

Angstrom Analytical &
Environmental Services

5001 Cedar Lake Road * St. Louis Park, MN 55416
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ANALYSIS OF BULK SAMPLES FOR ASBESTOS USING POLARIZED LIGHT

Tim Pilgrim
Minneapolis Public Housing Authority
1001 Washington Ave. N.
Minneapolis, MN 55401

TPilgrim@mplspha.org

Re: 7 Samples (Miscellaneous Materials): Hamilton Manor – 1314 44th Ave. N., Minneapolis.

METHOD AND DEFINITIONS

The submitted samples were analyzed using the EPA Interim Method #600/M4-82-020 (polarized light microscopy with optional 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 macroscopically 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 or 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.

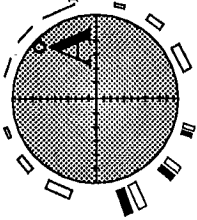
PERCENTAGE REPORTING

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 Method, 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. For dust sampling no percentage or rating is given. The results can only be expressed in positive or negative terms. In our analysis a positive result, meaning asbestos was detected in the dust, is listed as present. A negative result, meaning no asbestos was detected in the dust is listed as none detected or ND

Charles Tye, Angstrom Analytical, Inc.

Date:

January 27, 2021



Angstrom Analytical

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 St. Louis Park, Mn 55416

**ASBESTOS (PLM) BULK SAMPLES:
 REPORT OF MATERIALS ANALYSIS**

CLIENT Attn: Tim Pilgrim MPLA	Project Location HAMILTON MANOR 1314 44th AVE N. MPLS	Results Via E-MAIL	Data Entry 1-26-21 Approved By G
CLIENT ADDRESS 1001 WASHINGTON AVE. N. MINNEAPOLIS, MN 55401	Client/Receiving # 16	Assigned/Lab # 21-01	Project # OW-SITE Analyst AA
			Date Rec'd 1-26-21 Analyzed 1-27-21
			Date Mailed _____ Phoned _____

Sample Number	Material	Physical Description	Location	Asbestos Type	Approximate Percent
1.	SHEETROCK / TAPE / MUD	(COMPOSITE SYSTEM)	UNIT 604 BATH CHASE	None Detected	
2.	FIRE RATED CAULK	RED, FLEXIBLE	UNIT 604 BATH CHASE	None Detected	
3.	T.S.I. DEBRIS	WHITE, FIBROUS, IN CHASE	UNIT 604 BATH CHASE	CHAR	5%
4.	SHEETROCK / TAPE / MUD	(COMPOSITE SYSTEM)	6 th FLOOR CORRIDOR CHASE	None Detected	
5.	T.S.I. DEBRIS	WHITE, FIBROUS, IN CHASE	6 th FLOOR CORRIDOR CHASE	CHAR	6%
6.	T.S.I. DEBRIS	AIRCCELL / MAG IN SOIL.	BASEMENT CRAWL SPACE	CHAR	8%
7.	FIRE RATED CAULK	RED, FLEXIBLE ON FIRESTOPPING T.S.I.	6 th FLOOR CORRIDOR	None Detected	