

FOR CONTRACT NO.: 04-4A5104

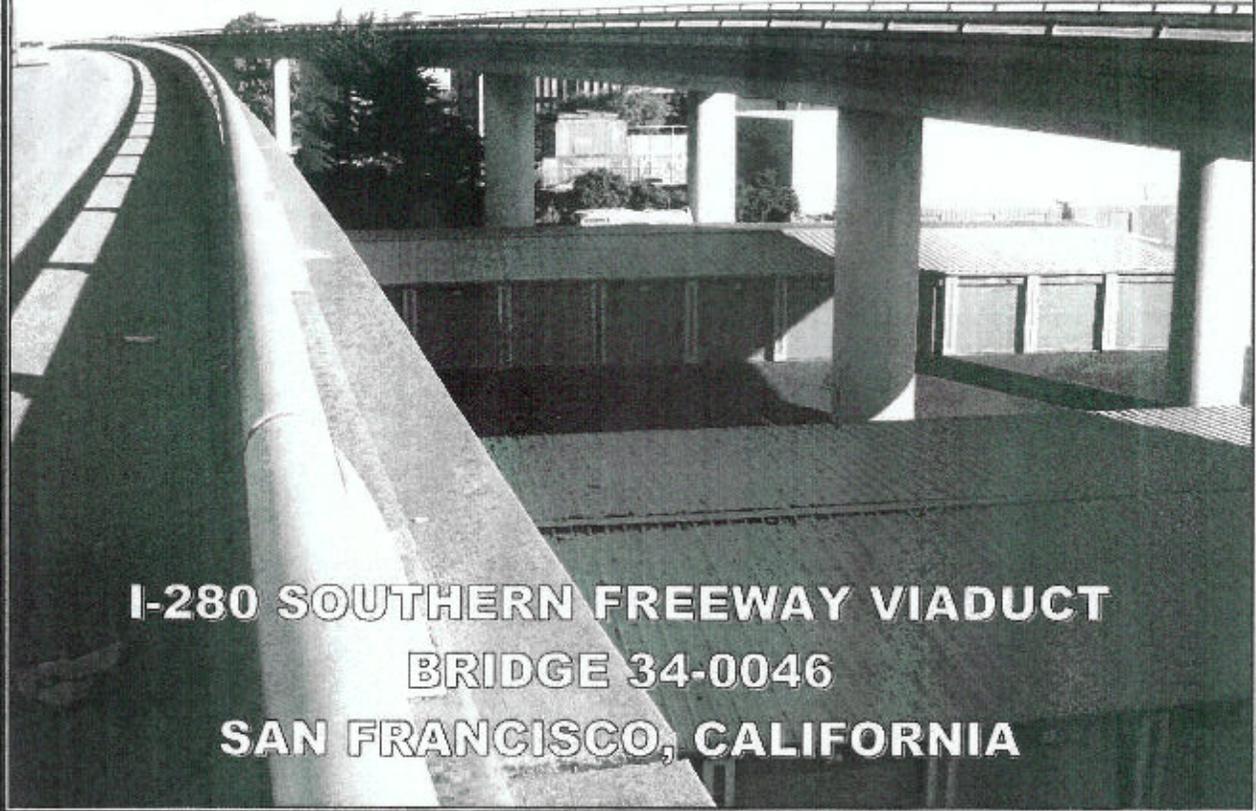
INFORMATION HANDOUT

MATERIALS INFORMATION

ASBESTOS AND LEAD-CONTAINING PAINT SURVEY REPORT

ROUTE: 04-SF-280-R5.2/R6.0

**ASBESTOS AND
LEAD-CONTAINING PAINT SURVEY REPORT**



**I-280 SOUTHERN FREEWAY VIADUCT
BRIDGE 34-0046
SAN FRANCISCO, CALIFORNIA**

PREPARED FOR:

CALIFORNIA DEPARTMENT OF TRANSPORTATION
DISTRICT 4
OFFICE OF ENVIRONMENTAL ENGINEERING
111 GRAND AVENUE
OAKLAND, CALIFORNIA



PREPARED BY:

GEOCON CONSULTANTS, INC.
6671 BRISA STREET
LIVERMORE, CALIFORNIA



GEOCON

GEOCON PROJECT NO. E8560-06-30
CALTRANS EA 04-4A5101
CALTRANS PROJECT NO. 04-0000-1138-1

DECEMBER 2011

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FIGURES

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- A. Laboratory Analytical Reports and Chain-of-Custody Documentation

REPORT LIMITATIONS

This asbestos and lead-containing paint (LCP) survey was conducted in conformance with generally accepted standards of practice for identifying and evaluating asbestos and LCP in structures. Due to the nature of structure surveys, asbestos and LCP use, and laboratory analytical limitations, some asbestos or LCP in the structure may not have been identified. Structure spaces such as cavities, crawlspaces, and pipe chases may have been concealed to our investigator. Previous structure renovation work may have concealed or covered spaces or materials, or may have partially demolished materials and left debris in inaccessible areas. Additionally, renovation activities may have partially replaced asbestos with indistinguishable non-asbestos materials. Asbestos or LCP may exist in areas of the structure not accessible or sampled in conjunction with this Task Order.

