SCA
Environmental, Inc.
Engineering and Environmental Consultants

June 15, 2011

Mr. Jonathan Rossen, CIH, CSP
BART Safety Department
300 Lakeside Drive, 18th Floor
Oakland, CA 94612

jrossen@bart.gov

RE: BART Ambient Air Sampling Report
Asbestos Fireproofed Stations Systemwide
SCA Project No. B-10269

Dear Jonathan:

Attached hereto is SCA's Ambient Air Sampling Report for the subject project.

If you have any questions, please do not hesitate to contact me at (510) 267-2723 or gcass@sca-enviro.com.

Sincerely,
SCA ENVIRONMENTAL, INC.

Glenn R. Cass, PE, CIH
Vice President

File: B-10269 Trnx 6-15-11

SUMMARY REPORT: AMBIENT AIR MONITORING FOR ASBESTOS AND AIRBORNE METALS BAY AREA RAPID TRANSIT SYSTEM-WIDE STATIONS WITH ASBESTOS-CONTAINING FIREPROOFING

PREPARED FOR:

MR. JONATHAN ROSSEN, CIH, CSP
BAY AREA RAPID TRANSIT (BART)
SAFETY DEPARTMENT
300 LAKESIDE DRIVE, 18TH FLOOR
OAKLAND, CA 94612

PREPARED BY:

SCA

ENVIRONMENTAL, INC.
Engineering and Environmental Consultants

334 19TH STREET
OAKLAND, CA 94612
TEL: (510) 645-6200
EFAX: (415) 962-0736

SCA PROJECT NO.: B-10269

JUNE 15, 2011

SUMMARY REPORT
AMBIENT AIR MONITORING FOR ASBESTOS & AIRBORNE METALS
BAY AREA RAPID TRANSIT
SYSTEMWIDE STATIONS WITH ASBESTOS-CONTAINING FIREPROOFING

CONDUCTED FOR

MR. JONATHAN ROSSEN, CIH, CSP
BAY AREA RAPID TRANSIT (BART)
SAFETY DEPARTMENT
300 LAKESIDE DRIVE, 18TH FLOOR
OAKLAND, CA 94612

JUNE 15, 2011

SCA PROJECT NO. B-10269

PREPARED BY:

GLENN R. CASS, PE, CIH, CAC #92-0092
VICE PRESIDENT

SCA ENVIRONMENTAL, INC.
334 19TH STREET
OAKLAND, CA 94612
TEL: (510) 645-6200
EFAX: (415) 962-0736

Abstract

This report summarizes the observations and results of ambient air testing for asbestos and airborne metals conducted at the various Bay Area Rapid Transit (BART) stations with asbestos-containing fireproofing and/or vinyl asbestos floor tiles and mastics. The monitoring was conducted from May 31 through June 3, 2011. The purpose of monitoring the stations with asbestos-containing fireproofing was to determine the level of airborne asbestos and metals in the stations and to assess the potential hazards to occupants.

The sample results revealed airborne asbestos fiber levels ranging from 0.0024 to 0.0068 fibers/cc based on Phase Contrast Microscopy (PCM) analyses. These results indicate that the airborne asbestos concentration at all sites tested is statistically comparable to background levels, and is not affected by the presence of asbestos-containing construction materials, such as asbestos-containing fireproofing found throughout the structural members.

The downtown San Francisco stations experience black soot from the Muni-Metro system sharing a similar tunnel and ventilation system and from rail grinding activities. Airborne sampling was conducted with analyses for suspect airborne metals, including iron, lead, chromium, copper, nickel and zinc. In summary, airborne metal concentrations were found to be as follows:

- Iron concentrations ranged from <4.6 to 80 $\mu g/m^3$, or well below the Cal/OSHA Permissible Exposure Limit of 5,000 $\mu g/m^3$.
- Copper concentrations ranged from <0.11 to 1.1 $\mu g/m^3$, or well below the Cal/OSHA Permissible Exposure Limit of 100 $\mu g/m^3$.
- Lead concentrations were non-detectable or below 0.14 $\mu g/m^3$, or well below the Cal/OSHA Action Level of 30 $\mu g/m^3$ and the EPA's National Ambient Air Quality Standard (NAAQS) of 1.5 $\mu g/m^3$.
- Zinc concentrations were non-detectable or below 1.4 $\mu g/m^3$, or well below the Cal/OSHA Permissible Exposure Limit of 5,000 $\mu g/m^3$.
- Nickel concentrations ranged from <0.11 to 0.39 $\mu g/m^3$, or well below the Cal/OSHA Permissible Exposure Limit of 1,000 $\mu g/m^3$.
- Chromium concentrations ranged from <0.14 to 0.21 $\mu g/m^3$, or well below the Cal/OSHA Permissible Exposure Limit of 500 $\mu g/m^3$.

Project Personnel

BAY AREA RAPID TRANSIT (BART)

Certified Industrial Hygienist ..... Jonathan Rossen, CIH

SCA ENVIRONMENTAL, INC. (SCA)

Certified Asbestos Consultant ..... Glenn R. Cass, PE, CIH, CAC #92-0092
Certified Asbestos Consultant ..... Tyler Harris, CAC #10-4704

Table of Contents

1.0 Introduction

This report summarizes the sampling results collected during the ambient air monitoring for asbestos conducted in the Bay Area Rapid Transit's system-wide stations with asbestos-containing fireproofing. The airborne asbestos sampling included the following stations:

- Powell Street Station, San Francisco, CA
- Montgomery Street Station, San Francisco, CA
- 12th Street Station, Oakland, CA
- 19th Street Station, Oakland, CA
- MacArthur Station, Oakland, CA
- Berkeley Main Station, Berkeley, CA
- Ashby Station, Berkeley, CA
- 16th Street Station, San Francisco, CA
- 24th Street Station, San Francisco, CA
- Rockridge Station, Oakland, CA
- Lafayette Station, Lafayette, CA

SCA Environmental, Inc. (SCA) conducted the monitoring from May 31, 2011 through June 3, 2011 at the request of the Bay Area Rapid Transit.

Portions of the systems' structural steel are protected with fireproofing that contains Chrysotile asbestos. In addition, several other construction materials contain asbestos (including various vinyl floor tiles and mastics in various Train Control Rooms. Asbestos is regulated as a respiratory carcinogen. In order to verify that the operations and maintenance program implemented for this building are working properly, testing for the levels of airborne asbestos fibers is conducted periodically.

