Alpha Analytical Laboratories, Inc. email: clientservices@alpha-labs.com
Corporate: 208 Mason Street | Ukiah, CA 95482 | T: 707-468-0401 | F: 707-468-5267 | ELAP# 1551

Bay Area: 262 Rickenbacker Circle | Livermore, CA 94551 | T: 925-828-6226 | F: 925-828-6309 | ELAP# 2728
Central Valley: 9090 Union Park Way Suite 113 | Elk Grove, CA 95624 | T: 916-686-5190 | F: 916-686-5192 | ELAP# 2922
North Bay: 110 Liberty Street | Petaluma, CA 94952 | T: 707-769-3128 | F: 707-769-8093 | ELAP# 2303
San Diego Service Center: 2722 Loker Avenue West Suite A | Carlsbad, CA 92010 | T: 760-930-2555 | F: 760-930-2510

12 December 2019

Volcano CSD
Attn: George Barnes
P O Box 72
Volcano, CA 95689

RE: Source Chemical Monitoring
Work Order: 19K2635

Enclosed are the results of analyses for samples received by the laboratory on 11/21/19 22:57. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Chelsea L. Sandelin For Karen L. Lantz
Project Manager

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San Diego Service Center: 2722 Loker Avenue West Suite A | Carlsbad, CA 92010 | T: 760-930-2555 | F: 760-930-2510

Volcano CSD	Project:	Source Chemical Monitoring	
P O Box 72	Project #:	0300016	Reported:
Volcano CA, 95689	Project Mgr:	George Barnes	12/12/19 09:05

Analytical Report for Samples

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Cleveland Tunnel	19K2635-01	Water	11/21/19 10:30	11/21/19 22:57
Well #1	19K2635-02	Water	11/21/19 10:40	11/21/19 22:57
Well #2	19K2635-03	Water	11/21/19 10:40	11/21/19 22:57

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Sample Name:	Cleveland Tunnel	Report Date:	12/12/19 09:05
Laboratory ID:	19K2635-01	Laboratory Code:	1610
System Name:	VOLCANO COMMUNITY SERVICE DIST	Sample Date:	11/21/19 10:30
Source Name:	0300016-003 CLEVELAND TUNNEL-RAW	Sample Received:	11/21/19 22:57
Sampled by:	George Barnes	User ID:	03C
Employed by:	Volcano CSD	System Number:	0300016

Data submitted to DDW via EDT

Semivolatile Organic Chemicals

Parameter	Result	MCL	DLR	Units	Storet	Test Method	ELAP #
Alachlor	<1.0	2	1.0	ug/L	77825	EPA 507	1551
Atrazine	<0.50	1	0.50	ug/L	39033	EPA 507	1551
Molinate	<2.0	20	2.0	ug/L	82199	EPA 507	1551
Simazine	<1.0	4	1.0	ug/L	39055	EPA 507	1551
Thiobencarb	<1.0	70	1.0	ug/L	A-001	EPA 507	1551

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Sample Name:	Well #1	Report Date:	12/12/19 09:05
Laboratory ID:	19K2635-02	Laboratory Code:	1610
System Name:	VOLCANO COMMUNITY SERVICE DIST	Sample Date:	11/21/19 10:40
Source Name:	0300016-001 VOLCANO CSD WELL 01	Sample Received:	11/21/19 22:57
Sampled by:	George Barnes	User ID:	03C
Employed by:	Volcano CSD	System Number:	0300016

Data submitted to DDW via EDT

Semivolatile Organic Chemicals

Parameter	Result	MCL	DLR	Units	Storet	Test Method	ELAP #
Alachlor	<1.0	2	1.0	ug/L	77825	EPA 507	1551
Atrazine	<0.50	1	0.50	ug/L	39033	EPA 507	1551
Molinate	<2.0	20	2.0	ug/L	82199	EPA 507	1551
Simazine	<1.0	4	1.0	ug/L	39055	EPA 507	1551
Thiobencarb	<1.0	70	1.0	ug/L	A-001	EPA 507	1551