During renovation or demolition operations, suspect materials may be uncovered which are different from those accessible for sampling during this assessment. Personnel in charge of renovation/demolition should be alerted to note materials uncovered during such activities that differ substantially from those included in this or previous assessment reports. If suspect materials are found, additional sampling and analysis should be performed to determine if the materials contain asbestos or lead.

This report has been prepared exclusively for the State of California Department of Transportation (Caltrans) District 4. The information contained herein is only valid as of the date of the report, and will require an update to reflect additional information obtained.

This report is not a comprehensive site characterization and should not be construed as such. The findings as presented in this report are predicated on the results of the limited sampling and laboratory testing performed. In addition, the information obtained is not intended to address potential impacts related to sources other than those specified herein. Therefore, the report should be deemed conclusive with respect to only the information obtained. We make no warranty, express or implied, with respect to the content of this report or any subsequent reports, correspondence or consultation. Geocon strived to perform the services summarized herein in accordance with the local standard of care in the geographic region at the time the services were rendered.

The contents of this report reflect the views of the authors who are responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the State of California or the Federal Highway Administration. This report does not constitute a standard, specification, or regulation.

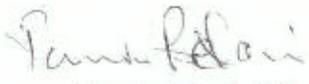
GEOCON CONSULTANTS, INC


David Watts, CAC
Senior Project Scientist

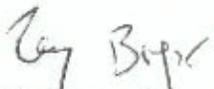

Richard Day, CEG, CHG
Regional Manager

**CALIFORNIA DEPARTMENT OF TRANSPORTATION - DISTRICT 4
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Dan Kocher 408.934.7010 408.934.7015 fax milpitaslab@emsl.com	EMSL Analytical, Inc. 2235 Polvorosa Avenue San Leandro, CA 94577 (<i>Geocon Subcontractor</i>)	Asbestos Analysis

EXECUTIVE SUMMARY

This asbestos and lead-containing paint (LCP) survey report was prepared for the Southern Freeway Viaduct (34-0046) at Post Mile (PM) 4.40 on Interstate 280 in San Francisco, California. We performed an asbestos and LCP survey on the bridge. The project location is depicted on the Vicinity Map, Figure 1, and Site Plan, Figure 2. Caltrans has requested an investigation at the project location to provide data regarding the presence of asbestos and LCP prior to bridge repair activities.

This report documents the investigation sampling methods and laboratory analytical data. The primary objective of our survey was to determine and quantify asbestos and LCP at the project location prior to bridge repair activities. The information obtained from this investigation will be used by Caltrans to coordinate proposed activities, determine appropriate abatement/disposal costs, and identify health and safety concerns during improvements.

The field investigation was performed on December 2, 2011. The following field activities were performed during asbestos and LCP sampling efforts:

- Collected six bulk suspect asbestos samples;
- Collected four suspect LCP samples; and
- Transported samples to Caltrans-approved, California-certified environmental laboratories.

Samples were collected from locations as shown in the Site Plan (Figure 2). Suspect asbestos and LCP sample identification numbers are presented in Tables 1 and 2, respectively. Materials represented by the samples collected are presented in the Site Photographs.

Bulk suspect asbestos samples were collected after first wetting friable materials with a light mist of water. The samples were then cut from the substrate and transferred to labeled containers and sealed. Three suspect materials were identified during the survey (see Table 1). Sampling locations were distributed throughout the homogeneous areas (spaces where the material was observed).

We relinquished bulk samples for asbestos analysis using standard chain-of-custody documentation. Asbestos content was determined using U.S. Environmental Protection Agency (EPA) Test Method 600/R-93/116 for polarized light microscopy (PLM). We requested laboratory analyses to be within a 5-day turn-around-time.

Four bulk paint samples were collected using techniques presented in U.S. Department of Housing and Urban Development (HUD) guidelines. Two paint systems were identified during the survey (see Table 2).

It was not Geocor's intent during this inspection to conduct an evaluation of lead-based paint hazards in accordance with HUD guidelines.

We relinquished bulk paint samples for lead analysis using standard chain-of-custody documentation. Total lead content was determined using EPA Test Method 6010B. We requested laboratory analyses to be within a 5-day turn-around-time.

The laboratory analyses for asbestos indicated the following:

- Chrysotile asbestos at a concentration of 75% was detected in samples representing nonfriable sheet packing used as shims on the bridge barrier rail system. We were not able to quantify the shims due to safety concerns (i.e., traffic).
- No asbestos was detected in samples of the remaining suspect materials collected during our survey.

Laboratory results for the asbestos samples are summarized on Table 1. Reproductions of the laboratory report and chain-of-custody documentation are presented in Appendix A.

The laboratory analyses for lead paint indicated the following:

- Bulk samples representing intact yellow traffic striping exhibited total lead concentrations of 120 and 96 milligrams per kilogram (mg/kg) and a composite Waste Extraction Test (WET) lead concentration of 0.91 milligrams per liter (mg/l).
- Bulk samples representing intact white traffic striping exhibited total lead concentrations of 6.8 and 2.9 mg/kg.