2.0 Methodology

Asbestos

Ambient air samples for asbestos were collected at the following stations and quantities:

San Francisco
- Powell Street Station (2)
- Montgomery Street Station (2)

Oakland
- 12th Street Station (1)
- 19th Street Station (1)
- MacArthur Station (1)
- Berkeley Main Station (1)
- Ashby Station (1)

M-Line
- 16th Street (1)
- 24th Street (1)

C-Line
- Rockridge (1)
- Lafayette (1)

Ambient sampling for airborne metals was also conducted at three downtown San Francisco stations, which experience black soot and dust deposits associated with the Muni-Metro system within the same tunnels and ventilation system and wheel grinding activities. Airborne metals sampling were conducted at the following stations:

- Powell Street Station, San Francisco, CA
- Montgomery Street Station, San Francisco, CA
- Embarcadero Station, San Francisco, CA

All the asbestos samples were analyzed by Phase Contrast Microscopy (PCM), except for the project blanks, in accordance with the National Institute for Occupational Safety and Health (NIOSH) method 7400. PCM results are calculated in fibers per cubic centimeter (f/cc).

All air samples were collected for approximately 24 hours using Buck Libra low flow, AC-operated or similar air pumps to maintain even flow rates. Samples were collected on Zefon International Inc. Model Z045BA 25-millimeter, 0.45-micrometer pore size, mixed cellulose ester membrane filters in open-faced cassettes with conductive cowls. Pump flow rates were calibrated against a primary standard.

The contract laboratory that provided analytical asbestos services for the project is summarized below:

Laboratory	Analysis Type	Accreditation
Asbestos TEM Laboratories, Berkeley, CA	PCM & TEM Asbestos Analyses	• National Voluntary Laboratory Accreditation Program (NVLAP # 101891-0). • California Environmental Laboratory Accreditation Program (ELAP).

Airborne Metals

Ambient air sampling for airborne metals was also conducted at three downtown San Francisco stations, which included:

- Powell Street Station

- Montgomery Street Station
- Embarcadero Station

Metal samples were collected per Modified OSHA Method 121, using Zefon International Inc. 37-mm diameter, 0.8-micron pore size mixed cellulose ester filter (MCEF) cassettes and a low volume Buck Libra or similar AC-powered pump at about 2.5 to 3.1 liters per minute (lpm) for a sampling period of about 24-hours. The metals samples were analyzed by induced coupled plasma/mass spectrometry (ICP/MS) for lead, iron, copper, zinc, mercury, nickel and chromium by SCA's contract laboratory, McCampbell Analytical, Inc. in Pittsburg, CA

Laboratory	Analysis Type	Accreditation
McCampbell Analytical Laboratory, Pacheco, CA	Airborne Metals	• California Environmental Laboratory Accreditation Program (ELAP #1644).

3.0 Applicable Standards

Asbestos

A summary of airborne asbestos standards applicable to this project is tabulated as follows:

Table 1: Summary of Asbestos Standards

Source	Level	Nature	Comments
Cal/OSHA[1]	0.1 f/cc 1.0 f/cc	Occupational & mandatory	8-hour Time Weighted Average (TWA) Permissible Exposure Level (PEL) (triggers OSHA required training, medical examinations, etc.) Excursion Limit (EL) for 30 minutes sampling duration
NIOSH[2]	0.1 f/cc	Recommended	Occupational PEL
ACGIH[3]	0.2 f/cc	Recommended	Occupational Threshold Limit Value (TLV) Notice of Intended Changes
Calif. Prop 65[4]	vague	Mandatory	Standard and monitoring method are unclear, but generally interpreted as comparable to outside ambient air
Bay Area Rapid Transit	0.01 f/cc (PCM) 70 str/mm^2 (TEM)	Contractual & mandatory Contractual & mandatory	Ambient air action level for occupied areas via PCM. Originating from AHERA[5] regulations and adopted by Bay Area Rapid Transit. Ambient air action level for occupied areas via TEM. Originating from AHERA[5] regulations and adopted by Bay Area Rapid Transit.

1 California Department of Industrial Relations, Division of Occupational Safety and Health, 8 CCR 1529.
2 National Institute of Occupational Safety and Health
3 American Conference of Governmental Industrial Hygienists, 2004
4 California Proposition 65
5 Asbestos Hazard Emergency Response Act (AHERA); 40 CFR Part 763

Airborne Metals

Table 2 below summarizes the applicable published Cal/OSHA, NIOSH and ACGIH permissible exposure limits and recommended standards for lead, iron, copper, zinc, nickel, chromium and mercury.

Table 2: Summary of Airborne Metal Contaminant Standards

Contaminant	Source	Level	Nature	Comments
Lead	Cal/OSHA[1]	50 µg/m^3 30 µg/m^3	Occupational & mandatory	8-hour Time Weighted Average (TWA) Permissible Exposure Level (PEL), as analyzed by ICP Action Level (triggers OSHA required medical surveillance program, etc.), as analyzed by ICP
	NIOSH	1.5 µg/m^3	Recommended	8-hour Time Weighted Average (TWA) Permissible Exposure Level (PEL), as analyzed by AA/ICP
	ACGIH[3]	50 µg/m^3	Recommended TWA	8-hour Time Weighted Average (TWA) Permissible Exposure Level (PEL) for inorganic compounds
	NAAQS	1.5 µg/m^3	Recommended	National Ambient Air Quality Standard (NAAQS), adopted for ambient, non-construction areas.

Table 2 cont.: Summary of Airborne Metals Contaminant Standards

Contaminant	Source	Level	Nature	Comments
Iron	Cal/OSHA[2]	5,000 $\mu g/m^3$	Occupational & mandatory	8-hour Time Weighted Average (TWA) Permissible Exposure Level (PEL) as analyzed by ICP for iron oxide fumes
	ACGIH[3]	5,000 $\mu g/m^3$	Recommended TWA	8-hour Time Weighted Average (TWA) Permissible Exposure Level (PEL) for iron oxide fumes
Copper	Cal/OSHA[2]	100 $\mu g/m^3$	Occupational & mandatory	8-hour Time Weighted Average (TWA) Permissible Exposure Level (PEL) as analyzed by ICP as copper metal fumes
	ACGIH[3]	200 $\mu g/m^3$ 1,000 $\mu g/m^3$	Recommended TWA	8-hour Time Weighted Average (TWA) Permissible Exposure Level (PEL) for fumes 8-hour Time Weighted Average (TWA) Permissible Exposure Level (PEL) for dusts and mists
Zinc	Cal/OSHA[2]	5,000 $\mu g/m^3$	Occupational & mandatory	8-hour Time Weighted Average (TWA) Permissible Exposure Level (PEL) as analyzed by ICP as zinc oxide fumes
	ACGIH[3]	5,000 $\mu g/m^3$ 10,000 $\mu g/m^3$	Recommended TWA	8-hour Time Weighted Average (TWA) Permissible Exposure Level (PEL) for fumes 8-hour Time Weighted Average (TWA) Permissible Exposure Level (PEL) for dusts
Nickel	Cal/OSHA[2]	1,000 $\mu g/m^3$	Occupational & mandatory	8-hour Time Weighted Average (TWA) Permissible Exposure Level (PEL) as analyzed by ICP
	ACGIH[3]	1,500 $\mu g/m^3$	Recommended TWA	8-hour Time Weighted Average (TWA) Permissible Exposure Level (PEL) for elemental metal
Chromium	Cal/OSHA[2]	500 $\mu g/m^3$	Occupational & mandatory	8-hour Time Weighted Average (TWA) Permissible Exposure Level (PEL) as analyzed by ICP as chromium metal
	ACGIH[3]	500 $\mu g/m^3$	Recommended TWA	8-hour Time Weighted Average (TWA) Permissible Exposure Level (PEL) for metals and Cr III compounds

1 Occupational Safety and Health Administration for the State of California, 8 CCR Section 1532.1

2 Occupational Safety and Health Administration for the State of California, 8 CCR Section 5155, Table AC-1 Permissible Exposure Limits for Chemical Contaminants.

