

MICRO ANALYTICAL LABORATORIES, INC.
BULK ASBESTOS ANALYSIS - POLARIZED LIGHT MICROSCOPY (PLM)

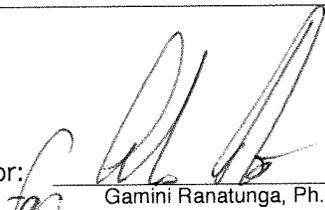


1023
 Mike Benefield
 Terracon Consultants, Inc.
 1466 66th Street
 Emeryville, CA 94608

PROJECT:
JOB NO. R1167165
VAMC / 4130 CLEMENT STREET
SAN FRANCISCO, CA
BUILDING 1

Micro Log In **227643**
 Total Samples 6
 Date Sampled 12/22/2016
 Date Received 12/22/2016
 Date Analyzed 12/23/2016

SAMPLE IDENTIFICATION	ASBESTOS INFORMATION QUANTITY (AREA %) / TYPES / LAYERS / DISTINCT SAMPLES	DOMINANT OTHER MATERIALS
Client #: 01A Micro #: 227643-01 Analyst: MK AF HM #01 - YELLOW CARPET ADHESIVE WITH BLACK MASTIC AND LEVELING COMPOUND ON CONCRETE BUILDING 1 DISPENSARY ROOM 12TH FLOOR AT ENTRY	CARPET ADHESIVE: ND MASTIC (BLACK): ND LEVELING COMPOUND: ND	3 % CELLULOSE NFM: BINDER, OTHER, MISCELLANEOUS.
Client #: 01B Micro #: 227643-02 Analyst: MK HM #01 - YELLOW CARPET ADHESIVE WITH BLACK MASTIC AND LEVELING COMPOUND ON CONCRETE BUILDING 1 DISPENSARY ROOM 12TH FLOOR AT BREAK ROOM ENTRY	CARPET ADHESIVE: ND LEVELING COMPOUND AND BLACK MASTIC ARE INSUFFICIENT FOR ANALYSIS.	1 % CELLULOSE NFM: BINDER, OTHER, MISCELLANEOUS.
Client #: 01C Micro #: 227643-03 Analyst: MK HM #01 - YELLOW CARPET ADHESIVE WITH BLACK MASTIC AND LEVELING COMPOUND ON CONCRETE BUILDING 1 DISPENSARY ROOM 12TH FLOOR AT BREAK ROOM ENTRY	CARPET ADHESIVE: ND LEVELING COMPOUND: ND CONCRETE: ND NO BLACK MASTIC IN SAMPLE.	3 % CELLULOSE 2 % SYNTHETIC FIBERS NFM: BINDER, OTHER, MISCELLANEOUS.
Client #: 02A Micro #: 227643-04 Analyst: MK HM #02 - YELLOW CARPET ADHESIVE WITH BLACK MASTIC AND LEVELING COMPOUND ON CONCRETE BUILDING 1 CONFERENCE ROOM 16 FLOOR AT EAST ENTRANCE	CARPET ADHESIVE: ND MASTIC (BLACK): ND LEVELING COMPOUND: ND CONCRETE: ND	3 % CELLULOSE NFM: CARBONATE, BINDER.
Client #: 02B Micro #: 227643-05 Analyst: MK HM #02 - YELLOW CARPET ADHESIVE WITH BLACK MASTIC AND LEVELING COMPOUND ON CONCRETE BUILDING 1 CONFERENCE ROOM 16 FLOOR AT WEST ENTRANCE	CARPET ADHESIVE: ND MASTIC (BLACK): ND LEVELING COMPOUND: ND	3 % CELLULOSE NFM: CARBONATE, BINDER.

Technical Supervisor: 

Gamini Ranatunga, Ph.D.

12/23/2016

Date Reported

NVLAP Lab Code 101872-0. CA ELAP Certification #1037. Analyses use Polarized Light Microscopy (PLM), Micro Analytical SOP PLM-101. Basic techniques follow the EPA Interim Method for Bulk Insulation Samples (1982), and EPA-600/R93-116 (1993). The 1993 method covers all types of bulk materials and is based on the 1982 Method, with improved analytical techniques for layered samples as required for NESHAP compliance. Asbestos is quantified by calibrated visual estimation. Detection limit is material dependent. Detection of asbestos traces (much less than 1%) may not be reliable or reproducible by PLM. Weight % cannot be determined by PLM. Asbestos with diameter below ~1 µm may not be detected by PLM. Absence of asbestos in dust, debris, and some compact materials, including floor tiles, cannot be conclusively established by PLM, and should be confirmed by Transmission Electron Microscopy (TEM). Interferences may prevent detection of small asbestos fibers, and hinder determination of some optical properties. Tremolite-asbestos or actinolite-asbestos may be indistinguishable by PLM from some similar, non-regulated amphiboles (e.g. the "Libby Amphiboles" richterite and winchite), and should be confirmed by TEM. The lower quantitation limit (reporting limit) of PLM estimation is 1%. The Cal-OSHA definition of asbestos-containing construction material is 0.1% asbestos; however, reliable determination of asbestos percent at this level cannot be done by PLM estimation; PLM Point Counting or TEM weight percent analysis are recommended. Only dominant non-asbestos materials (fibrous and non-fibrous) are listed. This analysis shall not be construed as conclusive for the presence of any reported materials other than asbestos, or for the absence of any non-asbestos material. Common interferences include, but are not limited to: cellulose, fibrous glass, other man-made vitreous fibers, synthetic fibers, elongate fragments of calcium sulfate, talc, wollastonite, animal hair, and other miscellaneous elongate particles. Sample heterogeneity is indicated by listing more than one distinct layer or material on the report. If more than one distinct sample is received in the same container, samples shall be marked with letters and analyzed separately. Layers within a sample are analyzed separately when feasible; if asbestos is detected, percentages are reported for individual layers. Interlayer contamination is possible among any layers in a sample. The notation ND (or "NONE DETECTED") indicates a result of "NO ASBESTOS DETECTED" in a homogeneous sample, or in a layer of a heterogeneous sample. Composite asbestos percentages from multiple layers are applicable only to wallboard / joint compound systems; compositing is based on customers' descriptions of material as "joint compound". Customers are solely responsible for identification and description of bulk materials listed on field forms. Laboratory descriptions may differ from those given by customers. Quality Control (QC): all results have been determined to be within acceptance limits prior to reporting. Reanalyzed samples are denoted by two sets of analyst initials. Unless otherwise stated herein, all samples were received in acceptable condition for analysis. This report must not be used to claim product endorsement by NIST or any U.S. Government agency. This report shall not be reproduced except in full, without the approval of Micro Analytical Laboratories, Inc., and pertains only to the samples analyzed. NFM = Non-fibrous materials.

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ASBESTOS INFORMATION

SAMPLE IDENTIFICATION

QUANTITY (AREA %) / TYPES / LAYERS / DISTINCT SAMPLES

**DOMINANT
OTHER MATERIALS**

Client #:	02C		
Micro #: 227643-06	Analyst: MK	CARPET ADHESIVE: ND	3 % CELLULOSE
HM #02 - YELLOW CARPET ADHESIVE WITH BLACK MASTIC AND LEVELING COMPOUND ON CONCRETE BUILDING 1 CONFERENCE ROOM 16 FLOOR AT WEST ENTRANCE		MASTIC (BLACK): ND	NFM: CARBONATE, BINDER.
		NO LEVELING COMPOUND IN SAMPLE.	

Technical Supervisor:

Gamini Ranatunga, Ph.D.

12/23/2016

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Terracon

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ACM BULK SAMPLE DATA SHEET

PLM Analysis (Analyze all samples)
 Stop Analysis at First Positive
 Point Count Analysis (400-point)

PAGE 1 OF 1

Project Name/Address/Building No.: VAMC / 4130 Clement Street / S.F. / Building 1

Project #: R1167165 Sampled By: John Alexander Sampling Date: 12/22/16

Sample(s) Sent To: MAI other: _____ TAT: Rush 24Hrs 48Hrs 3-5 Days

***E-MAIL REPORT TO: SEE ABOVE PROJECT MANAGER (PM) *** Send Invoice to Amanda Santife at Enviro Applicati

HM#	Material Description	Sample Location	Material Locations and Leveling Compound on	Qty
01	Yellow Carpet Adhesive with Black Mastique		Concrete	
- 01A	Building 1 Dispensary Room	12 Floor at Entry		280 square feet
- 01B	Building 1 Dispensary Room	12 Floor at Break Room Entry		
- 01C	Building 1 Dispensary Room	12 Floor at Break Room Entry		

HM#	Material Description	Sample Location	Material Locations and Leveling Compound on	Qty
02	Yellow Carpet Adhesive with Black Mastique		Concrete	
- 02A	Building 1 Conference Room	16 Floor at East Entrance		520 square feet
- 02B	Building 1 Conference Room	16 Floor at West Entrance		
- 02C	Building 1 Conference Room	16 Floor at West Entrance		

HM#	Material Description	Sample Location	Material Locations	Qty
- -				
- -				
- -				

HM#	Material Description	Sample Location	Material Locations	Qty
- -				
- -				
- -				

HM#	Material Description	Sample Location	Material Locations	Qty
- -				
- -				
- -				
- -				

Relinquished By: John Alexander Signature: [Signature] Date/Time: 12/22/16
 Received By: _____ Signature: [Signature] Date/Time: 12/22/16 12:10
 Relinquished By: _____ Signature: _____ Date/Time: _____
 Received By: _____ Signature: _____ Date/Time: _____