – 4" cream w/gold flecks (negative)
- Ceramic tile, mortar, and grout – 4" cream (negative)
- Drywall and joint compound (1.5% asbestos by PLM point count in joint compound)
- Linoleum flooring and mastic – blue with swirls (5% asbestos in bottom mastic layer)
- Plaster (negative)
- Pyrobar block and mortar (negative)
- Suspended ceiling tile – 2'x4' White with holes & fissures (negative)
- Aircell Insulation – 2 to 5" diameter (40% asbestos)
- Fitting on Aircell Insulation – 2 to 5" (12% asbestos; Amosite present)
- Terrazzo – red with brown chips (7% asbestos in mastic)

PLM analysis revealed asbestos in the Aircell and fitting pipe insulation, caulk on doorframes, drywall joint compound, and linoleum and terrazzo flooring. Asbestos was not

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detected in the remaining materials evaluated. The analytical report and chain of custody are attached.

Estimated Material Quantities

The following provides the general quantities of ACBM identified by Sigma.

- Caulk – 50 linear feet on exterior door
- Drywall joint compound – 5,200 square feet throughout
- Linoleum floor – 50 square feet in main corridor

Attachment 1 contains the VA Tomah provided material inventory. The estimated quantities of ACBM provided above and in the VA Tomah “Asbestos Containing Building Material Inventory & Assessment” should be considered a preliminary quantity estimate for each identified ACBM. ***It is recommended that quantities of identified ACBMs be field verified by the abatement contractors bidding on the abatement activities.***

It should also be noted that the crawl space has been previously abated. ***The contractor is expected to field verify that non-suspect pipe insulation is present in the crawl space.***

Recommendation

The materials determined to contain greater than one percent asbestos as listed above are classified as ACBM and subject to the Wisconsin Department of Natural Resources Chapter NR 447 and the Wisconsin Department of Health Services Chapter 159 removal and disposal requirements. Removal of these materials should be performed in accordance with the state and federal rules and regulations.

Sigma also recommends that there is one individual on-site during abatement and demolition that is designated as a “Competent Person”. At a minimum, this individual shall be a State of Wisconsin certified asbestos supervisor familiar with applicable asbestos and hazardous material related regulations; have the experience to recognize potential work crew and environmental exposures; institute proper personal protective equipment and personnel monitoring as necessary; have the authority to stop work; and meet training requirements established by the State of Wisconsin. Discovery of suspect asbestos and/or other hazardous materials should be reported immediately to the Owner so that appropriate measures can be implemented. Further sampling of newly discovered materials may be required to confirm the presence of ACBM within walls and other areas that were not visible or reasonably accessible during the asbestos inspection. Any additional or ACBM discovered after this inspection is the responsibility of the building owner.

Attachments

1. VA Tomah “Asbestos Containing Building Material Inventory & Assessment”
2. Micro Analytical, Inc. Bulk Asbestos Analytical Report & Chain of Custody Documentation
3. Asbestos Inspector Certification