3 American Conference of Governmental Industrial Hygienist (ACGIH), "2004 TLVs and BEIs Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices."

4.0 Results and Discussion

Asbestos

Sampling was conducted as part of the BART's Ambient Air Quality Monitoring Program, since the listed stations have asbestos-containing fireproofing. Sampling was conducted for an approximately 24-hour period on May 31-31, 2011 to June 1, 2011 in the San Francisco stations and June 2, 2011 to June 3, 2011 in the East Bay Stations.

At the request of Mr. Jonathan Rossen, CIH, CSP within BART's Safety Department, SCA Environmental, Inc. (SCA) conducted visual inspections and ambient air testing. SCA's Environmental Scientist, Mr. Tyler Harris (Certified Asbestos Consultant #10-4704), conducted work under the direct supervision of Mr. Glenn Cass, PE, CIH of SCA. Mr. Cass is a Cal/OSHA registered Certified Asbestos Consultant (CAC #92-0092) and a Certified Industrial Hygienist (CIH).

The ambient air sampling results for the Stations are summarized in Table 3 below. The laboratory reports and field data sheets are included as Attachment 1 and 3, respectively. All observed asbestos-containing fireproofing was noted to be in "good" condition. No notable areas of imminent danger were observed within the representative areas viewed by SCA's Surveyor. Background airborne fiber concentrations by PCM were as follows:

Table 3: Summary of Asbestos Results – Stations with ACM Fireproofing

Station	Location	Sample I.D.	Results (fibers/cc)	Comments
Lafayette	Train Control Room w/VAT	LAF-0602-CONT	0.0030	Below the EPA's PCM Clearance Air Standards of 0.01 f/cc
Rockridge	Janitor's Room 203	ROCK-0602-JAN	0.0068	Below the EPA's PCM Clearance Air Standards of 0.01 f/cc
MacArthur	Break Room	MAC-0602-BREAK	0.0059	Below the EPA's PCM Clearance Air Standards of 0.01 f/cc
Berkeley	Break Room 108	BERK-0602-BREAK	0.0033	Below the EPA's PCM Clearance Air Standards of 0.01 f/cc
Ashby	Elevator Room 204	ASHBY-0602-EL	0.0030	Below the EPA's PCM Clearance Air Standards of 0.01 f/cc
19th St. Oakland	Mech. Room 108A	BART-0531-07	0.0030	Below the EPA's PCM Clearance Air Standards of 0.01 f/cc
12th St. Oakland	Electrical Room 107C	12-0602-ELECT	0.0034	Below the EPA's PCM Clearance Air Standards of 0.01 f/cc
Montgomery	Peet's Coffee Storage Rm.	BART-0531-05	0.0040	Below the EPA's PCM Clearance Air Standards of 0.01 f/cc
Montgomery	Room 111	BART-0531-06	0.0039	Below the EPA's PCM Clearance Air Standards of 0.01 f/cc
Powell	Air Vent Room 110	BART-0531-01	0.0041	Below the EPA's PCM Clearance Air Standards of 0.01 f/cc
Powell	Mech. Room 104	BART-0531-02	0.0024	Below the EPA's PCM Clearance Air Standards of 0.01 f/cc
16th St. Mission	Mech. Room 101A	BART-0531-04	0.0037	Below the EPA's PCM Clearance Air Standards of 0.01 f/cc
24th St. Mission	Mech. Room 101A	BART-0531-03	0.0036	Below the EPA's PCM Clearance Air Standards of 0.01 f/cc

* Sample not analyzed, sample pump stopped during sampling period; cause for interference is unknown.

All ambient Station air samples were below the BART's Perimeter Action Level of 0.01 fibers per cubic centimeter (fibers/cc). The results were generally found to be comparable to the previous sampling rounds completed by SCA and other Consultants.

Airborne Metals

SCA sampled for metal concentrations for 3 San Francisco Stations to determine typical airborne metals concentrations. Sampling occurred during typical daytime and nighttime operations with the fans on as well as overnight. The purpose of this sampling was to determine the metal content of black soot arising from the Muni-Metro system above, which shares a common ventilation system.

Table 4 below summarizes the lead/metals in air results for the two sampling periods.

Table 4: Summary of Airborne Metals Sampling Results – Selected San Francisco Stations

Sample I.D.	Date & Volume (liters)	Location	Contaminant	Results ($\mu g/m^3$)	Comments
BART-M-0531-03	5/31/11 – 6/1/11 (4,103 Liters)	Embarcadero Station Bike Shop 106	Lead	ND	Below NAAQS Standard of 1.5 $\mu g/m^3$
			Copper	ND	Below Cal/OSHA PEL of 100 $\mu g/m^3$
			Zinc	ND	Below Cal/OSHA PEL of 5,000 $\mu g/m^3$
			Nickel	ND	Below Cal/OSHA PEL of 1,000 $\mu g/m^3$
			Chromium	0.12	Below Cal/OSHA PEL of 500 $\mu g/m^3$
			Iron	ND	Below Cal/OSHA PEL of 5,000 $\mu g/m^3$
BART-M-0531-02	5/31/11/ to 6/1/11 (3,565 liters)	Montgomery Street Station Room 111	Lead	ND	Below NAAQS Standard of 1.5 $\mu g/m^3$
			Copper	ND	Below Cal/OSHA PEL of 100 $\mu g/m^3$
			Zinc	ND	Below Cal/OSHA PEL of 5,000 $\mu g/m^3$
			Nickel	0.15	Below Cal/OSHA PEL of 1,000 $\mu g/m^3$
			Chromium	ND	Below Cal/OSHA PEL of 500 $\mu g/m^3$
			Iron	10	Below Cal/OSHA PEL of 5,000 $\mu g/m^3$
BART-M-0531-01	5/31/11 to 6/1/11 (4,356 Liters)	Powell Street Station Break Room	Lead	ND	Below NAAQS Standard of 1.5 $\mu g/m^3$
			Copper	1.1	Below Cal/OSHA PEL of 100 $\mu g/m^3$
			Zinc	ND	Below Cal/OSHA PEL of 5,000 $\mu g/m^3$
			Nickel	.39	Below Cal/OSHA PEL of 1,000 $\mu g/m^3$
			Chromium	0.21	Below Cal/OSHA PEL of 500 $\mu g/m^3$
			Iron	80	Below Cal/OSHA PEL of 5,000 $\mu g/m^3$

ND = None Detected

Table 4 results are summarized as follows:

- Airborne lead concentrations during the sampling periods all fell below 0.014 $\mu g/m^3$, or less than the analytical detection limit. All perimeter airborne lead concentrations fell well below Cal/OSHA's Action Level or Permissible Exposure Level (PEL) of 30 $\mu g/m^3$ and 50 $\mu g/m^3$, respectively, as well as the National Ambient Air Quality Standard (NAAQS) of 1.5 $\mu g/m^3$.

