

Asbestos Evaluation and Sampling

at the former
Powhatan Asbestos Mill
6721 Windsor Mill Road
Woodlawn, MD 21207

Prepared for:
Chesapeake GeoSciences, Inc.
5405 Twin Knolls Road
Suite 1
Columbia, MD 21045

July 2009



Greenhorne & O'Mara, Inc.
6110 Frost Place
Laurel, Maryland 20707

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EXECUTIVE SUMMARY

Greenhorne & O'Mara, Inc. (G&O) has completed an asbestos evaluation and sampling at the former Powhatan Asbestos Mill and surrounding properties in Woodlawn, MD. The purpose of the survey was to evaluate the property for residual asbestos materials and to determine if residual asbestos materials remain in soil surrounding the abandoned former asbestos processing facility. An initial evaluation and bulk sampling was completed on April 2, 2009. Subsurface evaluation and sampling was performed on June 26, 2009.

The site consists of an abandoned asbestos processing mill situated along a cul-de-sac at the southwestern end of Emmanuel Court. The property owner, Mr. Fred Hilnbrand, has a residence directly west of the mill. Property along the south side of Emmanuel Court was recently subdivided into nine residential lots for new home construction. These lots have been cleared and rough graded, but those nearest to the mill have not been built upon.

A total of fourteen samples were collected on April 2, 2009 from the site, both inside and outside of the mill complex. Samples included surface soil, debris, residue, rock ore, and dust. Laboratory analysis concluded that all fourteen samples contained anthophyllite asbestos. Asbestos amounts ranged from 5 percent in a surface soil and a dust sample to 98 percent in a rock ore sample. In addition, one sample of debris contained 5 percent chrysotile asbestos.

A total of twelve subsurface soil and rock ore samples were collected on June 26, 2009 from potential dump sites associated with the milling operation. Two samples had trace amounts of asbestos; both of which were taken from large fill piles located on the subdivided lots nearest to the asbestos mill. In addition, a fibrous sample of off-white material taken from the front lawn of the Hilnbrand residence contained 2 percent anthophyllite asbestos. A rock ore sample and a subsurface soil sample taken south of the southernmost fill pile were composed of 100 percent and 5 percent anthophyllite asbestos, respectively. No asbestos was detected in the ten remaining samples.

The sampling confirms the presence of asbestos materials within the building and at the surface and subsurface surrounding the complex. Sources of asbestos identified include asbestos rock ore, debris, tailings or process waste, contaminated dust, and contaminated soil. Airborne asbestos concentrations and associated potential health risks were not evaluated under this investigation.

1.0 INTRODUCTION

Greenhorne & O'Mara, Inc. (G&O) has completed a limited asbestos evaluation and sampling at the former Powhatan Asbestos Mill site and surrounding properties in Woodlawn, MD. The purpose of the investigation was to evaluate the referenced property for residual asbestos materials, including dumped or discarded asbestos products and raw materials, and to determine if residual asbestos materials, asbestos ore, and/or asbestos tailings remain in soil surrounding the abandoned former asbestos processing facility. An initial evaluation and bulk sampling was completed on April 2, 2009. Subsurface evaluation and sampling was performed on June 26, 2009.

1.1 Site Description

The former Powhatan asbestos processing mill site is situated along a cul-de-sac at the southwestern end of Emmanuel Court. An old asbestos mill is located on the property, which has reportedly been out of use since the early 1980s. The mill reportedly opened in the early 20th century. The building is a two-story factory structure with a loading area (at the southeast end of the building) and a processing area (at the northwest end of the building). The loading area consists of a three-bay garage with concrete floors and is currently used as a workshop by the owner, Mr. Fred Hilnbrand. The former processing area of the factory is two levels. It has been sealed off and was not accessible at the time of this inspection.

Research indicates that anthophyllite asbestos rock ore was originally mined on the mill property. It was later brought to the mill from off-site when the local ore supply was depleted. The asbestos fiber extraction (milling) process took place inside the building complex at 6721 Windsor Mill Road. Asbestos ore was reportedly received and perhaps dried in the northeastern garage portion of the complex. Further processing of the rock ore is believed to have occurred in the southwestern portion of the facility, which is a multi-level, timber framed structure with stone foundation and corrugated metal siding, to which the garage addition is attached. Typically, in dry milling operations, the asbestos ore is first crushed to a nominal size and then dried. Fiber extraction then occurs through a series of crushing operations, each followed by a vacuum aspiration of the ore running on a vibrating screen. On the screen, the fibers released from the ore have a tendency to move to the surface and, because of their aerodynamic properties; they can be readily collected into a vacuum system. The fibers recovered from consecutive vibrating screens are brought to cyclone separators, and the air is filtered to remove the finer suspended fibers.

The garage portion of the structure is accessed and used by the property owner for general storage. The southwestern portion of the building has been sealed off to entry due to asbestos contamination since the early 1980s, by order of the Baltimore County Health Department. At the present time the building exterior appears to be in a deteriorated state. Abandoned mechanical equipment and various process apparatus, such as separators and collection systems, are attached to the structure. Asbestos ore, debris, tailings and contaminated soil were noted on the ground around the perimeter of the former mill complex and in conveyor equipment associated with the mill.

Property along the south side of Emmanuel Court was recently subdivided into nine residential lots for new home construction by Portrait Homes. The residential lots have been cleared and rough graded. Only the two lots nearest Windsor Mill Road have been developed. The current owner of the former mill property, Mr. Hilnbrand, occupies an older residence directly northwest of the mill. Older detached single family homes on approximately ¼ acre lots, associated with the Royal Acres subdivision, are adjacent further west of the former mill site.