ATTACHMENT 1

VA Tomah

"Asbestos-Containing Building Material Inventory & Assessment

Building #401, 1st Floor

Changed

#	Homogeneous Location	Area	Material	Color	Condition Quant	Unit	Friable (Y/N)	Damage F %	Yes/No	Water	Air	Vib	Access	Damage	Cond.	Resp. Rate	Action	#
5A	Library Storage		Aircell pipe insulation	white/gray	18	lin.ft	n		Y	L	L	M	M	4%			3 O&M	
		1112	Pipe fitting insulation	white/gray	2	ea.	n		Y	L	L	M	M	4%			3 O&M	
	Note: Asbestos insulation is present above the suspended ceiling adjacent to the outdoor wall. Some of the insulation is within a pipe chase in the wall.																	
5B	Library Conf.		Aircell pipe insulation	white/gray	50	lin.ft	n		Y	L	L	M	M	4%			3 O&M	
		1110	Pipe fitting insulation	white/gray	18	ea.	n		Y	L	L	M	M	4%			3 O&M	
	Note: Asbestos insulation is present above the suspended ceiling adjacent to the outdoor wall. Some of the insulation is within a pipe chase in the wall. Note 2: Asbestos containing Transite (cement board) is present in the back of each exterior wall convector underneath windows																	
5C	Library Rm		Aircell pipe insulation	white/gray	25	lin.ft	n		Y	L	L	M	M	4%			3 O&M	
		1108	Pipe fitting insulation	white/gray	6	ea.	n		Y	L	L	M	M	4%			3 O&M	
	Note: Asbestos insulation is present above the suspended ceiling adjacent to the outdoor wall. Some of the insulation is within a pipe chase in the wall. Note 2: Asbestos containing Transite (cement board) is present in the back of each exterior wall convector underneath windows																	
5D	Library Stacks		Aircell pipe insulation	white/gray	150	lin.ft	n		Y	L	L	M	M	4%			3 O&M	
		1100	Pipe fitting insulation	white/gray	71	ea.	n		Y	L	L	M	M	4%			3 O&M	
	Note: Asbestos insulation is present above the suspended ceiling adjacent to the outdoor wall. Some of the insulation is within a pipe chase in the wall. Note 2: Asbestos containing Transite (cement board) is present in the back of each exterior wall convector underneath windows																	
5E	Library Office		Aircell pipe insulation	white/gray	160	lin.ft	n		Y	L	L	M	M	4%			3 O&M	
		1118	Pipe fitting insulation	white/gray	32	ea.	n		Y	L	L	M	M	4%			3 O&M	
			New linoleum	old tile present?	299	sq.ft	n		n								1 O&M	
Note: Asbestos insulation is present above the suspended ceiling adjacent to the outdoor wall. Some of the insulation is within a pipe chase in the wall.																		
5F	Library Reception		Aircell pipe insulation	white/gray	41	lin.ft	n		Y	L	L	M	M	4%			3 O&M	
		1109	Pipe fitting insulation	white/gray	9	ea.	n		Y	L	L	M	M	4%			3 O&M	
	Note: Asbestos insulation is present above the suspended ceiling adjacent to the outdoor wall. Some of the insulation is within a pipe chase in the wall. Note 2: Asbestos containing Transite (cement board) is present in the back of each exterior wall convector underneath windows																	
5G	Library Office		Aircell pipe insulation	white/gray	11	lin.ft	n		Y	L	L	M	M	4%			3 O&M	
		1113A	Pipe fitting insulation	white/gray	11	ea.	n		Y	L	L	M	M	4%			3 O&M	
	Note: Asbestos insulation is present above the suspended ceiling adjacent to the outdoor wall. Some of the insulation is within a pipe chase in the wall. Note 2: Asbestos containing Transite (cement board) is present in the back of each exterior wall convector underneath windows																	
6	Medical Library		Aircell pipe insulation	white/gray	250	lin.ft	n		Y	L	L	M	M	4%			3 O&M	
6A		1120	Pipe fitting insulation	white/gray	64	ea.	n		Y	L	L	M	M	4%			3 O&M	
Note: Asbestos insulation is present above the suspended ceiling adjacent to the outdoor wall. Some of the insulation is within a pipe chase in the wall. Note 2: Asbestos containing Transite (cement board) is present in the back of each exterior wall convector underneath windows																		

ATTACHMENT 2

**Micro Analytical, Inc. Bulk Asbestos Analytical Report
&
Chain of Custody Documentation**

May 8, 2012

MICRO ANALYTICAL, INC.

11521 West North Avenue
Milwaukee, WI 53226
(800) 771-9820 (414) 771-0855
Fax: (414) 771-6570

BULK ASBESTOS ANALYTICAL REPORT
Utilizing PLM and Dispersion Stain Technique

Customer: Sigma Environmental
Services, Inc.
1300 West Canal Street
Milwaukee, WI 53233