- Airborne iron concentrations during the sampling period ranged from <4.6 to 80 $\mu g/m^3$. All airborne iron concentrations fell well below Cal/OSHA's Permissible Exposure Level (PEL) of 5,000 $\mu g/m^3$.

- Airborne copper concentrations during the sampling period ranged from <0.11 to 1.1 $\mu g/m^3$, or well below Cal/OSHA's Permissible Exposure Level (PEL) of 100 $\mu g/m^3$ for copper fume.

- Airborne zinc concentrations during the sampling period all fell below 1.4 $\mu g/m^3$, or less than the analytical detection limit, or well below Cal/OSHA's Permissible Exposure Level (PEL) of 5,000 $\mu g/m^3$ for zinc fumes.

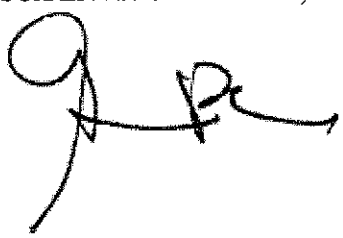
- Airborne nickel concentrations during the sampling period ranged from <0.11 to 0.39 $\mu g/m^3$, or well below Cal/OSHA's Permissible Exposure Level (PEL) of 1,000 $\mu g/m^3$.

- Airborne chromium concentrations during the sampling period all ranged from 0.12 to 0.21 $\mu g/m^3$, or well below Cal/OSHA's Permissible Exposure Level (PEL) of 500 $\mu g/m^3$.

See Attachment 2 for airborne metals laboratory results. See Attachment 3 for field data sheets.

Please feel free to contact me directly at (510) 267-2723 or gcass@sca-enviro.com if you have any questions or require any additional information.

Sincerely,
SCA ENVIRONMENTAL, INC.



Glenn R. Cass, PE, CIH, CAC #92-0092, CDPH #717
Vice-President

File/Disk: B-10269 BART Ambient

Attachment 1

Laboratory Results - Asbestos

PHASE CONTRAST MICROSCOPY
ANALYTICAL REPORT
NIOSH 7400 Method

Contact: Glenn R. Cass

Address: SCA Environmental, Inc.
334 19th Street
Oakland, CA 94612

Samples Submitted: 1

Samples Analyzed: 1

Job Site / No. Powell Station
B10264 - GRC

Report No.: **302124**

Date Submitted: Jun-01-11

Date Reported: Jun-07-11

SAMPLE ID	FIBERS per CC	95% UCL	FIBERS per FIELDS	FIBERS per FILTER	LOCATION / DESCRIPTION		
					Volume(L)	Run Time(Min)	Flow Rate(LPM)
BART-0531-01(Powell) Lab ID # 606-12421-001	**0.0041**	**0.0068**	**9.0 / 100**	**4414**	1064		
Blank Lab ID # 606-12421-002	**NA**	**NA**	**NA / 100**	**NA**	Blank		
Lab ID #							
Lab ID #							
Lab ID #							
Lab ID #							
Lab ID #							
Lab ID #							
Lab ID #							
Lab ID #							

Detection Limit = 7 Fibers/MM2

Analyst ____________________

PHASE CONTRAST MICROSCOPY
ANALYTICAL REPORT
NIOSH 7400 Method

Contact: Glenn Cass

Address: SCA Environmental, Inc.
334 19th Street
Oakland, CA 94612

Samples Submitted: 6
Samples Analyzed: 6
Job Site / No. BART
B-10269-GRC

Report No.: **302182**
Date Submitted: Jun-02-11
Date Reported: Jun-09-11

SAMPLE ID	FIBERS per CC	95% UCL	FIBERS per FIELDS	FIBERS per FILTER	LOCATION / DESCRIPTION
BART-0531-02 (Powell) Lab ID # 606-12436-001	**0.0024**	**0.0035**	**24.0 / 100**	**11771**	Powell Volume(L) Run Time(Min) Flow Rate(LPM) 4909
BART-0531-03 (24TH ST) Lab ID # 606-12436-002	**0.0036**	**0.0054**	**18.0 / 100**	**8828**	24th Volume(L) Run Time(Min) Flow Rate(LPM) 2449
BART-0531-04 (16TH St.) Lab ID # 606-12436-003	**0.0037**	**0.0057**	**16.5 / 100**	**8092**	16th Volume(L) Run Time(Min) Flow Rate(LPM) 2160
BART-0531-05 (Montgomery) Lab ID # 606-12436-004	**0.0040**	**0.0059**	**22.0 / 100**	**10790**	Mont Volume(L) Run Time(Min) Flow Rate(LPM) 2722
BART-0531-06 (Montgomery) Lab ID # 606-12436-005	**0.0039**	**0.0060**	**16.0 / 100**	**7847**	Mont Volume(L) Run Time(Min) Flow Rate(LPM) 1995
BART-0531-07 (19th. St.) Lab ID # 606-12436-006	**0.0030**	**0.0045**	**18.0 / 100**	**8828**	19th Volume(L) Run Time(Min) Flow Rate(LPM) 2973
Blank Lab ID # 606-12436-007	**NA**	**NA**	**NA / 100**	**NA**	Blank Volume(L) Run Time(Min) Flow Rate(LPM) 0
Lab ID #					Volume(L) Run Time(Min) Flow Rate(LPM)
Lab ID #					Volume(L) Run Time(Min) Flow Rate(LPM)
Lab ID #					Volume(L) Run Time(Min) Flow Rate(LPM)

Detection Limit = 7 Fibers/MM2

Analyst [signature]