2.0 METHODOLOGY

The following concerns were investigated as part of this survey:

2.1 Asbestos Bulk Sampling

An asbestos inspection of accessible interior portions of the mill structure and exterior area of the mill property was performed by an EPA-accredited building inspector/management planner. The building inspection was limited to the garage addition at the northeastern portion of the mill complex as well as exterior areas around the perimeter of the facility. Asbestos rock ore and fiber debris were observed on the driveways and surrounding soil areas. A rock ore sample and two soil samples were collected from the surrounding the area surrounding the building. Sample locations of are discussed below in Table 1. Rock ore was found around the outdoor concrete slab located 20 feet east of the building. Photographs showing sampling locations can be found in Appendix A. Appendix C contains a floor plan of the Mill, which displays sampling locations.

Exterior equipment was examined for debris and sampled. The separator at the southeast side of the building had debris inside of a chute extending vertically from the separator down toward the ground. A sample was taken inside the lower end of this chute. Debris was also found in a gear shaft extending from the building to the separator. Suspect debris was noted on the motor housing on the concrete slab east of the separator. This material was also sampled. An air intake at the top of the northwest end of the building was noted to contain white debris between the slats. An attempt was made to sample at this location, but it could not be safely accessed. This material should be assumed to be asbestos and to have a high potential of becoming airborne.

The shed at the northwest end of the building, connected to the processing area by a conveyor belt, was accessed and found to contain several bags filled with white debris. This debris was sampled. A sample was also taken from white debris found on the conveyor system built inside of the shed.

The garage portion of the building was accessed and surveyed. As stated above, the owner uses the garage areas as a workshop. It also appears that the area is used for storage of various items. The concrete floor was examined and suspect asbestos fibers and debris were observed. Tape samples of the dust on the floor and on stored items were collected. Suspect asbestos debris was noted to be accumulated on the structural steel framing for the garage structure and also on wood roof rafters. A black plastic canopy was observed about 12 feet below the ceiling in the central area of garage. Above the plastic enclosure, a fan was noted to be running and circulating air. Suspect debris was noted on the plastic canopy.

2.2 Subsurface Asbestos Evaluation

Historic aerial photographs were studied to evaluate the area around the mill to determine possible dump sites or on-site waste disposal areas associated with the former milling operation. In addition,

Mr. Hilnbrand, identified areas in which he believed raw materials, processed materials and/or wastes may have been stored or disposed of outside of the facility.

Sampling of subsurface media including soil, rock ore, and debris was performed by an EPA-accredited building inspector/management planner. The sampling event was also attended by Mr. Phillip Anderson of the Maryland Department of the Environment (MDE).

A total of twelve bulk samples of rock ore and soil were collected from six backhoe excavations throughout the former asbestos mill property and abutting properties. Photographs showing sampling locations can be found in Appendix A. Appendix C contains an aerial photograph of the area and the locations of the sampled test pits. The samples were submitted to a laboratory for analysis of asbestos content. Excavation and sample locations are discussed below. See site plan sketch for further information.

Test pit #1 was made into a fill pile located near Emmanuel Court on the abutting Valerie Manor Lot 1 property, about 20 feet west of the apparent boundary with the mill property. The pile was excavated at the northwestern end, nearest the mill. The soil in this location was a dark brown color with dark grayish white rocks throughout. One soil sample (#1-1) and two rock ore samples (#1-2 and #1-3, respectively) were taken from this excavation. No evidence of asbestos ore, process waste or product debris was observed in the excavation.

Test pit #2 was made in the fill pile located, approximately 100 feet southeast of the mill property on the opposite side of Emmanuel Court, between Valerie Manor Lots 4 and 5. The soil was characterized by a medium brown color with dark gray/white rocks throughout. A rock ore sample (#2-1) was collected from the surface before the excavation began. Three rock samples: (#2-2, #2-3, and #2-4, respectively) were collected from various depths of the excavation trench. A thin layer of off-white material suspected of being discarded tailings from asbestos milling operations was observed in the excavation (sample #2-3) and found to be asbestos.

Test pit #3 was located in the front lawn of the Hilnbrand residence next to the mill to the west, approximately 30 feet from the northeast of the mill. One soil sample (#3-1) was taken from this location. No evidence of asbestos ore, tailings or product was observed in the excavation.

Test pit #4 was also located in the front lawn of the Hilnbrand residence, approximately fifteen feet west of test pit #3, near the western property boundary. One rock ore sample (#4-1) was collected from this location. This was an area identified by Mr. Hilnbrand as a potential former waste storage site.

Test pit #5 was also located in the front lawn of the Hilnbrand residence, south of test pit #3. The soil was characterized by a light-medium brown color with dark gray/white rocks throughout. A sample of rock flakes (#5-1) was collected.

Test pit #6 was located south of the fill pile that is situated between Lots 1 and 2 on the property abutting south of the site. This soil appeared to have suspected asbestos fibers interspersed in clay. A rock sample (#6-1) was collected from south of the fill pile and found to be asebestos. A thin layer of off-white material suspected of being discarded tailings from asbestos milling operations was observed in the excavation (sample #6-2) and found to be asbestos.