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Sample Name:	Well #2	Report Date:	12/12/19 09:05
Laboratory ID:	19K2635-03	Laboratory Code:	1610
System Name:	VOLCANO COMMUNITY SERVICE DIST	Sample Date:	11/21/19 10:40
Source Name:	0300016-002 VOLCANO CSD WELL 02	Sample Received:	11/21/19 22:57
Sampled by:	George Barnes	User ID:	03C
Employed by:	Volcano CSD	System Number:	0300016

Data submitted to DDW via EDT

Semivolatile Organic Chemicals

Parameter	Result	MCL	DLR	Units	Storet	Test Method	ELAP #
Alachlor	<1.0	2	1.0	ug/L	77825	EPA 507	1551
Atrazine	<0.50	1	0.50	ug/L	39033	EPA 507	1551
Molinate	<2.0	20	2.0	ug/L	82199	EPA 507	1551
Simazine	<1.0	4	1.0	ug/L	39055	EPA 507	1551
Thiobencarb	<1.0	70	1.0	ug/L	A-001	EPA 507	1551

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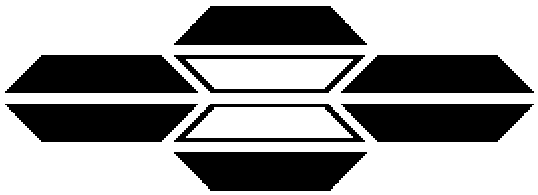
Notes and Definitions

ND Analyte NOT DETECTED at or above the reporting limit

* Tiered Maximum Contaminant and/or Action Levels: Sulfate and Chloride 250-500-600 mg/L, Specific Conductance 900-1600-2200 umho/cm, TDS 500-1000-1500 mg/L.



ASBESTOS TEM LABORATORIES, INC.

EPA 600/4-83 Drinking Water
Transmission Electron Microscopy
Analytical Report

Laboratory Job #367337

600 Bancroft Way, Ste. A
Berkeley, CA 94710
(510) 704-8930
FAX (510) 704-8429

ASBESTOS TEM LABORATORIES, INC

Certified by
CA DPH ELAP
Lab No. 1866

Dec/06/2019

Karen L. Lantz
Alpha Analytical Laboratories, Inc.
208 Mason Street
Ukiah, CA 95482

RE: LABORATORY JOB # 367337
Transmission electron microscopy analytical results for 3 water sample(s).
Job Site:
Job No.: 19K2635

Enclosed please find results for the TEM analysis of one or more water samples. The analytical procedures were performed according to EPA Method 100.2 for the analysis of asbestos in drinking water.

Prior to analysis, samples are checked for damage, disruption of any chain-of-custody seals, and completeness of accompanying paperwork. If no problems are found, samples are then logged-in, each given a unique laboratory number, and a hard copy containing all pertinent information is generated. This, and all other relevant paper work are kept with each sample throughout the analytical procedures to assure proper analysis.

Preparation of water samples is performed within a HEPA filtered, Class 100 air, laminar flow clean bench environment. Prior to filtration, water sample containers are ultrasonicated, and the exterior surfaces cleaned. An aliquot of water is drawn from the sample container and drawn through a special filtration apparatus and collected onto a mixed cellulose ester (MCE) or polycarbonate (PC) filter. The filters are removed from the apparatus and dried. A portion of each sample filter is sectioned, placed onto a glass microscope slide, and carbon coated. The filters are further sectioned and placed carbon side up onto 200-mesh copper TEM sample grids in a solvent bath until all filter material is dissolved. The TEM grids are removed and placed into labeled grid storage boxes.

TEM analysis is performed on a Philips EM-300 or CM-12 transmission electron microscope operating at 80 or 100 kV. Initially, the grid is scanned at low and medium magnification to insure proper sample loading, and coherence of the carbon support film. Then TEM grid openings are analyzed at a magnification of 10,000X. All fibers >10 um in length and exhibiting an aspect ratio >3:1 are analyzed. Scanning continues until either 100 asbestiform fibers >10um in length are counted, or an analytical sensitivity of 0.2 million fibers per liter (MFL) is achieved. Analyzed fibers are subjected to detailed morphological and selected area diffraction (SAED) analysis. Fibers indicated as asbestos, or potentially asbestos, are further analyzed by energy dispersive X-ray (EDX) analysis as needed. The number of asbestos fibers detected, and other analytical parameters, are then used to calculate the concentration of asbestos in MFL. The results are entered into a standard report format and reviewed by the analyst and the laboratory manager before release to the client.