PHASE CONTRAST MICROSCOPY
ANALYTICAL REPORT

NIOSH 7400 Method

Contact: Glenn Cass

Address: SCA Environmental, Inc.
334 19th Street
Oakland, CA 94612

Samples Submitted: 6

Samples Analyzed: 6

Job Site / No. BART Systemwide
B-10269-GRC

Report No.: **302183**
Date Submitted: Jun-06-11
Date Reported: Jun-12-11

SAMPLE ID	FIBERS per CC	95% UCL	FIBERS per FIELDS	FIBERS per FILTER	LOCATION / DESCRIPTION
MAC-0602-BREAK Lab ID # 606-12437-001	**0.0059**	**0.0086**	**26.0 / 100**	**12752**	PCM Asbestos Volume(L) Run Time(Min) Flow Rate(LPM) 2171 0
BERK-0602-BREAK Lab ID # 606-12437-002	**0.0033**	**0.0051**	**15.0 / 100**	**7357**	PCM Asbestos Volume(L) Run Time(Min) Flow Rate(LPM) 2201
ASHBY-0602-EL Lab ID # 606-12437-003	**0.0030**	**0.0044**	**22.0 / 100**	**10790**	PCM Asbestos Volume(L) Run Time(Min) Flow Rate(LPM) 3598
ROCK-0602-JAN Lab ID # 606-12437-004	**0.0068**	**0.0099**	**28.0 / 100**	**13732**	PCM Asbestos Volume(L) Run Time(Min) Flow Rate(LPM) 2010
LAF-0602-CONT Lab ID # 606-12437-005	**0.0030**	**0.0048**	**12.0 / 100**	**5885**	PCM Asbestos Volume(L) Run Time(Min) Flow Rate(LPM) 1939
12-0602-ELECT Lab ID # 606-12437-006	**0.0034**	**0.0053**	**14.0 / 100**	**6866**	PCM Asbestos Volume(L) Run Time(Min) Flow Rate(LPM) 2001
BLANK Lab ID # 606-12437-007	**NA**	**NA**	**NA / 100**	**NA**	BLANK Volume(L) Run Time(Min) Flow Rate(LPM) 0
Lab ID #					Volume(L) Run Time(Min) Flow Rate(LPM)
Lab ID #					Volume(L) Run Time(Min) Flow Rate(LPM)
Lab ID #					Volume(L) Run Time(Min) Flow Rate(LPM)

Detection Limit = 7 Fibers/MM2

Analyst _____

Attachment 2

Laboratory Results – Airborne Metals

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

SCA Enviromental, Inc.	Client Project ID: #B-10269; BART	Date Sampled: 05/31/11
		Date Received: 06/01/11
334 19th Street	Client Contact: Glenn Cass	Date Reported: 06/06/11
Oakland, CA 94612	Client P.O.:	Date Completed: 06/03/11

WorkOrder: 1106016

June 06, 2011

Dear Glenn:

Enclosed within are:

1) The results of the **3** analyzed samples from your project: **#B-10269; BART,**
2) A QC report for the above samples,
3) A copy of the chain of custody, and
4) An invoice for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions or concerns, please feel free to give me a call. Thank you for choosing

McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius
Laboratory Manager
McCampbell Analytical, Inc.

1106016

SCA Environmental, Inc

CHAIN OF CUSTODY FORM

	Tel	Fax
335 Delancey St. #222, SF, CA 94107	415-882-1675	415-962-0736
334 19th St, Oakland, CA 94612	510-645-6200	415-962-0736
5772 W. Century Blvd. #655, LA, CA 90045	310-390-0460	415-962-0736

CALL/TXT with results:

[illegible]@sprintpcs.com

Email rpt / COC & invoice:
thacot @sca-enviro.com

Email Prj Mgr Name:
☐ Chuck Sax ☑ Glenn Cass Christina Codeme ☐

Accounting Data:

EMAIL HEADING: (Project #) - (Project Manager Initials) - (Site Name/Address) - (Date MMDD)

(Project #)	(Project Manager Initials)	(Site Name/Address)	(Date MMDD)
R-10MA	GRC	BART	06/01

LAB

COURIER

LAB REP NOTIFIED:		Notification DATE/TIME:	
AIRBILL/FLIGHT NO.:		Shipper REFERENCE I.D.:	
EST ARRIVAL DATE:		EST. ARRIVAL TIME:	

Method Reference: 7400 PCM AHERA TEM CARB-AHERA TEM 0.001 s/cc Detection Limit
PLM (asbestos) Flame AA (Lead)

Sample Media: ☐25 ☑37 mm ☐ 0.45 ☑0.8 micron ☑MCEF ☐Bulk ☐Water ☐Wipe

RESULTS DUE: 6/10 [illegible] AM / PM

CHAIN OF CUSTODY DATA:
Sending Info: 4 samples submitted by TH (SCA) on 6/1 at 1500
Received by Lab: 4 samples received by [signature] on 6/1 at 1500
Received by Analyst: 4 samples received by [signature] on 6/1 at 1500

SAMPLE ID	LITERS	Results	Ins/Blanks/Outs
BART-M-0531-01	4316	Analyze All	samples
BART-M-0531-02	3565	For: Zinc,	Copper,
BART-M-0531-03	4103	Lead, Nickel,	Chromium
		& Iron	
		Report results ug/m³	
ICE / T° 23			
GOOD CONDITION ✓		APPROPRIATE	
HEAD SPACE ABSENT		CONTAINERS ✓	
DECHLORINATED IN LAB		PRESERVED IN LAB	
PRESERVATION		VOAS O&G METALS OTHER	
		6	
BLANK	0 LITERS		BLANK
	0 LITERS		BLANK
	0 LITERS		BLANK

ASBESTOS: Units (each); PCM NIOSH 7400; PLM Bulk; CARB 435 (400 Pt Ct) w/ prep; PLM Std Point Count 400; TEM AHERA; CARB AHERA 35-40 grid openings; CARB AHERA 10-15 grid openings

LEAD: Units (each); Flame AA; Wipes

Turnaround	1 to 9	10 to 40	>40
< 6 hours			
24 hours			
48 hours			
3 to 5 days			
> 5 days			

INSTRUCTIONS TO LAB (delete items not applicable AND circle items applicable):
1. Pickup requested: ☐ IL
Contact:
Time of Call:
2. Call SCA's contact to acknowledge receipt of samples.
3. Analyze samples by PCM only.
4. Analyze inside samples by PCM first, if any sample >0.01 f/cc, contact SCA.
5. If all samples are <0.01 f/cc, proceed with items 6, 7 or 8, as noted.
6. Analyze inside samples only; stop if Avg >70 str/mm^2, contact SCA before analyzing outsides or blanks.
7. Analyze all samples, including outside samples and blanks.
(8.) Do NOT analyze outside or blank samples.
9. Analyze by TEM only the inside air sample with the highest PCM result.
10. Serial analysis; stop at first positive (>1%); first trace (<0.1%) except sheetrock and plaster samples.
11. Analyze all bulk samples, unless otherwise indicated.