3.0 RESULTS

3.1 Asbestos Bulk Sampling Results

During the April 2 sampling event, fourteen samples of suspect materials were collected from the site. Samples of suspect ACM's were submitted to AMA Analytical, Inc. of Lanham, Maryland, a laboratory approved under the National Voluntary Laboratory Accreditation Program (NVLAP). The samples were analyzed using Polarized Light Microscopy (PLM).

A summary of the sample locations, sample descriptions, and analytical results is provided in the following table; the complete laboratory report is provided in Appendix B.

Table 1. Asbestos Sampling Results - April 2, 2009

| Sample ID | Material | Location | Chrysotile Asbestos (%) | Anthophyllite Asbestos (%) |
|--------------|---------------|---|-------------------------|----------------------------|
| 1-PM-040209 | Surface soil | 1 ft from SE wall, under "separator" | -- | 5% |
| 2-PM-040209 | Debris | In gear shaft at SE wall, part of "separator" | -- | 20% |
| 3-PM-040209 | Residue | On concrete platform supporting equipment at SE side of bldg | -- | 5% |
| 4-PM-040209 | Residue | Inside metal duct off of "separator" at SE side of bldg | -- | 20% |
| 5-PM-040209 | Debris | On motor housing at SE side of bldg | 5% | 2% |
| 6-PM-040209 | Rock ore | From driveway on NW side of bldg, ~15 ft from NW side of bldg and ~15 ft from front (NE side) of bldg | -- | 98% |
| 7-PM-040209 | Debris | On structural steel inside center garage | -- | 25% |
| 8-PM-040209 | Dust | Tape sample from floor of center garage | -- | 5% |
| 9-PM-040209 | Dust | Tape sample on top of stored item in center garage | -- | 25% |
| 10-PM-040209 | Debris | On structural steel above plywood barricade | -- | 25% |
| 11-PM-040209 | Debris | On floor below plywood barricade | -- | 25% |
| 12-PM-040209 | Fine material | In bags in rear shed (shed connected to building by conveyor belt) | -- | 25% |
| 13-PM-040209 | Debris | On conveyor belt steel in rear shed | -- | 15% |

| Sample ID | Material | Location | Chrysotile Asbestos (%) | Anthophyllite Asbestos (%) |
|--------------|--------------|---|-------------------------|----------------------------|
| 14-PM-040209 | Surface soil | At SW of bldg, ~3 ft from rear wall, ~10 ft from SE wall, ~2" from SE side of rear pump house | -- | 10% |

3.2 Subsurface Asbestos Sampling Results

During the June 26 sampling event, twelve bulk samples of suspect materials were collected from the site. Samples of suspect asbestos were submitted to AMA Analytical, Inc. of Lanham, Maryland, a laboratory approved under the National Voluntary Laboratory Accreditation Program (NVLAP). The samples were analyzed using Polarized Light Microscopy (PLM).

A summary of the sample locations, sample descriptions, and analytical results is provided in the following table; the complete laboratory report is provided in Appendix B.

Table 2. Asbestos Sampling Results - June 26, 2009

| Sample ID | Material | Location | Asbestos (%) |
|-----------|---------------------|---|--------------------|
| 1-1 | Soil | Trench 1, 2 ft below grade | Trace |
| 1-2 | Rock | Trench 1, 2 ft below grade | NAD |
| 1-3 | Rock | Trench 1, 2 ft below grade | NAD |
| 2-1 | Rock | Trench 2, surface of fill pile | NAD |
| 2-2 | Rock | Trench 2, 4 feet into fill pile | NAD |
| 2-3 | Off-white "fibrous" | Trench 2, 6 feet into fill pile 1 ft above original grade | Trace |
| 2-4 | Rock | Trench 2, 2 ft below grade | NAD |
| 3-1 | Soil | Trench 3, 3 ft below grade | NAD |
| 4-1 | Rock | Trench 4, 3 ft below grade | NAD |
| 5-1 | Off-white "fibrous" | Trench 5, 2 ft below grade | 2% anthophyllite |
| 6-1 | Rock ore | Trench 6, near surface sample from fill pile | 100% anthophyllite |
| 6-2 | Soil | Trench 6, 5 ft below grade | 5% anthophyllite |

NAD = No Asbestos Detected

4.0 CONCLUSIONS

4.1 *Asbestos Bulk Sampling*

Fibrous debris and dust accumulations were noted throughout the garage portion of the former mill complex including on floor surfaces, on structural components, and on items in storage. In addition, large quantities of similar debris were observed loose in bags in the detached shed to the southwest of the mill complex. The friable dust and debris was confirmed to consist largely of anthophyllite asbestos by laboratory analysis of representative bulk samples. This contamination, which is believed to be the result of past asbestos processing operations, is extensive throughout the garage and in the storage shed.

The former processing area adjoining the garage is sealed off to entry with asbestos warning signs posted at entrances. Limited visual observation suggests extensive contamination is present in the processing area as well; however, no samples were collected in this area.

In addition, anthophyllite asbestos ore was identified among the rocks on the ground around the perimeter of the building and in the adjacent driveway.

All asbestos found within the building and outside of the building should be considered friable. Smaller particles have a high potential of becoming airborne. Rock ore has the potential to be broken down and become airborne through regular use of the driveway including driving vehicles and walking on the rock ore. Since much of the upper reaches of the building including metal stacks were not accessed, it should be assumed that these areas contain asbestos debris. Due to the poor condition of the building, it is probable that deterioration of the structures may result in the release of asbestos fibers to the air.

