



### EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077  
Tel/Fax: (800) 220-3675 / (856) 786-5974  
<http://www.EMSL.com> / [cinnaslab@EMSL.com](mailto:cinnaslab@EMSL.com)

EMSL Order: 041709025  
Customer ID: SMGS78C  
Customer PO:  
Project ID: Oroville EM OP

Attention: Ursula Parker  
Butte County AQMD  
629 Entier Avenue, Suite 15  
Chico, CA 95928  
Project: BCAQMD (Oroville EM OP)

Phone: (530) 332-9400  
Fax: (530) 332-9414  
Received Date: 4/ 1/2017 8:00 AM  
Analysis Date: 04/05/2017  
Collected Date: 03/31/2017

### Test Report: Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by CARB-Modified AHERA

Sample	Location	Volume (Liters)	Area Analyzed (mm <sup>2</sup> )	Non Asb	Asbestos Types	#Structures		Analytical Sensitivity (S/cc)	Asbestos Concentration	
						≥0.5μ < 5	≥5μ		(S/mm <sup>2</sup> )	(S/cc)
BCAS04 041709025-0001	TEM Sample (ARB)	2370.00	0.1760	2	Actinolite	0	2	0.0009	11.00	0.0019
F-1 041709025-0002	Field #1	0.00	0.1350	0	None Detected			N/A	<7.40	N/A
F-2 041709025-0003	Field #2	0.00	0.1350	0	None Detected			N/A	<7.40	N/A

Volume of air that passed through the filter medium (TEM), measured during approximately a 24 hour period (1440 minutes) multiplied by the average flow calculated in the field. Field samples do not have a flow and are open for less than 30 seconds.

Analytical sensitivity requirement on the volume of air pulled through affects the area analyzed; CARB OHERA = 0.001 analytical sensitivity. Field blanks have no volume of air flow, so no analytical sensitivity.

Non asbestos fibers detected in the air sample.

Which of six regulated types of asbestos fibers were detected, if any. The six types are: chrysotile, amosite (grunerite), crocidolite, tremolite, anthophyllite, and actinolite.

CARB modified looks at length vs width ratio 3:1 to determine structures, but OHERA is stricter; minimum fiber length.

CARB analytical sensitivity = 0.005, OHERA is more strict @ 0.001

Asbestos concentration in structures per mm<sup>2</sup> or structures per cc (volume of air). Note that DWR's consultant, SMS, has proposed a **Community Action Level at the Perimeter of the Oroville Dam property of 0.005 regulated asbestos structures/cubic centimeter (s/cc) of air.**