Geocor paint sample laboratory results are summarized on Table 2. Reproductions of the lead laboratory report and chain-of-custody documentation are presented in Appendix A.

We provide the following conclusions and recommendations based on the results of our investigation.

National Emissions Standards for Hazardous Air Pollutants (NESHAP) regulations do not require that asbestos-containing sheet packing (a Category 1 nonfriable/nonhazardous material) identified during our survey be removed prior to demolition or treated as hazardous waste. However, the disturbance of the material is still covered by the California Occupational Safety and Health Administration (Cal/OSHA) asbestos standard contained in Title 8, CCR Section 1529. We recommend that a licensed contractor registered with Cal/OSHA for asbestos-related work perform activities that would disturb the sheet packing. Contractors are responsible for informing landfills and recycling facilities of the contractor's intent to dispose of asbestos-containing waste. Some landfills and recycling facilities may require

additional waste characterization. Contractors are responsible for segregating and characterizing waste streams prior to disposal.

We also recommend written notification to contractors that will be conducting related activities of the presence of asbestos (i.e., provide the contractor[s] with a copy of this report and a list of asbestos removed by a licensed contractor[s] during subsequent abatement activities). Contractors not trained for asbestos work should be instructed not to disturb asbestos.

In accordance with Bay Area Air Quality Management District (BAAQMD) Regulation 11, Rule 2, written notification is required ten working days prior to commencement of *any* demolition activity (whether asbestos is present or not). In accordance with Title 8, CCR 341.9, written notification to the nearest Cal/OSHA district office is required at least 24 hours prior to certain asbestos-related work.

LCP identified during our survey would not be considered a potential California or Federal hazardous waste based on lead content.

We recommend that all paints at the project location (including graffiti, graffiti abatement, signage, etc.) be treated as lead-containing for purposes of determining the applicability of the Cal/OSHA lead standard during maintenance, renovation, and demolition activities. This recommendation is based on LCP sample results and the fact that lead was a common ingredient of paints manufactured before 1978 and is still an ingredient of some paints. In accordance with Title 8, CCR, Section 1532.1(p), written notification to the nearest Cal/OSHA district office is required at least 24 hours prior to certain lead-related work. Compliance and training requirements regarding construction activities where workers may be exposed to lead are presented in Title 8, CCR, Section 1532.1, subsections (e) and (l), respectively. Contractors are responsible for segregating and characterizing waste streams prior to disposal.

ASBESTOS AND LEAD-CONTAINING PAINT SURVEY REPORT

1.0 INTRODUCTION

This asbestos and lead-containing paint (LCP) survey report was prepared for the I-280 Southern Freeway Viaduct in San Francisco, California. This report documents the investigation sampling methods and laboratory analytical data.

1.1 Site Description and Proposed Improvements

The project consists of the Southern Freeway Viaduct (34-0046) at Post Mile (PM) 4.40 on Interstate 280 in San Francisco, California. The project location is depicted on the Vicinity Map, Figure 1, and Site Plan, Figure 2. Caltrans has requested an investigation at the project location to provide data regarding the presence of asbestos and LCP prior to bridge repair activities.

1.2 Purpose

The primary objective of our survey was to determine and quantify asbestos and LCP at the project location prior to bridge repair activities. The information obtained from this investigation will be used by Caltrans to coordinate proposed improvements, determine appropriate abatement/disposal costs, and identify health and safety concerns during improvements.

2.0 BACKGROUND

2.1 Asbestos

The *Code of Federal Regulations (CFR)*, 40 CFR 61, Subpart M, National Emissions Standards for Hazardous Air Pollutants (NESHAP) and Federal Occupational Safety and Health Administration (FED OSHA) classify asbestos-containing material (ACM) as any material or product that contains *greater than 1%* asbestos. Nonfriable ACM is classified by NESHAP as either Category I or Category II material defined as follows:

- **Category I** – asbestos-containing packings, gaskets, resilient floor coverings, and asphalt roofing products.
- **Category II** – all remaining types of non-friable asbestos-containing material not included in Category I that when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

Regulated asbestos-containing material (RACM), a hazardous waste when friable, is classified as any manufactured material that contains *greater than 1%* asbestos by dry weight *and* is:

- Friable; or
- Category I material that has become friable; or

- Category I material that has been subjected to sanding, grinding, cutting, or abrading; or
- Category II non-friable material that has a high probability of becoming crumbled, pulverized, or reduced to a powder during demolition or renovation activities.

Activities that disturb materials containing *any* amount of asbestos are subject to certain requirements of the California Occupational Safety and Health Administration (Cal/OSHA) asbestos standard contained in Title 8, CCR Section 1529. Typically, removal or disturbance of more than 100 square feet of material containing more than 0.1% asbestos must be performed by a registered asbestos abatement contractor, but associated waste labeling is not required if the material contains 1% or less asbestos. When the asbestos content of a material exceeds 1%, virtually all requirements of the standard become effective.