Report Number:

Invoice Number:

Supplies / Equipment	Qty
Hi-Vol (3040)	
Lo-Vol (3030)	3
TEM / Pb cassettes (3520)	4
PCM cassettes (3500)	
Bulk sampling supply (3710)	

rev 2011

rec: Mc Vall 6/1/11 1500

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1106016 **ClientCode: SCAO**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
Glenn Cass
SCA Enviromental, Inc.
334 19th Street
Oakland, CA 94612
(510) 645-6200 FAX (510) 839- 620

Email: gcass@sca-enviro.com
cc: tharris@sca-enviro.com
PO:
ProjectNo: #B-10269; BART

Bill to:
Accounts Payable
SCA Enviromental, Inc.
334 19th Street
Oakland, CA 94612

Requested TAT: 5 days

Date Received: **06/01/2011**
Date Printed: **06/01/2011**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below) 1	2	3	4	5	6	7	8	9	10	11	12
1106016-001	BART-M-0531-01	Filter	5/31/2011	☐	A											
1106016-002	BART-M-0531-02	Filter	5/31/2011	☐	A											
1106016-003	BART-M-0531-03	Filter	5/31/2011	☐	A											

Test Legend:

1	METALSMS(UG/M3)_F	2		3		4		5	
6		7		8		9		10	
11		12							

Prepared by: Melissa Valles

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

Sample Receipt Checklist

Client Name: **SCA Enviromental, Inc.**
Date and Time Received: **6/1/2011 3:53:00 PM**

Project Name: **#B-10269; BART**
Checklist completed and reviewed by: Melissa Valles

WorkOrder N°: **1106016** Matrix Filter
Carrier: Rob Pringle (MAI Courier)

Chain of Custody (COC) Information

Chain of custody present?	Yes ☑	No ☐
Chain of custody signed when relinquished and received?	Yes ☑	No ☐
Chain of custody agrees with sample labels?	Yes ☑	No ☐
Sample IDs noted by Client on COC?	Yes ☑	No ☐
Date and Time of collection noted by Client on COC?	Yes ☑	No ☐
Sampler's name noted on COC?	Yes ☐	No ☑

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	NA ☑
Shipping container/cooler in good condition?	Yes ☑	No ☐	
Samples in proper containers/bottles?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature	Cooler Temp:		NA ☑
Water - VOA vials have zero headspace / no bubbles?	Yes ☐	No ☐	No VOA vials submitted ☑
Sample labels checked for correct preservation?	Yes ☑	No ☐	
Metal - pH acceptable upon receipt (pH<2)?	Yes ☐	No ☐	NA ☑
Samples Received on Ice?	Yes ☐	No ☑	

** NOTE: If the "No" box is checked, see comments below.*

Client contacted: Date contacted: Contacted by:

Comments:

McCampbell Analytical, Inc.
"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

SCA Enviromental, Inc.	Client Project ID: #B-10269; BART	Date Sampled: 05/31/11
		Date Received: 06/01/11
334 19th Street	Client Contact: Glenn Cass	Date Extracted: 06/01/11
Oakland, CA 94612	Client P.O.:	Date Analyzed: 06/03/11

Metals by ICP-MS*

Extraction Method: SW3050B Analytical Method: SW6020 Work Order: 1106016

Lab ID	1106016-001A	1106016-002A	1106016-003A		Reporting Limit for DF =1	
Client ID	BART-M-0531-01	BART-M-0531-02	BART-M-0531-03			
Matrix	Filter	Filter	Filter			
DF	1	1	1			
Extraction Type	TOTAL	TOTAL	TOTAL			
Volume (L)	4356.00	3565.00	4103.00		F	W
Compound	**Concentration**				µg/m³	µg/L
Chromium	0.12	ND<0.14	0.21		0.5	NA
Copper	ND<0.11	ND<0.14	1.1		0.5	NA
Iron	ND<4.6	10	80		20	NA
Lead	ND<0.11	ND<0.14	ND<0.12		0.5	NA
Nickel	ND<0.11	0.15	0.39		0.5	NA
Zinc	ND<1.1	ND<1.4	ND<1.2		5.0	NA
Surrogate Recoveries (%)						
%SS:	99	100	97			
Comments	a10	a10	a10			

* ilter samples in µg/m³; reporting limit changed due to variable volume of air that pumped through each filter / sorbent tube.

means surrogate diluted out of range; ND means not detected above the reporting limit/method detection limit; N/A means not applicable to this sample or instrument; %SS = Percent Recovery of Surrogate Standard; DF = Dilution Factor

TOTAL = Hot acid digestion of a representative sample aliquot.
TRM = Total recoverable metals is the "direct analysis" of a sample aliquot taken from its acid-preserved container.
DISS = Dissolved metals by direct analysis of 0.45 µm filtered and acidified sample.

a10) reporting limit changed due to variable volume of air that pumped through each filter / sorbent tube.

DHS ELAP Certification 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

QC SUMMARY REPORT FOR SW6020

W.O. Sample Matrix: Filter | QC Matrix: Soil | BatchID: 58739 | WorkOrder 1106016

EPA Method SW6020 | **Extraction SW3050B** | **Spiked Sample ID: N/A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
Chromium	N/A	10	N/A	N/A	N/A	96.3	97.2	0.940	N/A	N/A	75 - 125	20
Copper	N/A	10	N/A	N/A	N/A	103	101	2.06	N/A	N/A	75 - 125	20
Iron	N/A	100	N/A	N/A	N/A	105	108	3.38	N/A	N/A	75 - 125	20
Lead	N/A	10	N/A	N/A	N/A	103	102	0.784	N/A	N/A	75 - 125	20
Nickel	N/A	10	N/A	N/A	N/A	100	99.2	1.32	N/A	N/A	75 - 125	20
Zinc	N/A	100	N/A	N/A	N/A	103	103	0	N/A	N/A	75 - 125	20
%SS:	N/A	500	N/A	N/A	N/A	92	92	0	N/A	N/A	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 58739 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
1106016-001A	05/31/11	06/01/11	06/03/11 3:20 AM	1106016-002A	05/31/11	06/01/11	06/03/11 3:27 AM
1106016-003A	05/31/11	06/01/11	06/03/11 3:34 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not applicable to this method.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

DHS ELAP Certification 1644

QA/QC Officer

Attachment 3

Field Data Sheets

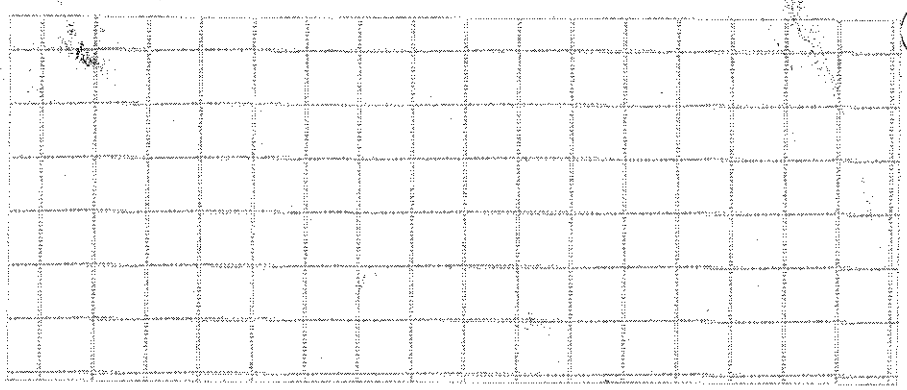
SCA
ENVIRONMENTAL, INC.