Sincerely Yours,

Laboratory Manager
ASBESTOS TEM LABORATORIES, INC.

Disclaimer - These results relate only to the samples tested as received and must not be reproduced, except in full, with the approval of the laboratory. Incorrect or illegible information supplied by the customer may adversely affect the validity of test results. This report must not be used to claim product endorsement by the California Waterboards ELAP or any other agency of the State of California or U.S. Government.

TRANSMISSION ELECTRON MICROSCOPY
ANALYTICAL REPORT

Contact: Karen L. Lantz

Address: Alpha Analytical Laboratories, Inc.
208 Mason Street
Ukiah, CA 95482

Job Site / No. 19K2635

Report No.: **367337**

Date: Nov-25-19

Total Samples Analyzed: 3

Sample Collector: Sam Barnes

CLIENT SAMPLE # **19K2635-01**

Laboratory Sample # 1288-01603-001

SAMPLE LOCATION/DESCRIPTION

Cleveland Tunnel (Water) - 003

WATER SAMPLE DATA

Date/Time Collected	Nov-21-19 / 10:30 am	Volume Submitted (ml)	1000
Date/Time Lab Received	Nov-22-19 / 12:17 pm	Volume Filtered (ml)	15
Date/Time Filtered	Nov-22-19 / 2:08 pm	Filter & Pore Size	MCE 0.22
Date/Time Analyzed	Nov-24-19 / 11:30 am	UV/Ozone Treated:	NO

IDENTIFIED STRUCTURES (>10um)			
ASBESTOS		OTHER	
CHRYS	AMPH	AMBIG	NON-ASB
NSD	NSD	NSD	NSD

CALCULATED ASBESTOS STRUCTURE CONCENTRATION (>10um)		
CHRYS	AMPH	TOTAL
< 0.2 MFL	< 0.2 MFL	< 0.2 MFL

COMMENTS

No Asbestos Detected

Filter Loading: MODERATE

SAED Photo ID Nos.

TEM / ANALYTICAL PARAMETERS

Grid Openings Scanned at 10,000X	13	Analytical Sensitivity	0.2 MFL
Grid Opening Area (mm2)	0.0097	95% UCL	0.67 MFL
Scan Area (mm2)	0.1261	95% LCL	0 MFL

WATER SAMPLE LAB BLANK RESULTS

Lab ID#	H2O-BLK-925		
Grid Openings Scanned at 10,000X	8	Analytical Sensitivity	0.01 MFL
Volume Filtered (ml)	300	Asbestos Structure Concentration	<0.01 MFL

NOTATION KEY

Chrys. - Chrysotile Asbestos
Amph. - Amphibole Asbestos
NSD - No Structures Detected
1 mm = 1 millimeter
1 um = 1 micron = 0.001 mm
MFL = Millions of Fibers per Liter
UCL = Upper Confidence Level
LCL = Lower Confidence Level

Analyzed by Sean Clark

Reviewed by Alana Dingman

TRANSMISSION ELECTRON MICROSCOPY
ANALYTICAL REPORT

Contact: Karen L. Lantz

Address: Alpha Analytical Laboratories, Inc.
208 Mason Street
Ukiah, CA 95482

Job Site / No. 19K2635

Report No.: **367337**

Date: Nov-25-19

Total Samples Analyzed: 3

Sample Collector: Sam Barnes

CLIENT SAMPLE # **19K2635-02**

Laboratory Sample # 1288-01603-002

SAMPLE LOCATION/DESCRIPTION

Well #1 (Water) - 001

WATER SAMPLE DATA

Date/Time Collected	Nov-21-19 / 10:40 am	Volume Submitted (ml)	1000
Date/Time Lab Received	Nov-22-19 / 12:17 pm	Volume Filtered (ml)	5
Date/Time Filtered	Nov-22-19 / 2:11 pm	Filter & Pore Size	MCE 0.22
Date/Time Analyzed	Nov-24-19 / 12:00 pm	UV/Ozone Treated:	NO

IDENTIFIED STRUCTURES (>10um)			
ASBESTOS		OTHER	
CHRYS	AMPH	AMBIG	NON-ASB
NSD	NSD	NSD	NSD

CALCULATED ASBESTOS STRUCTURE CONCENTRATION (>10um)		
CHRYS	AMPH	TOTAL
< 0.2 MFL	< 0.2 MFL	< 0.2 MFL

COMMENTS

No Asbestos Detected

Filter Loading: MODERATE

SAED Photo ID Nos.