Materials containing more than 1% asbestos are also subject to NESHAP regulations (40 CFR Part 61, Subpart M). RACM (friable ACM and nonfriable ACM that will become friable during demolition operations) must be removed from structures prior to demolition. Certain nonfriable ACM and materials containing 1% or less asbestos may remain in structures during demolition; however, there are waste handling/disposal issues and Cal/OSHA work requirements that must be followed. Contractors are responsible for segregating and characterizing waste streams prior to disposal.

With respect to potential worker exposure, notification, and registration requirements, Cal/OSHA defines asbestos-containing construction material (ACCM) as construction material that contains more than 0.1% asbestos (Title 8, CCR 341.6).

2.2 Lead Paint

Construction activities (including demolition) that disturb materials or paints containing *any* amount of lead are subject to certain requirements of the Cal/OSHA lead standard contained in Title 8, CCR, Section 1532.1. Deteriorated paint is defined by Title 17, CCR, Division 1, Chapter 8, §35022 as a surface coating that is cracking, chalking, flaking, chipping, peeling, non-intact, failed, or otherwise separating from a component. Demolition of a deteriorated LCP component would require waste characterization and appropriate disposal. Most landfills and recycling facilities accept intact LCP on a component; however, contractors are responsible for segregating and characterizing waste streams prior to disposal.

For a solid waste containing lead, the waste is classified as California hazardous when: 1) the total lead content equals or exceeds the respective Total Threshold Limit Concentration (TTLC) of 1,000 milligrams per kilogram (mg/kg); or 2) the soluble lead content equals or exceeds the respective Soluble Threshold Limit Concentration (STLC) of 5 milligrams per liter (mg/l) based on the standard Waste Extraction Test (WET). A waste has the potential for exceeding the lead STLC when the waste's total lead content is greater than or equal to ten times the respective STLC value since the WET uses a 1:10 dilution ratio. Hence, when total lead is detected at a concentration greater than or

equal to 50 mg/kg, and assuming that 100 percent of the total lead is soluble, soluble lead analysis is required. Lead-containing waste is classified as "Resource, Conservation, and Recovery Act" (RCRA) hazardous, or Federal hazardous, when the soluble lead content equals or exceeds the Federal regulatory level of 5 mg/l based on the Toxicity Characteristic Leaching Procedure (TCLP).

The above regulatory criteria are based on chemical concentrations. Wastes may also be classified as hazardous based on other criteria such as ignitability; however, for the purposes of this investigation, toxicity (i.e., lead concentrations) is the primary factor considered for waste classification since waste generated during the construction activities would not likely warrant testing for ignitability or other criteria. Waste that is classified as either California hazardous or RCRA hazardous requires management as a hazardous waste.

Potential hazards exist to workers who remove or cut through LCP coatings during demolition. Dust containing hazardous concentrations of lead may be generated during scraping or cutting materials coated with LCP. Torching of these materials may produce lead oxide fumes. Therefore, air monitoring and/or respiratory protection may be required during the demolition of materials coated with LCP. Guidelines regarding regulatory provisions for construction work where workers may be exposed to lead are presented in the Title 8, CCR, Section 1532.1.

3.0 SCOPE OF SERVICES

The following scope of services was performed:

3.1 Pre-Field Activities

- Retained the services of EMSL, a Caltrans-approved laboratory accredited by the National Voluntary Laboratory Accreditation Program (NVLAP), to perform the asbestos analyses.
- Retained the services of ATL, a Caltrans-approved laboratory, to perform the lead paint analyses.

3.2 Field Activities

Mr. David Watts, a California-Certified Asbestos Consultant (CAC), certification No. 98-2404 (expiration September 16, 2012), and Certified Lead Paint Inspector/Assessor and Project Monitor with the California Department of Public Health (DPH), certification numbers I-1734 and M-1734 (expiration December 4, 2012) performed the asbestos and LCP survey on December 2, 2011. Six bulk samples of suspect ACM were collected. Four bulk samples of suspect LCP were collected.

4.0 INVESTIGATIVE METHODS

4.1 Asbestos

Bulk suspect asbestos samples were collected after first wetting friable materials with a light mist of water. The samples were then cut from the substrate and transferred to labeled containers and sealed. We observed three suspect materials during the survey (see Table 1). Sampling locations were distributed throughout the homogeneous areas (spaces where the material was observed).

We relinquished bulk samples for asbestos analysis using standard chain-of-custody documentation. Asbestos content was determined using EPA Test Method 600/R-93/116 for polarized light microscopy (PLM). We requested laboratory analyses to be within a 5-day turn-around-time.

4.2 Lead Paint

Four bulk paint samples were collected using techniques presented in U.S. Department of Housing and Urban Development (HUD) guidelines. Two paint systems were identified during the survey (see Table 2).

It was not Geocon's intent during this inspection to conduct an evaluation of lead-based paint hazards in accordance with HUD guidelines.

We relinquished bulk paint samples for lead analysis using standard chain-of-custody documentation. Total lead content was determined using EPA Test Method 6010B. We requested laboratory analyses to be within a 5-day turn-around-time.

5.0 INVESTIGATIVE RESULTS

5.1 Asbestos

The laboratory analyses for asbestos indicated the following:

- Chrysotile asbestos at a concentration of 75% was detected in samples representing nonfriable sheet packing used as shims on the bridge barrier rail system. We were not able to quantify the shims due to safety concerns (i.e., traffic).
- No asbestos was detected in samples of the remaining suspect materials collected during our survey.