☑ 334 19th St. Oakland, CA 94612 Tel: 510.645.6200 Fax: 415.962.0736
☐ 650 Delancey St., Ste 222 San Francisco, CA 94107 Fax: 415.962.0736
☐ 5777 West Century Blvd., Suite 1055 Los Angeles, CA 90045 Tel: 301.258.0460 Fax: 415.962-0736

Project Name: BART Ambient Sampling
SCA Project #: R-10269
Date: 5/31/11
Location: BART Stations
Work Area:

Filter Diameter		25 / 37mmMCEF
Pore Size		0.45µ/ 0.8µ
Field Area		0.00785 mm²
		N/A
Method	NIOSH 7400	AHERA TEM
	AA FLAME	GraphiteFurnace
Blanks		
Rotometer No.		

SAMPLE LOCATION DIAGRAM



⊕ =sample location
☐ =work area

SAMPLE LOCATION	Rm.110 Powell	Rm.104 Powell	Rm.101A 24th St	Rm.101A 16th St	Mont. Rm.111	Mont. Rm.104	19th St.
START RATE (LPM)	3.0	3.4	1.7	1.5	1.9	1.9	2.1
STOP RATE (LPM)	2.8	3.4	1.7	1.5	1.9	1.80	2.1
FT. ABOVE FLOOR	5	5	5	5	5	5	5
SAMPLE I.D.	BART-0531-01	BART-0531-02	BART-0531-03	BART-0531-04	BART-0531-05	BART-0531-06	BART-0531-07
PUMP I.D.	8030	7022	7092	7144	9106	7231	7777
AVG. FLOW RATE (LPM)	2.9	3.4	1.7	1.5	1.9	1.4	2.1
TIME ON	9:40	9:58	10:20	10:31	10:54	11:16	11:58
TIME OFF	15:47	10:02	10:21	10:31	10:47	11:01	11:34
SAMPLE TIME (MIN)	367	1444	1441	1440	1433	1425	1416
SAMPLE VOL. (L)	1064	4909	2449	2160	2722	1995	2973
f/cc	0.0041	0.0024	0.0036	0.0037	0.0040	0.0039	0.0030
s/cc							
µg/m³							
SAMPLE LOCATION							
START RATE (LPM)							
STOP RATE (LPM)							
FT. ABOVE FLOOR							
SAMPLE I.D.							
PUMP I.D.							
AVG. FLOW RATE (LPM)							
TIME ON							
TIME OFF							
SAMPLE TIME (MIN)							
SAMPLE VOL. (L)							
f/cc							
s/cc							
µg/m³							

Activities:

Comments:

Sample Type (indicate one): Background ✓ Perimeter Clearance Other

Sampled By: TH Analyzed By: AIHA 302182 & 302124 Reviewed By:

SCA
ENVIRONMENTAL, INC.

☒ 334 19th St., Oakland, CA 94612 — Tel: 510.645.6200, Fax: 415.962.0736
☐ 650 Delancey St., Ste 222, San Francisco, CA 94107 — Fax: 415.962.0736
☐ 5777 West Century Blvd., Suite 1055, Los Angeles, CA 90045 — Tel: 301.258.0460, Fax: 415.962-0736

Project Name	BART AMBIENT AIR SAMPLING
SCA Project #	B-10269
Date	6/2 - 6/3/11
Location	MISC. STATIONS
Work Area	STATIONS

Filter Diameter		25 / 37mmMCEF
Pore Size		0.45µ/ 0.8µ
Field Area		0.00785 mm²
		N/A
Method	NIOSH 7400	AHERA TEM
	AA FLAME	GraphiteFurnace
Blanks		
Rotometer No.		7066

SAMPLE LOCATION DIAGRAM

N

⊕ =sample location
☐ =work area

SAMPLE LOCATION	MAC-0602-BREAK	BART-0602-BR	ASAB4-0602-EL	ROOM-0602-JAN	LAF-0602-CONT	12-0602-ELECT
START RATE (LPM)	1.5	1.5	2.5	1.4	1.4	1.5
STOP RATE (LPM)	1.5	1.5	2.5	1.4	1.3	1.5
FT. ABOVE FLOOR	5	5	4	5	4.5	5
SAMPLE I.D.	BREAK 102	BREAK 108	ELEV 204	JAN 203	CONTROL Rm.	ELECT 107C
PUMP I.D.	7777	7231	8021	7144	7323	7234
AVG. FLOW RATE (LPM)	1.5	1.5	2.5	1.4	1.35	1.5
TIME ON	9:58 6/2/11	10:14 6/2/11	10:34 6/2/11	11:04 6/2/11	11:30 6/2/11	12:04 6/2/11
TIME OFF	10:05 6/3/11	10:41 6/3/11	10:33 6/3/11	11:00 6/3/11	11:26 6/3/11	10:18 6/3/11
SAMPLE TIME (MIN)	1447	1467	1435	1436	1436	1334
SAMPLE VOL. (L)	2171	2201	3598	2010	1939	2001
f/cc	0.0059	0.0033	0.0030	0.0068	0.0030	0.0034
s/cc						
µg/m³						

SAMPLE LOCATION						
START RATE (LPM)						
STOP RATE (LPM)						
FT. ABOVE FLOOR						
SAMPLE I.D.						
PUMP I.D.						
AVG. FLOW RATE (LPM)						
TIME ON						
TIME OFF						
SAMPLE TIME (MIN)						
SAMPLE VOL. (L)						
f/cc						
s/cc						
µg/m³						

Activities:

Comments:

Sample Type (indicate one): Background ✓ Perimeter Clearance Other

Sampled By: G Cass Analyzed By: AJEM 302183 Reviewed By:

Metals

SCA
ENVIRONMENTAL, INC.

☑ 334 19th St. Oakland, CA 94612 Tel: 510.645.6200 Fax: 415.962.0736
☐ 650 Delancey St., Ste 222 San Francisco, CA 94107 Fax: 415.962.0736
☐ 5777 West Century Blvd., Suite 1055 Los Angeles, CA 90045 Tel: 301.258.0460 Fax: 415.962-0736

Project Name: BART Ambient Sampling
SCA Project #: B-10269
Date: 5/31/11
Location: BART Stations
Work Area:

Filter Diameter		25 / 37mmMCEF
Pore Size		0.45µ/ 0.8µ
Field Area		0.00785 mm²
		N/A
Method	NIOSH 7400	AHERA TEM
	AA FLAME	GraphiteFurnace
Blanks		
Rotometer No.		