Report #: 117560
Received: 14-May-2012
Analyzed: 15-May-2012

Job ID: 131101

Sample ID	% Asbestos	Non-Asbestos Fibrous Components	Non-Fibrous Components	Color	Texture
01	None Detected		100%	Tan	Mastic
01 II	None Detected		100%	Brown	Mastic
02	None Detected		100%	Tan	Mastic
02 II	None Detected		100%	Brown	Mastic
03	None Detected	<1% Synthetic Fiber	100%	Tan	Mastic
04	<1% Chrysotile		100%	Off-White	Compact
04 II	None Detected	<1% Fibrous Glass 10% Cellulose	90%	Off-White	Compact
05	<1% Chrysotile		100%	Off-White	Compact
05 II	None Detected	5% Cellulose	95%	Tan	Compact
05 III	None Detected	<1% Fibrous Glass 10% Cellulose	90%	Off-White	Compact
06 II	None Detected	<1% Fibrous Glass 10% Cellulose	90%	Off-White	Compact
Comments: Drywall Only					
07	None Detected	35% Fibrous Glass 35% Cellulose	30%	Gray	Compressed
08	None Detected	35% Fibrous Glass 35% Cellulose	30%	Gray	Compressed
09	None Detected	20% Fibrous Glass 50% Cellulose	30%	Gray	Compressed
10	None Detected		100%	White	Compact
10 II	None Detected	<1% Hair	100%	Gray	Compact
11	None Detected		100%	Off-White	Compact

Sample ID	% Asbestos	Non-Asbestos Fibrous Components	Non-Fibrous Components	Color	Texture
11 II	None Detected		100%	White	Compact
11 III	None Detected		100%	Gray	Compact
12	None Detected		100%	White	Compact
12 II	None Detected		100%	Gray	Compact
13	None Detected		100%	White	Compact
13 II	None Detected	<1% Hair	100%	Gray	Compact
14	None Detected		100%	White	Compact
14 II	None Detected		100%	Gray	Compact
15	None Detected	50% Fibrous Glass 20% Cellulose	30%	Gray	Compressed
15 II	None Detected		100%	Brown	Mastic
16	None Detected	10% Cellulose	90%	Off-White	Compact
17	None Detected		100%	Blue	Linoleum
17 II	None Detected		100%	Tan	Mastic
17 III	None Detected		100%	Gray	Compact
17 IV	5% Chrysotile		95%	Black	Mastic
18	None Detected		100%	Multi- Colored	Compact
18 II	None Detected		100%	Tan	Mastic
18 III	7% Chrysotile		93%	Black	Mastic
19	None Detected		100%	Multi- Colored	Ceramic Tile
19 II	None Detected		100%	Off-White	Compact
19 III	None Detected		100%	Brown	Mastic
19 IV	None Detected		100%	Tan	Mastic
20	None Detected		100%	Multi- Colored	Ceramic Tile
20 II	None Detected		100%	Off-White	Compact
20 III	None Detected		100%	Brown	Mastic
20 IV	None Detected		100%	Tan	Mastic
21	None Detected		100%	Multi- Colored	Ceramic Tile
21 II	None Detected		100%	Off-White	Compact
21 III	None Detected		100%	Off-White	Mastic
21 IV	None Detected		100%	Brown	Mastic
21 V	None Detected		100%	Tan	Mastic

Sample ID	% Asbestos	Non-Asbestos Fibrous Components	Non-Fibrous Components	Color	Texture
22	None Detected		100%	Off-White	Ceramic Tile
22 II	None Detected		100%	Off-White	Compact
22 III	None Detected		100%	Tan	Mastic
23	None Detected		100%	Off-White	Ceramic Tile
23 II	None Detected		100%	Off-White	Compact
23 III	None Detected		100%	Tan	Mastic
24	None Detected		100%	Off-White	Ceramic Tile
24 II	None Detected		100%	Off-White	Compact
24 III	None Detected		100%	Tan	Mastic
25	None Detected		100%	Off-White	Ceramic Tile
25 II	None Detected		100%	Gray	Compact
25 III	None Detected		100%	Gray	Compact
26	None Detected		100%	Off-White	Ceramic Tile
26 II	None Detected		100%	Gray	Compact
26 III	None Detected		100%	Gray	Compact
27	None Detected		100%	Off-White	Ceramic Tile
27 II	None Detected		100%	Gray	Compact
27 III	None Detected		100%	Gray	Compact
28	None Detected		100%	Off-White	Ceramic Tile
28 II	None Detected		100%	Off-White	Compact
28 III	None Detected		100%	Tan	Mastic
29	None Detected		100%	Off-White	Ceramic Tile
29 II	None Detected		100%	Off-White	Compact
29 III	None Detected		100%	Tan	Mastic
30	None Detected		100%	Off-White	Ceramic Tile
30 II	None Detected		100%	Off-White	Compact
30 III	None Detected		100%	Tan	Mastic
31	40% Chrysotile	40% Cellulose	20%	Gray	Compressed
34	None Detected	85% Cellulose	15%	Tan	Woven
34 II	5% Chrysotile 7% Amosite		88%	Off-White	Compact
34 III	10% Chrysotile	50% Fibrous Glass 10% Cellulose	30%	Gray	Compact
37	None Detected		100%	Off-White	Resinous
37 II	4% Chrysotile		96%	Tan	Compact