Laboratory results for the asbestos samples are summarized on Table 1. Reproductions of the laboratory report and chain-of-custody documentation are presented in Appendix A.

5.2 Lead Paint

The laboratory analyses for lead paint indicated the following:

- Bulk samples representing intact yellow traffic striping exhibited total lead concentrations of 120 and 96 mg/kg and a composite WET lead concentration of 0.91 mg/l.
- Bulk samples representing intact white traffic striping exhibited total lead concentrations of 6.8 and 2.9 mg/kg.

Geocon paint sample laboratory results are summarized on Table 2. Reproductions of the lead laboratory report and chain-of-custody documentation are presented in Appendix A.

6.0 CONCLUSIONS

6.1 Asbestos

NESHAP regulations do not require that asbestos-containing sheet piling (a Category 1 nonfriable/nonhazardous material) identified during our survey be removed prior to demolition or treated as hazardous waste. However, the disturbance of the material is still covered by the Cal/OSHA asbestos standard contained in Title 8, CCR Section 1529. We recommend that a licensed contractor registered with Cal/OSHA for asbestos-related work perform activities that would disturb the sheet piling. Contractors are responsible for informing landfills and recycling facilities of the contractor's intent to dispose of asbestos-containing waste. Some landfills and recycling facilities may require additional waste characterization. Contractors are responsible for segregating and characterizing waste streams prior to disposal.

We also recommend written notification to contractors that will be conducting related activities of the presence of asbestos (i.e., provide the contractor[s] with a copy of this report and a list of asbestos removed by a licensed contractor[s] during subsequent abatement activities). Contractors not trained for asbestos work should be instructed not to disturb asbestos.

In accordance with Bay Area Air Quality Management District (BAAQMD) Regulation 11, Rule 2, written notification is required ten working days prior to commencement of *any* demolition activity (whether asbestos is present or not). In accordance with Title 8, CCR 341.9, written notification to the nearest Cal/OSHA district office is required at least 24 hours prior to certain asbestos-related work.

6.2 Lead Paint

LCP identified during our survey would not be considered a potential California or Federal hazardous waste based on lead content.

We recommend that all paints at the project location (graffiti, graffiti abatement, signage, etc.) be treated as lead-containing for purposes of determining the applicability of the Cal/OSHA lead standard during maintenance, renovation, and demolition activities. This recommendation is based on LCP sample results and the fact that lead was a common ingredient of paints manufactured before 1978 and is still an ingredient of some paints. In accordance with Title 8, CCR, Section 1532.1(p), written notification to the nearest Cal/OSHA district office is required at least 24 hours prior to certain lead-related work. Compliance and training requirements regarding construction activities where workers may be exposed to lead are presented in Title 8, CCR, Section 1532.1, subsections (c) and (l), respectively. Contractors are responsible for segregating and characterizing waste streams prior to disposal.

TABLE 1
SUMMARY OF ANALYTICAL LABORATORY TEST RESULTS - ASBESTOS
SOUTHERN FREEWAY VIADUCT (34-0046)
SAN FRANCISCO, CALIFORNIA

Polarized Light Microscopy (PLM) - EPA Test Method 600/R-93/116

Sample ID	Description of Suspect Material	Approximate Quantity	Friable	Site Photos	Asbestos Content
1A 1B	Sheet packing (barrier rail shims)	Unable to safely quantify	No	2	75% 75%
2A 2B	Expansion joint fill material	NA	NA	3 and 4	ND ND
3A 3B	Deck joint seals	NA	NA	5	ND ND

Notes:

NA = Not applicable

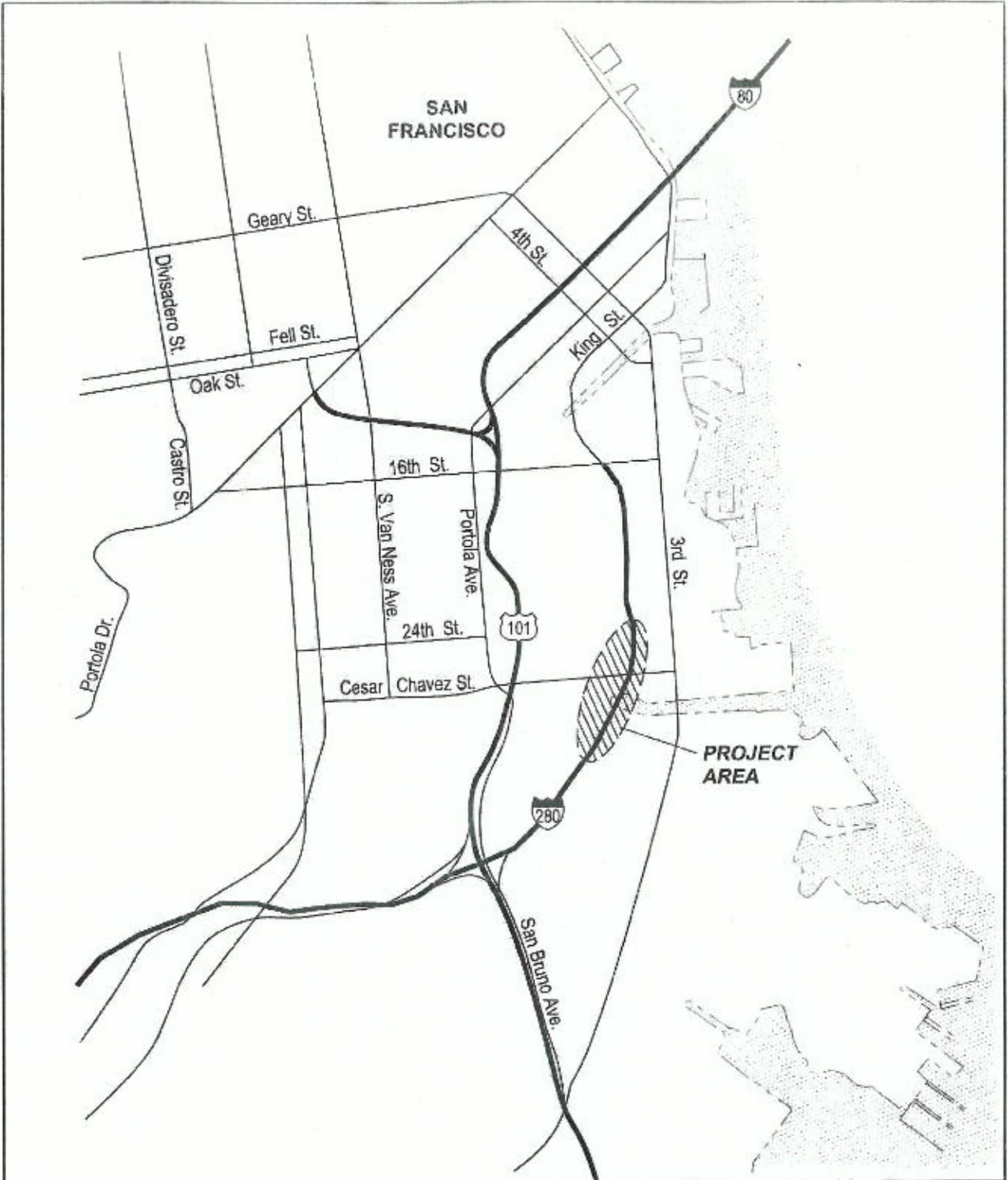
ND = No asbestos fibers detected

TABLE 2
 SUMMARY OF ANALYTICAL LABORATORY TEST RESULTS - PAINT
 SOUTHERN FREEWAY VIADUCT (34-0046)
 SAN FRANCISCO, CALIFORNIA

Total and Soluble Lead

Sample No.	Paint Description	Approximate Quantity Peeling/Flaking	Site Photos	Total Lead (mg/kg)	WET Lead (mg/l)
P1A P1B	Yellow traffic striping	Intact	5	120 96	0.91
P2A P2B	White traffic striping	Intact	5	6.8 2.9	---

Notes:
 mg/kg = milligrams per kilogram (EPA 6010)
 WET = Waste Extraction Test
 mg/l = milligrams per liter



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Southern Freeway Viaduct (34-0046)

San Francisco,
California

VICINITY MAP

GEOCON Proj. No. E8560-06-30

Task Order No. 30

December 2011

Figure 1



LEGEND:

- Approximate Asbestos Sample Location
- ▲ Approximate Paint Sample Location



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Southern Freeway Viaduct (34-0046)

San Francisco,
California

SITE PLAN

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Task Order No. 30

December 2011

Figure 2

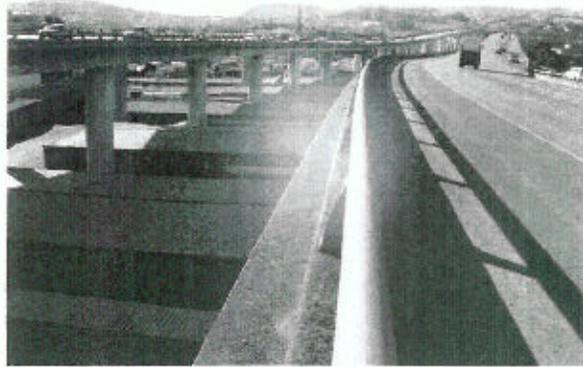


Photo 1 – Southern Freeway Viaduct (34-0046) in San Francisco, California

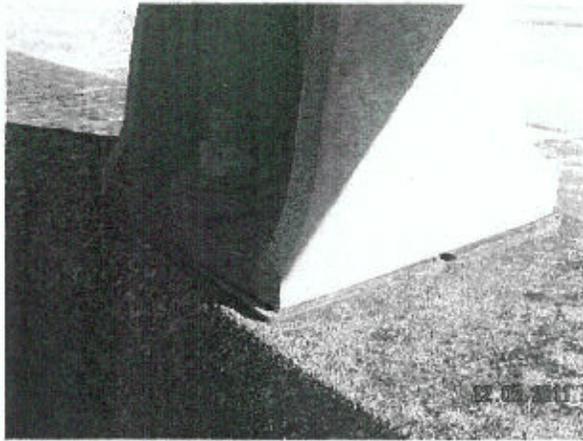


Photo 2 – Barrier rail system (shims are asbestos-containing)



Photo 3 – Joint fill material on northbound span



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PHOTOGRAPHS 1, 2, & 3

Southern Freeway Viaduct (34-0046)
San Francisco, California

E8560-06-30

Task Order No. 30

December 2011

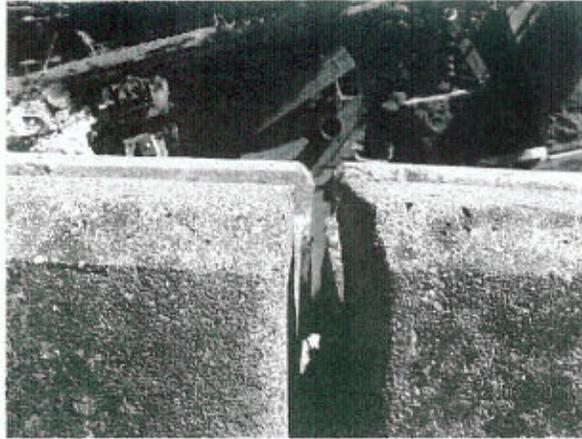


Photo 4 – Joint fill material on southbound span

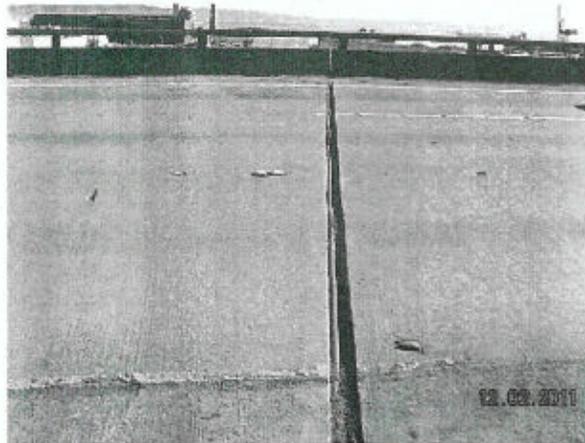


Photo 5 – Bridge deck

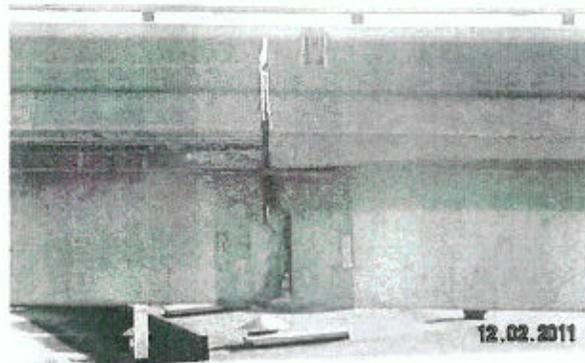


Photo 6 – Damaged hinge near 25th Street



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PHOTOGRAPHS 4, 5, & 6

Southern Freeway Viaduct (34-0046)
San Francisco, California

E8560-06-30

Task Order No. 30

December 2011

APPENDIX

A



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Attn: Dave Watts
Geocon Consultants, Inc.
6671 Brisa Street

Livermore, CA 94550

Customer ID: GECN21
Customer PO: E8560-06-30
Received: 12/02/11 12:14 PM
EMSL Order: 091113550

Fax: (925) 371-5915 Phone: (925) 371-5900
Project: E8560-06-30
SFO 280

EMSL Proj: E8560-06-**
Analysis Date: 12/9/2011

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
1A Sheet Packing 091113550-0001		Black Fibrous Homogeneous		25% Non-fibrous (other)	75% Chrysotile
1B Sheet Packing 091113550-0002		Black Fibrous Homogeneous		25% Non-fibrous (other)	75% Chrysotile
2A Fill Material 091113550-0003		Black Fibrous Homogeneous	50% Cellulose	50% Non-fibrous (other)	None Detected
2B Fill Material 091113550-0004		Black Fibrous Homogeneous	50% Cellulose	50% Non-fibrous (other)	None Detected
3A Joint Seal 091113550-0005		Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
3B Joint Seal 091113550-0006		Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected

Final report from 12/09/2011 09:22:00

Analyst(s)

Nonette Patron (6)

Baojia Ke, Laboratory Manager
or other approved signatory

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected may require additional testing by TEM to confirm asbestos quantities. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. San Leandro, CA NMLAP Lab Code 101048-3, MA AA000201, WA C2007



EMSL ANALYTICAL, INC.
LABORATORY SERVICES DIVISION

Asbestos Chain of Custody

EMSL Order Number (Lab Use Only):

[Empty box for EMSL Order Number]

EMSL Analytical, Inc.
2255 BAYVISTA DR., SUITE 230
SAN LEANDRO, CA 94577
PHONE: (510) 885-3675
FAX: (510) 885-3680