TEM / ANALYTICAL PARAMETERS

Grid Openings Scanned at 10,000X	39	Analytical Sensitivity	0.2 MFL
Grid Opening Area (mm2)	0.0097	95% UCL	0.67 MFL
Scan Area (mm2)	0.3783	95% LCL	0 MFL

WATER SAMPLE LAB BLANK RESULTS

Lab ID#	H2O-BLK-925		
Grid Openings Scanned at 10,000X	8	Analytical Sensitivity	0.01 MFL
Volume Filtered (ml)	300	Asbestos Structure Concentration	<0.01 MFL

NOTATION KEY

Chrys. - Chrysotile Asbestos
Amph. - Amphibole Asbestos
NSD - No Structures Detected
1 mm = 1 millimeter
1 um = 1 micron = 0.001 mm
MFL = Millions of Fibers per Liter
UCL = Upper Confidence Level
LCL = Lower Confidence Level

Analyzed by Sean Clark

Reviewed by Alana Dingman

TRANSMISSION ELECTRON MICROSCOPY
ANALYTICAL REPORT

Contact: Karen L. Lantz

Address: Alpha Analytical Laboratories, Inc.
208 Mason Street
Ukiah, CA 95482

Job Site / No. 19K2635

Report No.: **367337**

Date: Nov-25-19

Total Samples Analyzed: 3

Sample Collector: Sam Barnes

CLIENT SAMPLE # **19K2635-03**

Laboratory Sample # 1288-01603-003

SAMPLE LOCATION/DESCRIPTION

Well #2 (Water) - 002

WATER SAMPLE DATA

Date/Time Collected	Nov-21-19 / 10:40 am	Volume Submitted (ml)	1000
Date/Time Lab Received	Nov-22-19 / 12:17 pm	Volume Filtered (ml)	5
Date/Time Filtered	Nov-22-19 / 2:25 pm	Filter & Pore Size	MCE 0.22
Date/Time Analyzed	Nov-24-00 / 1:00 pm	UV/Ozone Treated:	NO

IDENTIFIED STRUCTURES (>10um)			
ASBESTOS		OTHER	
CHRYS	AMPH	AMBIG	NON-ASB
NSD	NSD	NSD	NSD

CALCULATED ASBESTOS STRUCTURE CONCENTRATION (>10um)		
CHRYS	AMPH	TOTAL
< 0.2 MFL	< 0.2 MFL	< 0.2 MFL

COMMENTS

No Asbestos Detected

Filter Loading: MODERATE

SAED Photo ID Nos.

TEM / ANALYTICAL PARAMETERS

Grid Openings Scanned at 10,000X	39	Analytical Sensitivity	0.2 MFL
Grid Opening Area (mm2)	0.0097	95% UCL	0.67 MFL
Scan Area (mm2)	0.3783	95% LCL	0 MFL

WATER SAMPLE LAB BLANK RESULTS

Lab ID#	H2O-BLK-925		
Grid Openings Scanned at 10,000X	8	Analytical Sensitivity	0.01 MFL
Volume Filtered (ml)	300	Asbestos Structure Concentration	<0.01 MFL

NOTATION KEY

Chrys. - Chrysotile Asbestos
Amph. - Amphibole Asbestos
NSD - No Structures Detected
1 mm = 1 millimeter
1 um = 1 micron = 0.001 mm
MFL = Millions of Fibers per Liter
UCL = Upper Confidence Level
LCL = Lower Confidence Level

Analyzed by Sean Clark

Reviewed by Alana Dingman

367337

SUBCONTRACT ORDER

Alpha Analytical Laboratories, Inc.