Sample ID	% Asbestos	Non-Asbestos Fibrous Components	Non-Fibrous Components	Color	Texture
38	None Detected		100%	Tan	Resinous

Analyzed By: Kevin Hachey

Test method: EPA/600/R-93/116. Quantitation is done by Calibrated Visual Estimation which has an accepted Relative Percent Difference of 35. This report may not be used to claim product endorsement by NVLAP or any agency of the U.S. Government. This test report relates only to the items tested and shall not be reproduced except in full, without the written approval of MICRO ANALYTICAL, INC.

MICRO ANALYTICAL, INC.

11521 West North Avenue
Milwaukee, WI 53226
(800) 771-9820 (414) 771-0855
Fax: (414) 771-6570

BULK POINTCOUNT ANALYTICAL REPORT
Utilizing PLM and Dispersion Staining

Customer: Sigma Environmental
Services, Inc.
1300 West Canal Street
Milwaukee , WI 53233

Report #: 117647
Received: 14-May-2012
Analyzed: 18-May-2012

Job ID: 131101

Sample ID	% Asbestos	Asbestos Type	Color	Description
04	1.5	Chrysotile	Off-White	Compact

Analyzed By: Jon Yakish

Test method: EPA/600/R-93/116. Quantitation is done by Point Count Technique, which has an accepted Relative Percent Difference of 35.
This report may not be used to claim product endorsement by NVLAP or any agency of the U.S. Government. This test report relates only to
the items tested and shall not be reproduced except in full, without the written approval of MICRO ANALYTICAL, INC.

Micro Analytical, Inc.
11521 West North Avenue
Milwaukee, WI 53266
414-771-0855 * Fax 414-771-6570

Client: Sigma

Job ID: 13110

Samples: 38

Type: PCM (PLM) Lead TEM (circle one)

Sample ID	Date Collected	Location/Remarks
01-038	5/8/12	See Attached
		- Need by 5/15/12
		- Save all plaster, drywall, & ceramic tile

Relinquished by Date/Time

Received by Date/Time

Relinquished by Date/Time

Received by Date/Time

Relinquished by Date/Time

Received By Date/Time

Notes: Call Results # _____ Fax # _____

Name/Pager # _____ Other _____

SIGMA ENVIRONMENTAL SERVICES, INC.
1300 West Canal Street
Milwaukee, Wisconsin 53233

Supplemental Asbestos Chain of Custody

Project Number: 13110
Number of Samples: 38

In addition to the information provided on the laboratory chain of custody, Sigma requires the following (checked items only):

- ☒ When the laboratory observes an apparent discrepancy between Sigma's material description and the sample received by the laboratory, the laboratory shall flag the material description on the laboratory report and define on the laboratory report the specific discrepancy(s) noted.
- ☐ With the exception of drywall and joint compound samples, analyze and report each distinct and separable material layer unless otherwise instructed on the attached "Sigma Sample Material List" sheet(s). Laboratory to determine distinct and separable layers and provide layer descriptions for each individual layer.
- ☒ Analyze and report each distinct and separable material layer unless otherwise instructed on the attached "Sigma Sample Material List" sheet(s). Laboratory to determine distinct and separable layers and provide layer descriptions for each individual layer.
- ☒ Discontinue analysis of homogenous material upon determining that the material contains greater than one percent asbestos content. If the homogeneous material contains multiple layers, continue analysis of each layer until all samples have been analyzed or until it has been determined that the layer contains greater than one percent asbestos content. See item #4 for flooring system Positive Stop instructions.

For example, if Sigma submitted three roofing system samples and the top layer sample analysis revealed asbestos is present at greater than one percent, the top layer analysis would be discontinued but the underlying layer(s) analysis would continue until greater than one percent asbestos is detected or until all three underlying sample layers have been analyzed. This assumes, however, that the materials are in fact homogenous. Through microscopic examination, it may be determined by the analyst that there are additional layers not present in each sample. In that case, the individual sample layer should also be analyzed.

- ☒ **Flooring Systems (including floor tile systems, vinyl flooring systems, vinyl laminate systems, and stair tread systems):** Conduct analysis of the mastic layer(s) first. If analysis reveals greater than one percent asbestos content, discontinue analysis of the mastic layers and do not analyze the flooring material (tile, vinyl, laminate, etc.) Call Jeff Senn at (414) 643-4151 with specific questions.

Sigma Sample Material List

Page / of 1

Project: 13110 /
Building:Date: 5/8/12
Inspectors: TMCoy

Sample Number	Homogenous Material Code	Homogeneous Material Description	Functional Area/ Room Number	Location within Room
01	MCM	Carpet Mastic-Tan	1120	East Center
02	↓	↓	1113a	Northeast
03	↓	↓	1108	Northwest
04	MDWC	Drywall / Joint Compound	1120	East Center
05	↓	↓	1108	Northwest
06	↓	↓	1112	South Center
07	MSCT	Suspended Ceiling Tile	1120	East Center
08	↓	2'x4' Holes + Fissures	1113	Center
09	↓	↓	1108	Center
10	SPI	Plaster	1118	North Center
11	↓	↓	1116	Northwest
12	↓	↓	1113a	Northeast
13	↓	↓	1113	West Center
14	↓	↓	1108	East Center
15	MCT	Ceiling Tile/Mastic 12"x12" Fissures	1113a	Southwest
16	MPB	Pyro-Bar	1113	West Center
17	MLV	Linoleum Flooring-Blue w/ Swirls	Corridor	South
18	MTF	Terrazzo Floor-12"x12" Red/Brown Chips	1118	Northwest
19	MCTM-1	Ceramic Tile/Mastic	Corridor	Southeast
20	↓	1"x1" Beige/Brown/Creme	Corridor	Southwest
21	↓	↓	Corridor	Northwest
22	MCTM-2	Ceramic Tile/Mastic	1118	North Center
23	↓	4"x4" Creme w/ Gold Flecks	1118	West Center
24	↓	↓	1118	Southeast
25	MCTM-3	Ceramic Tile/Mastic	1116	Northwest
26	↓	2"x2" Creme	1116	Northwest
27	↓	↓	1116	Southwest
28	MCTM-4	Ceramic Tile/Mastic	1116	Southwest
29	↓	4"x4" Creme	1116	Northwest
30	↓	↓	1116	Northwest
31	TAS	Aircell	1120	East Center
32	↓	↓	1113	West Center
33	↓	↓	1108	East Center
34	TASF	Thermo Fitting on Aircell	1120	East Center
35	↓	5"	1113	West Center
36	↓	↓	1108	East Center
37	MC-1	Door Caulk-White	Exterior	North Door
38	MC-2	Sink Caulk-White	1112	North Center
39	MSCT-2	Suspended Ceiling Tile	Canteen	North Center
40	↓	2'x2' Holes + Fissures		North Center
41	↓	↓		North Center
42	SPI-2	Plaster		North Center
43	↓	↓		
44	↓	↓		
45	MDWC-2	Drywall / Joint Compound		
46	↓	↓		
47	↓	↓		
48	TFSF-2	Thermo Fitting on Fiberglass	crawl space	West Center
49	↓	5"	↓	↓

13110

13179

ATTACHMENT 3

Asbestos Inspector Certification

**ASBESTOS SUPERVISOR**

Issued By

STATE OF WISCONSIN

Dept. of Health Services

Thomas J McCoy Jr
809 Buena Vista Ave
Waukesha WI 53188-3849

		195 lbs	5' 10"
ACS-117261	Exp: 03/03/2013	02/01/1960	Male

Training due by: 03/03/2013

**ASBESTOS INSPECTOR**

Issued By

STATE OF WISCONSIN

Dept. of Health Services

Thomas J McCoy Jr
809 Buena Vista Ave
Waukesha WI 53188-3849

		195 lbs	5' 10"
AII-117261	Exp: 04/07/2013	02/01/1960	Male

Training due by: 04/07/2013