4.2 *Subsurface Asbestos Evaluation*

Based on visual observations and laboratory results it is apparent that asbestos ore and asbestos-contaminated tailings or process wastes are found near the surface and in the subsurface surrounding the former mill complex. The asbestos ore was noted in small and medium sized rocks on the surface surrounding the mill complex and near the surface in test pit #6. The asbestos tailings waste material appeared as an off-white fibrous layer of material adhered to, or intermixed with, the clayey soil matrix. This material was found in thin layers of less than an inch thickness in a few of the excavations.

Laboratory analysis identifies the type of asbestos to be anthophyllite. Historical research indicates that anthophyllite was mined in the area.

The horizontal and vertical extent of asbestos debris and asbestos ore in the subsurface were not determined under the scope of this investigation.

5.0 LIMITATIONS

This Hazardous Materials Assessment report was prepared as a result of a contractual agreement that defined the approach and scope of services to be employed during the course of the investigation. The opinions and conclusions expressed in this study have been based strictly on the results of these contracted services. The services provided by G&O should not be construed as a warranty or guarantee that no environmental impairments exist at this site or that all environmental impairments have been uncovered.

No conclusions are stated or implied concerning the suitability of the site for its eventual use. This document is not intended for purposes other than those expressly set forth herein or for use by parties other than the client.

Changes in the condition of the site may occur with time due to either natural processes or human activities. The findings presented in this report are based on site conditions existing at the time of the investigation. G&O cannot be responsible for any errors or omissions in this investigation resulting from incomplete or inaccurate disclosures by the client or contacts.

The limitations inherent in this Hazardous Materials Assessment can be reduced by increasing the level of scrutiny through techniques employed in more sophisticated investigations involving a more exhaustive records/historical search, use of analytical testing, subsurface exploration, and air sampling.

Furthermore, this report has been based only on information that became available over the period of study.

Appendix B

Asbestos Laboratory Results



Client: Greenhorne & O'Mara
Address: 6110 Frost Place
 Laurel, Maryland 20707

Job Name: Powhatan Mill
Job Location: Woodlawn, MD
Job Number: Not Provided
P.O. Number: Not Provided

Chain Of Custody: 181482
Date Analyzed: 4/10/2009
Person Submitting: Charlie McEleney

Attention: Ross Voorhees

Summary of Polarized Light Microscopy

| AMA Sample Number | Client Sample # | Total Asbestos | Chrysotile Percent | Amosite Percent | Crocidolite Percent | Other Asbestos Percent | Mineral Wool Percent | Fiberglass Percent | Organic Percent | Synthetic Percent | Other Particulate Percent | Sample Color | Homogeneity | Analyst ID | Comments |
|-------------------|-----------------|----------------|--------------------|-----------------|---------------------|------------------------|----------------------|--------------------|-----------------|-------------------|---------------------------|--------------|-------------|------------|-------------------------------------|
| | | | | | | | | | | | | | | | |
| 0934763 | 1-PM-040209 | 5 | -- | -- | -- | 5 | -- | -- | TR | -- | -- | 95 | Black | SW | The Other Asbestos is Anthophyllite |
| 0934764 | 2-PM-040209 | 20 | -- | -- | -- | 20 | -- | -- | -- | -- | -- | 80 | Beige | SW | The Other Asbestos is Anthophyllite |
| 0934765 | 3-PM-040209 | 5 | -- | -- | -- | 5 | -- | -- | TR | -- | -- | 95 | Gray | SW | The Other Asbestos is Anthophyllite |
| 0934766 | 4-PM-040209 | 20 | -- | -- | -- | 20 | -- | -- | -- | -- | -- | 80 | Beige | SW | The Other Asbestos is Anthophyllite |
| 0934767 | 5-PM-040209 | 7 | 5 | -- | -- | 2 | -- | -- | -- | -- | -- | 93 | Gray | SW | The Other Asbestos is Anthophyllite |
| 0934768 | 6-PM-040209 | 98 | -- | -- | -- | 98 | -- | -- | -- | -- | -- | 2 | White | SW | The Other Asbestos is Anthophyllite |
| 0934769 | 7-PM-040209 | 25 | -- | -- | -- | 25 | -- | -- | TR | -- | 5 | 70 | Tan | SW | The Other Asbestos is Anthophyllite |
| 0934770 | 8-PM-040209 | 5 | -- | -- | -- | 5 | -- | -- | 5 | TR | -- | 90 | Brown | SW | The Other Asbestos is Anthophyllite |
| 0934771 | 9-PM-040209 | 25 | -- | -- | -- | 25 | -- | -- | TR | TR | 5 | 70 | Brown | SW | The Other Asbestos is Anthophyllite |
| 0934772 | 10-PM-040209 | 25 | -- | -- | -- | 25 | -- | -- | -- | -- | 5 | 70 | Brown | SW | The Other Asbestos is Anthophyllite |

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these Laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from us. Sample types, locations, and collection protocols are based upon the information provided by the persons submitting them and, unless collected by these Laboratories, we expressly disclaim any knowledge and liability for the accuracy and completeness of this information. Residual sample material will be discarded in accordance with the appropriate regulatory guidelines, unless otherwise requested by the client. NVLAP accreditation applies only to polarized light microscopy of bulk samples and transmission electron microscopy of AHERA air samples. This report must not be used to claim, or endorsement by NVLAP, NIST, or any agency of the Federal Government. All rights reserved.

AMA Analytical Services, Inc.

Client: Greenhome & O'Mara
Address: 6110 Frost Place
 Laurel, Maryland 20707

Job Name: Powhatan Mill
Job Location: Woodlawn, MD
Job Number: Not Provided
P.O. Number: Not Provided

Chain Of Custody: 181482
Date Analyzed: 4/10/2009
Person Submitting: Charlie McElenny

Attention: Ross Voorhees

Summary of Polarized Light Microscopy

| AMA Sample Number | Client Sample # | Total Asbestos | Chrysotile Percent | Amosite Percent | Crocidolite Percent | Other Asbestos Percent | Mineral Wool | | Fiberglass | | Organic | | Synthetic | | Other Particulate Percent | Sample Color | Homogeneity | Analyst ID | Comments |
|-------------------|-----------------|----------------|--------------------|-----------------|---------------------|------------------------|--------------|---------|------------|---------|---------|---------|-----------|-----------|---------------------------|--------------|-------------------------------------|------------|----------|
| | | | | | | | Percent | Percent | Percent | Percent | Percent | Percent | Percent | Percent | | | | | |
| 0934773 | 11-PM-040209 | 25 | -- | -- | -- | 25 | -- | TR | -- | TR | -- | 5 | 70 | Brown | Homogeneous | SW | The Other Asbestos is Anthophyllite | | |
| 0934774 | 12-PM-040209 | 25 | -- | -- | -- | 25 | -- | TR | -- | TR | -- | 5 | 70 | Brown | Homogeneous | SW | The Other Asbestos is Anthophyllite | | |
| 0934775 | 13-PM-040209 | 15 | -- | -- | -- | 15 | -- | -- | -- | -- | -- | 5 | 80 | Off-White | Homogeneous | SW | The Other Asbestos is Anthophyllite | | |
| 0934776 | 14-PM-040209 | 10 | -- | -- | -- | 10 | -- | TR | TR | TR | -- | -- | 90 | Black | Homogeneous | SW | The Other Asbestos is Anthophyllite | | |

The following footnotes only apply to those samples which the total asbestos result is flagged with a note number.

- 1 TEM RECOMMENDATION - Please note, due to resolution limitations with optical microscopy and/or interference from matrix components of this sample, results which are reported via PLM as negative or trace (<1%) for asbestos may contain a significant quantity of asbestos. It is recommended that the additional analytical technique of TEM be used to check for asbestos fibers below the resolution limits of optical microscopy.
- 2 MATRIX REDUCTION RECOMMENDATION - Please note, due to interference from the matrix components of this sample, results which are reported via PLM as negative or trace (<1%) for asbestos may contain a significant quantity of asbestos which is obscured from view. It is recommended that the additional preparation technique of gravimetric reduction be performed on this sample to minimize the obscuring effects of matrix components, followed by reanalysis by PLM and/or TEM.

Analysis Method - EPA/600/R-93/116 dated July 1993

NAD = "No Asbestos Detected" TR = "Trace equals less than 1% of this component"

Uncertainty: For samples containing asbestos in range of 1-10% the CV is 0.43, 11-35% CV=0.55, >35 CV=0.23



Surat Watson

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these Laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from us. Sample types, locations, and collection protocols are based upon the information provided by the persons submitting them and, unless collected by personnel of these Laboratories, we expressly disclaim any knowledge and liability for the accuracy and completeness of this information. Residual sample material will be discarded in accordance with the appropriate regulatory guidelines, unless otherwise requested by the client. NVLAP accreditation applies only to polarized light microscopy of bulk samples and transmission electron microscopy of AHERA air samples. This report must not be used to claim, and does not imply, product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government. All rights reserved. AMA Analytical Services, Inc.



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(Please Refer To This Number For Inquiries) **181482**

CHAIN OF CUSTODY

email to: noorheese@g-and-o.com

Submittal Information: 1 of 2

1. Client Name: Gleedhouse & Co. Inc
 2. Address 1: 610 East Place
 3. Address 2: Lanham MD 20707
 4. Address 3: _____
 5. Phone # (301) 983-2800 Fax #: _____

1. Job Name: Powhatan Mill
 2. Job Location: Woodlawn, MD
 3. Job #: _____ P.O. #: _____
 4. Contact Person: Ross Voerhes @ phone: _____
 5. Submitted by: Charlie McElroy Signature: _____

REPORT TO:
 Include COC/Field Data Sheets with Report
 Email ross@voerhes.com @ g-and-o.com
 Fax: _____
 Verbal: _____

Reporting Information (Results will be provided as soon as technically feasible):

NORMAL BUSINESS HOURS
 3 Day
 5 Day + Aldor
 Date Due: _____
 Results Required By Noon (Every Attempt Will Be Made to Accomodate)

Asbestos Analysis
 PCMA Air - Please Indicate Filter Type:
 PC MCE Porosity _____ in a 25mm 37mm (QTY) _____
 NIOSH 7400 _____ (QTY) _____
 Fiberglass _____ (QTY) _____
 TEM Air - Please Indicate Filter Type:
 PC MCE Porosity _____ in a 25mm 37mm (QTY) _____
 AHERA _____ (QTY) _____
 NIOSH 7402 _____ (QTY) _____
 Other (specify) _____ (QTY) _____

PLM/Bulk
 EPA 600 - Visual Estimate 14 (QTY) _____
 EPA Point Count _____ (QTY) _____
 NY State Friable 198.1 _____ (QTY) _____
 Grav. Reduction ELAP 198.6 _____ (QTY) _____
 Other (specify) _____ (QTY) _____