SAMPLE LOCATION DIAGRAM

N

⊕ =sample location
☐ =work area

SAMPLE LOCATION	Powell (Bricks)	Mont. Rm. 111	Emb. Rm. 166 Bike Stop				
START RATE (LPM)	3.1	2.7	3.1				
STOP RATE (LPM)	3.0	2.4	2.7				
FT. ABOVE FLOOR	5	5	5				
SAMPLE I.D.	BART-M-0531-01	BART-M-0531-02	BART-M-0531-03				
PUMP I.D.	7226	8091	7141				
AVG. FLOW RATE (LPM)	3.0	2.5	2.9				
TIME ON	9:54	11:10	11:37				
TIME OFF	10:06	10:56	11:12				
SAMPLE TIME (MIN)	1452	1426	1415				
SAMPLE VOL. (L)	4356	3565	4103				
f/cc							
s/cc							
µg/m³							
SAMPLE LOCATION							
START RATE (LPM)							
STOP RATE (LPM)							
FT. ABOVE FLOOR							
SAMPLE I.D.							
PUMP I.D.							
AVG. FLOW RATE (LPM)							
TIME ON							
TIME OFF							
SAMPLE TIME (MIN)							
SAMPLE VOL. (L)							
f/cc							
s/cc							
µg/m³							

Activities:

Comments:

Sample Type (indicate one): Background ✓ Perimeter Clearance Other

Sampled By: TH Analyzed By: Reviewed By:

Attachment 4

SCA's Personnel Certifications

STATE OF CALIFORNIA Edmund G. Brown, Jr., *Governor*

DEPARTMENT OF INDUSTRIAL RELATIONS
Division of Occupational Safety and Health
Asbestos Unit
2211 Park Towne Circle, Suite 1
Sacramento, CA 95825-0414
(916) 574-2993 Office (916) 483-0572 Fax
http://www.dir.ca.gov/dirdatabases.html actu@dir.ca.gov

206240092C 3

April 18, 2011

SCA Environmental, Inc.
Glenn Robert Cass
334 19th Street, 2nd floor
Oakland CA 94612

Dear Certified Asbestos Consultant or Technician:

Enclosed is your certification card. **To maintain your certification, you must abide by the rules printed on the back of the certification card.**

Your certification is valid for a period of one year. If you wish to renew your certification, you must apply for renewal at least 60 days before the expiration date shown on your card. [8 CCR 341.15(h)(1)].

Please hold and do not send copies of your required AHERA refresher renewal certificates to our office until you apply for renewal of your certification.

Certificates must be kept current if you are actively working as a CAC or CSST. The grace period is only for those who are not actively working as an asbestos consultant or site surveillance technician.

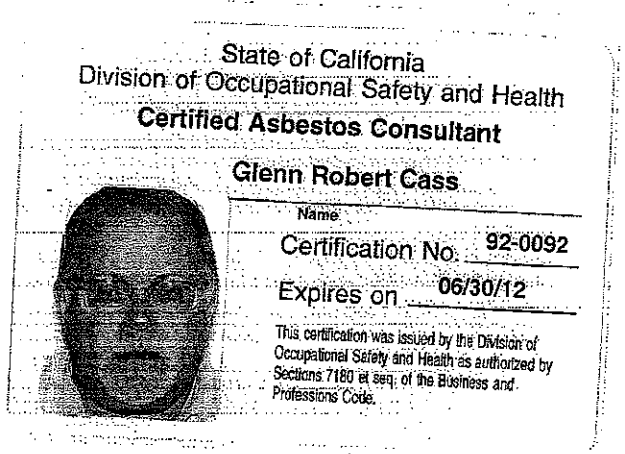
Please inform our office at the above address, fax number or email; of any changes in your contact/mailing information within 15 days of the change.

Sincerely,

Jeff Ferrell
Senior Industrial Hygienist

Attachment: Certification Card

cc: File


State of California
Division of Occupational Safety and Health
Certified Asbestos Consultant
Glenn Robert Cass
Name
Certification No. 92-0092
Expires on 06/30/12
This certification was issued by the Division of Occupational Safety and Health as authorized by Sections 7180 et seq. of the Business and Professions Code.

Mr. Glenn R. Cass
SCA Environmental, Inc.
334 19th Street
Oakland, California 94612

STATE OF CALIFORNIA Edmund G. Brown, Jr. *Governor*

DEPARTMENT OF INDUSTRIAL RELATIONS
Division of Occupational Safety and Health
Asbestos Unit
2211 Park Towne Circle, Suite 1
Sacramento, CA 95825-0414
(916) 574-2993 Office (916) 483-0572 Fax
http://www.dir.ca.gov/dirdatabases.html actu@dir.ca.gov

012204704C 346

January 27, 2011

SCA Environmental
Tyler W Harris
334 - 19th Street
Oakland ' CA 94612

Dear Certified Asbestos Consultant or Technician:

Congratulations, you have passed your certification examination!

Enclosed is your certification card. **To maintain your certification, please abide by the rules printed on the back of the certification card.**

Your certification is valid for a period of one year. If you wish to renew your certification, you must apply for renewal at least 60 days before the expiration date shown on your card in accordance with Title 8, California Code of Regulations, Division 1, Chapter 3.2, Article 2.6, Section 341.15(h) (1).

Please keep and do not send copies of your required AHERA refresher renewal certificates to the Division until you apply for renewal of your certification.

Please contact our office at the above address, fax number or email of any changes in your mailing or work address within 15 days of the change.

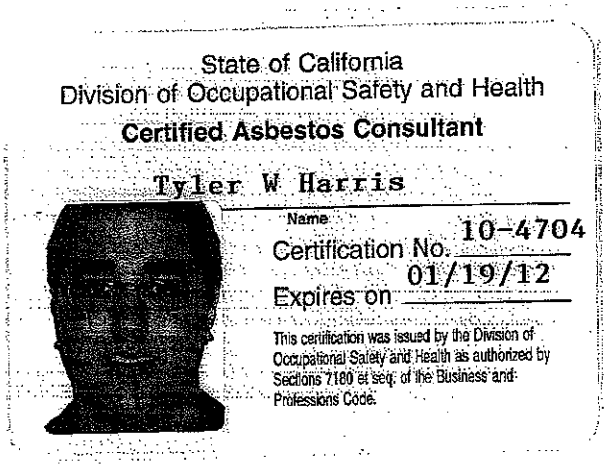
Sincerely,

Jeff Ferrell
Senior Industrial Hygienist

Attachment

cc: File

Passed Exam – Card Attached, Revised 01/07/2011



Mr. Tyler W. Harris
SCA Environmental, Inc.
334 19th Street
Oakland, California 94612

State of California Department of Public Health

Lead-Related Construction Certificate	Certificate Type	Expiration Date
	Inspector/Assessor	06/30/2011
	Sampling Technician	06/30/2010

Tyler W. Harris ID #: 19408