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MICROSCOPY, ASBESTOS ANALYSIS & CONSULTING
AIHA-LAP LLC ACCREDITED LABORATORY #101579
NVLAP LAB CODE 101012-0

September 5, 2024

Utah State University
University Safety Office
8315 Old Main Hill
Logan, Utah 84321-8315

Ref: Batch # 210382, Lab # USU5061 - USU5072
Received August 30, 2024
Test report, Page 1 of 4
USU VSB and LARC Building Roofs

Dear Utah State University:

Samples USU5061 through USU5072 have been analyzed using the qualitative analysis of bulk samples by polarized light microscopy (PLM), and the quantitation of asbestos content by calibrated visual estimate (CVE) based on EPA -- 40 CFR Appendix E to Subpart E of Part 763 (EPA 600/M4-82-020), Interim Method of the Determination of Asbestos in Bulk Insulation Samples, and EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials, as well as guidance from the OSHA ID-191 method. Appendix "A" contains statements which an accredited laboratory must make to meet the requirements of accrediting agencies. It also contains additional information about the method of analysis. Appendix "A" must be included as an essential part of this test report. This analysis is accredited under NVLAP Lab Code: 101012-0. It does not contain data or calibrations for tests performed under AIHA-LAP LLC Lab Code: 101579.

This report may be reproduced but all reproduction must be in full unless written approval is received from the laboratory for partial reproduction. The results of analysis are as follows:

Lab USU5061, Field VSB-R-01 East Roof Build-up Roofing Material (Tar & Gravel)
This sample contains five types of material: The first type is 30% plant fiber and 20% fiberglass in black binder; the second type is yellow foam insulation; the third type is 90% compressed wood fiber in binder; the fourth type is 30% fiberglass in black tar layers; the fifth type is black tar layers. This sample is non-homogeneous. **Asbestos is none detected.**

The first type is 2% of the sample. The second type is 20% of the sample. The third type is 30% of the sample. The fourth type is 18% of the sample. The fifth type is 30% of the sample.

Lab USU5062, Field VSB-R-02 East Roof Build-up Roofing Material Drain (Tar & Gravel)
This sample contains four types of material: The first type is 4% wollastonite in silver-colored sealant; the second type is layers of white rocks; the third type is layers of black tar and rubber with 10% fiberglass; the fourth type is black tar. This sample is non-homogeneous. **Asbestos is none detected.**

The first type is 2% of the sample. The second type is 10% of the sample. The third type is 83% of the sample. The fourth type is 5% of the sample.

Lab USU5063, Field VSB-R-03 LARC Roof Build-up Flashing
This sample contains four types of material: The first type is 4% wollastonite in silver-colored sealant; the second type is layers of white rocks; the third type is black tar and rubber with fiberglass; the fourth type is black tar. This sample is non-homogeneous. **Asbestos is none detected.**

The first type is 1% of the sample. The second type is 10% of the sample. The third type is 84% of the sample. The fourth type is 5% of the sample.

Lab USU5064, Field VSB-R-04 East Roof Silver Tar
This sample contains three types of material: The first type is **1.2% chrysotile asbestos** and 4% wollastonite in silver-colored sealant; the second type is black tar and rubber; the third type is black tar with sand. This sample is non-homogeneous.

The first type is 2% of the sample. The second type is 78% of the sample. The third type is 20% of the sample.

Lab USU5065, Field VSB-R-05 East Roof Large Duct Flashing Silver Tar
This sample contains three types of material: The first type is **1.2% chrysotile asbestos** and 4% wollastonite in silver-colored sealant; the second type is black tar and rubber; the third type is black rubber membrane. This sample is non-homogeneous.

The first type is 1% of the sample. The second type is 49% of the sample. The third type is 50% of the sample.

Lab USU5066, Field VSB-R-06 East Roof Grey Duct Caulk
This is grey sealant with limestone. **Asbestos is none detected.**

Lab USU5067, Field VSB-R-07 East Roof Grey Vent Pipe Caulk
This is grey rubber and limestone caulk. **Asbestos is none detected.**

Lab USU5068, Field VSB-R-08 East Roof Tan Duct Caulk
This is tan binder with limestone. **Asbestos is none detected.**

Lab USU5069, Field VSB-R-09 West Roof Tan White Stucco Caulk
This is grey silicone rubber caulk. **Asbestos is none detected.**

Lab USU5070, Field VSB-R-10 West Roof Grey Duct Caulk
This is grey silicone rubber caulk. **Asbestos is none detected.**

Lab USU5071, Field VSB-R-11 West Roof Flashing Tar
This sample contains three types of material: The first type is **1.2% chrysotile asbestos** and 4% wollastonite in silver-colored sealant; the second type is black tar and rubber with 3% fiberglass; the third type is 2% organic fiberglass in black tar. This sample is non-homogeneous.

The first type is 1% of the sample. The second type is 89% of the sample. The third type is 10% of the sample.

Lab USU5072, Field VSB-R-12 West Roof Grey Pipe Caulk
This is grey rubber and limestone caulk. **Asbestos is none detected.**

In order to be sure reagents and tools used for analysis are not contaminated with asbestos, blanks are tested. Asbestos was none detected in the blanks tested with this bulk sample set.

Very truly yours,

Steve H. Dixon, President

Analyzed by Ofir Sosa on September 4, 2024

APPENDIX "A"

"This report relates only to the items tested. This report must not be used to claim product certification, approval or endorsement by NVLAP, NIST, AIHA-LAP LLC, or any agency of the US government."

NVLAP and AIHA-LAP LLC require laboratories to state the condition of the samples received for testing. The condition of these samples is acceptable for analysis unless there is a characteristic indicating otherwise. If a test item is not acceptable, requires a modification to the standard method, or has cause for analysis sensitivity, it will be identified by a note for that particular test item under the laboratory number on the final report. If the samples are non-homogenous, a statement will be included with the sample result. Each component or sub-sample is analyzed separately. The reported results and percentages of each material type are based on the sample received by the laboratory and may not be representative of the parent material. Orientation of top and bottom may not be specified due to uncertainty of orientation.

METHODS OF ANALYSIS AND LIMIT OF DETECTION

For air count analysis, samples are not blank corrected unless otherwise noted.

For air count analysis, the results may be biased when interferences are noted.

The accuracy of asbestos analysis in bulk samples increases with increasing concentration of asbestos. Pigments, binders, small sample size, and multiple layers may affect the analysis sensitivity.

There are two methods for analysis of asbestos in a bulk test sample: *Visual Estimation* and *Point Count*. Visual estimation with gravimetry is the most sensitive method. If an analyst makes a patient search, 0.1% or less asbestos can be detected in a bulk sample. Point count analysis is a method with a statistical approach.

Government agencies regulate asbestos containing materials (ACM) whenever the ACM is more than 1%. EPA will not accept visual estimation to verify that trace amounts of asbestos are less than 1%. EPA requires point count to verify less than 1% asbestos content. OSHA requirements apply on samples containing any amount of asbestos.

Due to higher charge for a point count analysis, Dixon Information Inc. does not perform a point count unless authorized to do so by the customer. If a sample is point counted, when possible, various chemical and/or physical means may be used to concentrate the asbestos in the sample. This is permitted by the EPA method and it increases the accuracy of the analysis.