Lead Analysis
 Paint Chip _____ (QTY) _____
 Dust Wipe (wipe type) _____ (QTY) _____
 Air _____ (QTY) _____
 Soil/Solid _____ (QTY) _____
 TCLP _____ (QTY) _____
 Drinking Water _____ (QTY) _____
 Waste Water _____ (QTY) _____
 Dust Wipe Furnace (wipe type) _____ (QTY) _____

Mold - Direct Microscopic Analysis
 Collection Apparatus for Spore Traps:
 Spore-Trap _____ (QTY) _____
 Bulk _____ (QTY) _____
 Surface Swab _____ (QTY) _____
 Surface Vacuum Dust _____ (QTY) _____
 Surface Tape _____ (QTY) _____
 Other (Specify) _____ (QTY) _____

| CLIENT ID NUMBER | SAMPLE LOCATION/IDENTIFICATION | VOLUME (LITERS) | WIPE AREA | ANALYSIS | | | | MATRIX | | | | DATE/TIME | CONTACT | BY: | | |
|------------------|--------------------------------|-----------------|-----------|----------|----|-----|------|--------|------|-----|------|-----------|---------|-----|------|-----------------|
| | | | | PLM | PC | TEM | AREA | LEAD | MOLD | AIR | BULK | | | | DUST | WATER AND OTHER |
| 1-PM-040209 | Surface Soil | | | | | | | | | | | | | | | |
| 2-PM-040209 | Debris | | | | | | | | | | | | | | | |
| 3-PM-040209 | Furniture | | | | | | | | | | | | | | | |
| 4-PM-040209 | Debris | | | | | | | | | | | | | | | |
| 5-PM-040209 | Debris | | | | | | | | | | | | | | | |
| 6-PM-040209 | Rock core | | | | | | | | | | | | | | | |
| 7-PM-040209 | Debris | | | | | | | | | | | | | | | |
| 8-PM-040209 | DUST | | | | | | | | | | | | | | | |
| 9-PM-040209 | DUST | | | | | | | | | | | | | | | |
| 10-PM-040209 | Debris | | | | | | | | | | | | | | | |
| 11-PM-040209 | Debris | | | | | | | | | | | | | | | |
| 12-PM-040209 | Final Debris | | | | | | | | | | | | | | | |

LABORATORY STAFF ONLY:

1. Date/Time RCVD: 4/3/09 @ 1:00 Via: MD
 2. Date/Time Analyzed: 4/10/09 @ ROSS VOERHES
 3. Date/Time Reported To: _____

By (Print): Suyat W. White Via: EMAIL Date: 4/10/09 Sign: _____

By (Print): Suyat W. White Via: EMAIL Date: 4/10/09 Sign: _____



Client: Greenhorne & O'Mara
Address: 6110 Frost Place
 Laurel, Maryland 20707
Job Name: Powhatan
Job Location: Baltimore Co
Job Number: 110580
P.O. Number: Not Provided
Chain Of Custody: 191752
Date Analyzed: 7/10/2009
Person Submitting: Ross Voorhees

Attention: Ross Voorhees

Summary of Polarized Light Microscopy

| AMA Sample Number | Client Sample # | Total Asbestos | Chrysotile Percent | Amosite Percent | Crocidolite Percent | Other Asbestos Percent | Mineral Wool Percent | Fiberglass Percent | Organic Percent | Synthetic Percent | Other Percent | Particulate Percent | Sample Color | Homogeneity | Analyst ID | Comments |
|-------------------|-----------------|----------------|--------------------|-----------------|---------------------|------------------------|----------------------|--------------------|-----------------|-------------------|---------------|---------------------|--------------|-------------|------------|---------------------------------------|
| | | | | | | | | | | | | | | | | |
| 0951582 | 1-1 | TR | -- | -- | -- | TR | -- | -- | -- | -- | -- | 100 | Multi | Homogeneous | CK | Other Asbestos Type is Anthophyllite. |
| 0951583 | 1-2 | NAD | -- | -- | -- | -- | -- | -- | -- | -- | -- | 100 | Multi | Homogeneous | CK | |
| 0951584 | 1-3 | NAD | -- | -- | -- | -- | -- | -- | -- | -- | -- | 100 | Black | Homogeneous | CK | |
| 0951585 | 2-1 | NAD | -- | -- | -- | -- | -- | -- | -- | -- | -- | 100 | Beige | Homogeneous | CK | |
| 0951586 | 2-2 | NAD | -- | -- | -- | -- | -- | -- | -- | -- | -- | 100 | Black | Homogeneous | CK | |
| 0951587 | 2-3 | TR | -- | -- | -- | TR | -- | -- | -- | -- | -- | 100 | Multi | Homogeneous | CK | Other Asbestos Type is Anthophyllite. |
| 0951588 | 2-4 | NAD | -- | -- | -- | -- | -- | -- | -- | -- | -- | 100 | Multi | Homogeneous | CK | |
| 0951589 | 3-1 | NAD | -- | -- | -- | -- | -- | -- | -- | -- | -- | 100 | Brown | Homogeneous | CK | |
| 0951590 | 4-1 | NAD | -- | -- | -- | -- | -- | -- | -- | -- | -- | 100 | Black | Homogeneous | CK | |
| 0951591 | 5-1 White | 2 | -- | -- | -- | 2 | -- | -- | -- | -- | -- | 98 | Beige | Homogeneous | CK | Other Asbestos Type is Anthophyllite. |
| 0951592 | 5-1 Black | NAD | -- | -- | -- | -- | -- | -- | -- | -- | -- | 100 | Black | Homogeneous | CK | |
| 0951593 | 6-1 | 100 | -- | -- | -- | 100 | -- | -- | -- | -- | -- | -- | Off-White | Homogeneous | CK | Other Asbestos Type is Anthophyllite. |

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these Laboratories, this report is submitted and collected for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from us. Sample types, locations, and collection protocols are based upon the information provided by the persons submitting them and, unless collected by personnel of these Laboratories, we expressly disclaim any knowledge and liability for the accuracy and completeness of this information. Residual sample material will be discarded in accordance with the appropriate regulatory guidelines, unless otherwise requested by the client. NVLAP accreditation applies only to polarized light microscopy of bulk samples and transmission electron microscopy of AHERA air samples. This report must not be used to claim, and does not imply product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government. All rights reserved. AMA Analytical Services, Inc.