19K2635

SENDING LABORATORY:	RECEIVING LABORATORY:
Alpha Analytical Laboratories, Inc.	Asbestos TEM Laboratories, Inc.
208 Mason St.	600 Bancroft Way, Suite A
Ukiah, CA 95482	Berkeley, CA 94710
Phone: (707)468-0401	Phone :(510) 704-8930
Fax: (707)468-5267	Fax: (510) 704-8429
Project Manager: Karen L. Lantz	**Terms: Net 30**

Analysis	Due	Expires	Comments
19K2635-01 Cleveland Tunnel [Water] Sampled 11/21/19 10:30			-003
Asbestos-DW SUB	12/10/19 12:00	11/23/19 10:30	
Containers Supplied:			
1L Amber- Unpres. (C) 1L Amber- Unpres. (D)			
19K2635-02 Well #1 [Water] Sampled 11/21/19 10:40			-001
Asbestos-DW SUB	12/10/19 12:00	11/23/19 10:40	
Containers Supplied:			
1L Amber- Unpres. (C) 1L Amber- Unpres. (D)			
19K2635-03 Well #2 [Water] Sampled 11/21/19 10:40			-002
Asbestos-DW SUB	12/10/19 12:00	11/23/19 10:40	
Containers Supplied:			
1L Amber- Unpres. (C) 1L Amber- Unpres. (D)			

☒ *Report to State*

System Name: Volcano CSD

User ID: 03C

System Number: 03000116

Employed by: Same

Sampler: George Barnes

11/22/19 12:17PM

Released By	Date	Received By	Date
[signature]	11/22/19 1213	MTZ	
Released By	Date	Received By	Date

Alpha Analytical Laboratories Inc.
www.alpha-labs.com
WATERS, SEDIMENTS, SOLIDS

Corporate Laboratory
208 Mason Street, Ukiah CA 95482
707-468-0401 F) 707-468-5267
email: clientservices@alpha-labs.com

ELAP Certifications
Ukiah 1551 / Dublin 2728 / Elk Grove 2922

Bay Area Laboratory
262 Rickenbacker Circle; Livermore, CA 94551
925-828-6226 F) 925-828-6309

Central Valley Laboratory
9090 Union Park Way #113, Elk Grove CA 95624
916-686-5190 F) 916-686-5192

Chain of Custody - Work Order

Reports and Invoices delivered by email in PDF format

Lab No 19K2635 Pg ____ of ____

Report to	Invoice to (if different)	Project Information
Company: Volcano CSD	Contact:	Project ID: SCM
Attn: George Barnes	Email address:	Project No: 0300016-Raw
Address: PO Box 72, Volcano, CA 95689	Address:	PO Number:
Phone/Fax: 209-296-4888	Phone/Fax:	
Email Address:		Internal Lab Use: 441(SCM VI)

Signature below authorizes work under terms stated on reverse side.

Field Sampler - Printed Name & Signature: George Barnes

Sample Identification	Sampling Date	Sampling Time	Container: 40ml Vial	Poly	Glass	Sleeve	Other	Preservative: HCl	HNO3	NaOH	Na2S2O3	None	Matrix: Water DW	Soil	Other	Total Number of Containers per Sample ID	Analysis Request: Atrazine & Simizine	Asbestos - BA C
✓ Cleveland Tunnel	11-21	10:30			x							x	x			4	x	x
✓ Well #1	11-21	10:40			x							x	x			4	* x	x
✓ Well #2	11-21	10:40			x							x	x			4	x	x

TAT
- Standard 10 days
- Standard 5 days X 48 hours (Lab preapproval required)
- Other: ____days

Temp upon Receipt °C
- Ukiah temp: 3.1 °C
- Dublin temp: 5.0 °C
- Elk Grove temp: 5.1 C

Sample Notes or CDPH Source Numbers:
- 0300016-003
- 0300016-001
- 0300016-002
- * Cap broken on 1 amber liter bottle
- DUE EVERY 9 YEARS
- NEXT DUE NOV 2019

Relinquished by	Received by	Date	Time
George Barnes		11/21/19	1305
		11/21/19	1400
Frank Battaglia		11/21/19	1500
		11/21/19	1628
PH	PH	11-22-19	19:45 PH
PH	PH	11-21-19	22:52 PH

CDPH Write On EDT Transmission? Yes No

State System Number: 0300016

If "Y" please enter the Source Number(s) in the column above

Mail Hardcopy to DDW- ? Yes No

Hardcopy to DDW attn:

Travel and Site Time: | Mileage: | Misc. Supplies: