

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



1102
 Bob Kuykendall
 The Denali Group
 2255 Morello Avenue, Suite 208
 Pleasant Hill, CA 94523

PROJECT:
BUILDING 3 THEATER
COLLEGE OF SAN MATEO
SAN MATEO, CA

Micro Log In **198067**
 Total Samples 1
 Date Sampled 09/04/2014
 Date Received 09/05/2014
 Date Analyzed 09/05/2014

SAMPLE IDENTIFICATION		ASBESTOS INFORMATION QUANTITY (AREA %) / TYPES / LAYERS / DISTINCT SAMPLES	DOMINANT OTHER MATERIALS
Client #:	DG-1	NONE DETECTED	Matrix: ROCK FRAGMENTS, CARBONATE, Type: BINDER
Micro #: 198067-01	Analyst: WC CEMENTITIOUS MATERIAL ON METAL SCREENING OF 2ND BEAM IN THEATER		

Technical Supervisor:  9/5/2014

Gamini Ranatunga, Ph.D. Date Reported

NVLAP Lab Code 101872-0. CA ELAP Certification #1037. Analyses use Polarized Light Microscopy (PLM), Micro Analytical SOP PLM-101 (Rev. Jan. 2014). 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). 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 are indicated. Interferences may prevent detection of small asbestos fibers, and hinder determination of some optical properties. Sample heterogeneity is indicated by listing more than one distinct layer or material on the report. Layers 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 all layers 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. Samples that were reanalyzed 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.

Client ID #

MICRO ANALYTICAL LABORATORIES, INC.

Name / Client / Address:
Bob Kuykendall

5900 Hollis St., Suite M, Emeryville, CA 94608
(510) 653-0824 - (510) 653-1381 - FAX

Log in #

199067

Denali Group

Project

Asbestos (TEM)

2255 Morello Ave., Suite 208

Bldg. 3 - theater

Asbestos

PLM

Pleasant Hill, CA 94523

College of San Mateo

Lead Only

Tel. (925) 602-2333

San Mateo, CA

Metals (Specify)

Fax

Job No.

Mold, Non-Viable

E-mail denaligp@ix.netcom.com

Other (Specify)

Number of Samples

Turn-Around Time

1

2 days

Micro ID # (For Lab Use Only)	Client Sample ID#	Description	Date Sampled	Time Sampled Start / Stop / Total Minutes	Average LPM	Total Liters	Filter Pore Size
1	DG-1	Cementitious material on metal screening of 2nd beam in theater	9/4	0		0.00	
				0		0.00	
				0		0.00	
				0		0.00	
				0		0.00	
				0		0.00	
				0		0.00	
				0		0.00	
				0		0.00	
				0		0.00	
				0		0.00	
				0		0.00	
				0		0.00	

Instructions / Comments: Fax E-mail To:

denaligp@ix.netcom.com

Sample Return: YES NO If "YES" is checked, samples will be returned to the client or archived at Micro Analytical if required. If "NO" is checked, solid samples may be disposed of within three months (one week for liquid samples, lab suspensions, and digestates).

Sampler's Signature / Name: Bob Kuykendall 9/4/14 Note to Lab: If any samples are not acceptable, record reasons for rejection.

Relinquished By: [Signature] Date / Time: [] [] [] [] Received By: [Signature] Date / Time: 9/8/14 11:53

Relinquished By: [] Date/Time: [] [] [] [] Received By: [] Date / Time: [] [] [] []