Client: Greenhorne & O'Mara
Address: 6110 Frost Place
 Laurel, Maryland 20707
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Job Number: 110580
P.O. Number: Not Provided
Chain Of Custody: 191752
Date Analyzed: 7/10/2009
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Attention: Ross Voorhees Page 2 of 2

Summary of Polarized Light Microscopy

| AMA Sample Number | Client Sample # | Total Asbestos | Chrysotile Percent | Amosite Percent | Crocidolite Percent | Other Asbestos Percent | Mineral Wool | Fiberglass | Organic Percent | Synthetic Percent | Other Particulate Percent | Sample Color | Homogeneity | Analyst ID | Comments |
|-------------------|-----------------|----------------|--------------------|-----------------|---------------------|------------------------|--------------|------------|-----------------|-------------------|---------------------------|--------------|-------------|------------|---------------------------------------|
| 0951594 | 6-2 | 5 | -- | -- | -- | 5 | -- | -- | -- | -- | 95 | Brown | Homogeneous | CK | Other Asbestos Type is Anthophyllite. |

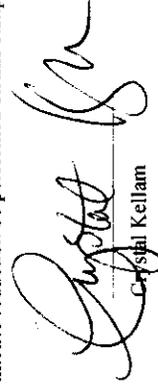
The following footnotes only apply to these samples, which the total asbestos result is flagged with a note number.

- 1 TEM RECOMMENDATION - Please note, due to resolution limitations with optical microscopy and/or interference from matrix components of this sample, results which are reported via PLM as negative or trace (<1%) for asbestos may contain a significant quantity of asbestos. It is recommended that the additional analytical technique of TEM be used to check for asbestos fibers below the resolution limits of optical microscopy.
- 2 MATRIX REDUCTION RECOMMENDATION - Please note, due to interference from the matrix components of this sample, results which are reported via PLM as negative or trace (<1%) for asbestos may contain a significant quantity of asbestos which is obscured from view. It is recommended that the additional preparation technique of gravimetric reduction be performed on this sample to minimize the obscuring effects of matrix components, followed by reanalysis by PLM and/or TEM.

Analysis Method - EPA/600/R-93/116 date: July 1993

NAD = "No Asbestos Detected" TR = "Trace equals less than 1% of this component"

Uncertainty: For samples containing asbestos in range of 1-10% the CV is 0.43, 11-35% CV=0.55, >35 CV=0.23



Crystal Kellam

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AMA Analytical Services, Inc.
 Focused on Results www.amaanalytical.com
 AIHA (#100470) NVLAP (#101143-0) NY ELAP (#10921)
 4475 Forbes Blvd. • Lanham, MD 20706
 (301) 459-2640 • (800) 346-9561 • Fax (301) 459-2643

(Please Refer To This Number For Inquiries) **191752**

CHAIN OF CUSTODY

Mailing/Billing Information:

1. Client Name: Gran Lomax + Co. Inc.
 2. Address 1: 6110 Frost Place
 3. Address 2: Camden, NJ 08102
 4. Address 3:
 5. Phone #:

Submittal Information:

1. Job Name: Pow. + Han
 2. Job Location: Baltimore Co
 3. Job #: 110590 P.O. #: 443-995-1074
 4. Contact Person: Reese Borcherdt @ phone # _____
 5. Submitted by: _____ Signature: [Signature]

Reporting Information (Results will be provided as soon as technically feasible):

NORMAL BUSINESS HOURS
 Immediate
 24 Hours
 5 Day + 7-8-09
 Date Due: _____

REPORT TO:

Include COC/Field Data Sheets with Report
 Email: Rborchers @ G-and-O.com
 Fax:
 Verbal: _____

Asbestos Analysis

PCM Air - Please Indicate Filter Type:
 NIOSH 7400 (QTY) _____
 Fiberglass (QTY) _____
 TEM Air - Please Indicate Filter Type:
 AHERA (QTY) _____
 NIOSH 7402 (QTY) _____
 Other: specify _____ (QTY) _____
 PLM Bulk
 EPA 100.1 Visual Estimate (QTY) 12
 EPA Paint Count (QTY) _____
 NY State Fritable 198.1 (QTY) _____
 Gray Reduction ELAP 198.6 (QTY) _____
 Other: specify _____ (QTY) _____

TEM Bulk

ELAP 198.4/Charfield (QTY) _____
 NY State PLM/TEM (QTY) _____
 Residual Ash (QTY) _____
 TEM Dust
 Qual. (pre-s/abs) Vacuum/Dust (QTY) _____
 Quan. (s/area) Vacuum D5755-95 (QTY) _____
 Quan. (s/area) Dust D6480-99 (QTY) _____
 TEM Water
 Qual. (pre-s/abs) _____ (QTY) _____
 ELAP 198.2/EPA 100.2 (QTY) _____
 EPA 100.1 _____ (QTY) _____

Metals Analysis

Pb Paint Chip (QTY) _____
 Pb Dust Wipe (wipe type) _____ (QTY) _____
 Pb Air (QTY) _____
 Pb Soil/Solid (QTY) _____
 Pb TCLP (QTY) _____
 Drinking Water Pb (QTY) Cu (QTY) As (QTY) _____
 Waste Water Pb (QTY) Cu (QTY) As (QTY) _____
 Pb Furnace (Media) _____ (QTY) _____

Fungal Analysis

Collection Apparatus for Spore Traps/Air Samples:
 Collection Media
 Spore-Trap (QTY) _____
 Surface Vacuum Dust (QTY) _____
 Surface Swab (QTY) _____
 Surface Tape (QTY) _____
 Other (Specify) _____ (QTY) _____
 Cultureable ID Genus (Media) _____ (QTY) _____
 Cultureable ID Species (Media) _____ (QTY) _____

All samples received in good condition unless otherwise noted.
 (TEM Water samples _____ °C)

SAMPLE INFORMATION

| CLIENT ID NUMBER | SAMPLE LOCATION | | VOLUME | | WIPE | | ANALYSIS | | MATRIX | | CLIENT CONTACT | | | | | | | | | | |
|------------------|-----------------|-------|--------|--------|------|------|----------|------|--------|------|----------------|------|------|-----------------|------------|------|------|-----------|---------|-----|--|
| | IDENTIFIER | ALIAN | DATE | LITERS | AREA | TEAM | PREP | PLAT | LEAD | MOLD | AIR | BULK | DUST | WATER AND OTHER | SPORE TRAP | TAPE | SWAB | Date/Time | Contact | By: | |
| 1-1 | | | | | | | | | | | | | | | | | | | | | |
| 1-2 | | | | | | | | | | | | | | | | | | | | | |
| 1-3 | | | | | | | | | | | | | | | | | | | | | |
| 2-1 | | | | | | | | | | | | | | | | | | | | | |
| 2-2 | | | | | | | | | | | | | | | | | | | | | |
| 2-3 | | | | | | | | | | | | | | | | | | | | | |
| 2-4 | | | | | | | | | | | | | | | | | | | | | |
| 3-1 | | | | | | | | | | | | | | | | | | | | | |
| 4-1 | | | | | | | | | | | | | | | | | | | | | |
| 5-1 | | | | | | | | | | | | | | | | | | | | | |
| 6-1 | | | | | | | | | | | | | | | | | | | | | |
| 6-2 | | | | | | | | | | | | | | | | | | | | | |

LABORATORY STAFF ONLY:

1. Date/Time RCVD: 6/30/09 @ 8:10 Via: DO By (Print): Sureet Watson Sign: [Signature]
 2. Date/Time Analyzed: 7/16/09 @ _____ By (Print): Crystal Kellam Sign: [Signature]
 3. Results Reported To: R. Voorhees Via: Phone 7/10/09 Date: 7/10 Sign: [Signature] Initials: [Initials]
 4. Comments: E-mail 7/13/09

Appendix D

Asbestos Inspector Certificates

CERTIFICATE OF TRAINING

AIRTEK ENVIRONMENTAL TRAINING INSTITUTE CERTIFIES THAT

JOHN ROSS VOORHEES

HAS SUCCESSFULLY COMPLETED THE COURSE ENTITLED

INSPECTOR REFRESHER

APPROVED BY NYS DOH AND MEETS THE REQUIREMENT OF AHERA/
ASHARA UNDER TSCA TITLE II

THIS IS NOT AN OFFICIAL RECORD OF TRAINING
A NYSDOH 2832 IS THE ONLY OFFICIAL RECORD OF TRAINING

12/22/2008

12/22/2008

12/22/2009

COURSE DATE

EXAM DATE

EXPIRATION DATE

ASB-I-R-537714

92%

CERTIFICATE NUMBER

EXAM GRADE



39-37 29TH STREET
LONG ISLAND CITY
NY 11101
718-937-3720
WWW.AIRTEKENY.COM

[Handwritten Signature]
TRAINING DIRECTOR

12/22/08
DATE

AEROSOL MONITORING & ANALYSIS, INC.

This is to certify that

CHARLES R. MCELENEY

has met the attendance requirements and successfully completed
the course entitled

8-Hr EPA AHERA Insp/Mgmt Planner Refresher

For Accreditation Under TSCA Title II.

9/24/2008

9/24/2008

9/24/2009

DAVID TRUMAN

David Truman

Course Date

Exam Date

Expiration Date

Principal Instructor

98275

VA98275

E. RUSH BARNETT

E. Rush Barnett

Certification No.

Virginia Certification No.

Course Director



1331 Ashton Road

P.O. Box 646

Hanover, MD 21076

P: 410-684-3327

F: 410-684-3724

www.amatraining.com

AEROSOL MONITORING & ANALYSIS, INC.

This is to certify that

TERESA BLACK

has met the attendance requirements and successfully completed the course entitled

3-Day EPA AHERA Inspector

For Accreditation Under TSCA Title II.

3/23/2009 to 3/25/2009

3/25/2009

3/25/2010

ROBERTA SPRATT-RITTER



Course Date

Exam Date

Expiration Date

Principal Instructor

101570

VA101570

E. RUSH BARNETT



Certification No.

Virginia Certification No.

Course Director



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