Company: <u>GEORCON</u>		EMSL-Bill to: <input checked="" type="checkbox"/> Same <input type="checkbox"/> Different <small>If Bill to is Different note instructions in Comments**</small>	
Street: <u>6677 BRISA ST</u>		<small>Third Party Billing requires written authorization from third party</small>	
City: <u>LIVERMORE</u>	State/Province: <u>CA</u>	Zip/Postal Code: <u>94550</u>	Country: <u>USA</u>
Report To (Name): <u>D. WATTS</u>		Fax #: <u>925-371-5915</u>	
Telephone #: <u>925-371-5200</u>		Email Address: <u>WATTS@GEORCONINC.COM</u>	
Project Name/Number: <u>SFO 280</u>		<u>E7560-06-30</u>	
Please Provide Results: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email		Purchase Order:	U.S. State Samples Taken:
Turnaround Time (TAT) Options* - Please Check			
<input type="checkbox"/> 3 Hour <input type="checkbox"/> 6 Hour <input type="checkbox"/> 24 Hour <input type="checkbox"/> 48 Hour <input type="checkbox"/> 72 Hour <input type="checkbox"/> 96 Hour <input checked="" type="checkbox"/> 1 Week <input type="checkbox"/> 2 Week			
<small>*For TEM Air 3 hours/6 hours, please call ahead to schedule. There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide.</small>			
PCM - Air <input type="checkbox"/> NIOSH 7400 <input type="checkbox"/> w/ OSHA 8hr. TWA PLM - Bulk (reporting limit) <input checked="" type="checkbox"/> PLM EPA 600/R-93/116 (<1%) <input type="checkbox"/> PLM EPA NOB (<1%) Point Count <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) Point Count w/Gravimetric <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) <input type="checkbox"/> NYS 198.1 (friable in NY) <input type="checkbox"/> NYS 198.6 NOB (non-friable-NY) <input type="checkbox"/> NIOSH 9002 (<1%)	TEM - Air <input type="checkbox"/> 4-4.5hr TAT (AHERA only) <input type="checkbox"/> AHERA 40 CFR, Part 763 <input type="checkbox"/> NIOSH 7402 <input type="checkbox"/> EPA Level II <input type="checkbox"/> ISO 10312 TEM - Bulk <input type="checkbox"/> TEM EPA NOB <input type="checkbox"/> NYS NOB 198.4 (non-friable-NY) <input type="checkbox"/> Chatfield SOP <input type="checkbox"/> TEM Mass Analysis-EPA 600 sec. 2.5 TEM - Water: EPA 100.2 Fibers >10µm <input type="checkbox"/> Waste <input type="checkbox"/> Drinking All Fiber Sizes <input type="checkbox"/> Waste <input type="checkbox"/> Drinking	TEM - Dust <input type="checkbox"/> Microvac - ASTM D 5755 <input type="checkbox"/> Wipe - ASTM D6480 <input type="checkbox"/> Carpet Sonication (EPA 600/J-93/167) Soil/Rock/Vermiculite <input type="checkbox"/> PLM CARB 435 - A (0.25% sensitivity) <input type="checkbox"/> PLM CARB 435 - B (0.1% sensitivity) <input type="checkbox"/> TEM CARB 435 - B (0.1% sensitivity) <input type="checkbox"/> TEM CARB 435 - C (0.01% sensitivity) <input type="checkbox"/> EPA Protocol (Semi-Quantitative) <input type="checkbox"/> EPA Protocol (Quantitative) Other: <input type="checkbox"/>	
<input type="checkbox"/> Check For Positive Stop - Clearly Identify Homogenous Group			
Samplers Name:		Samplers Signature:	
Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
<u>1A/B</u>	<u>SHEET PACKING</u>	<u>NA</u>	<u>2 DEC 2011</u>
<u>2A/B</u>	<u>JOINT FILL MATERIAL</u>	<u>↓</u>	<u>↓</u>
<u>3A/B</u>	<u>DECK JOINT SEALS</u>	<u>↓</u>	<u>↓</u>
Client Sample # (s):	-	Total # of Samples:	<u>6</u>
Relinquished (Client):	<u>WATTS</u>	Date: <u>2 DEC 2011</u>	Time: <u>12:14</u>
Received (Lab):	<u>[Signature]</u>	Date: <u>2 DEC 2011</u>	Time: <u>12:14</u>
Comments/Special Instructions:			

ADVANCED  TECHNOLOGY
LABORATORIES

December 13, 2011

Dave Watts
Geocon Consultants, Inc.
6671 Brisa Street
Livermore, CA 94550
Tel: (925) 371-5900
Fax: (925) 371-5915

ACCREDITED IN ACCORDANCE WITH

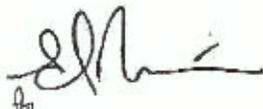
ELAP No.: 1838
NELAP No.: 02107CA
CSDLAC No.: 10196
ORELAP No.: CA300003

Re: ATL Work Order Number : 1100512
Client Reference : SFO-280, E8560-06-30

Enclosed are the results for sample(s) received on December 07, 2011 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,



Eddie Rodriguez
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.

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www.atlglobal.com



Geocon Consultants, Inc.
6671 Brisa Street
Livermore, CA 94550

Project Number : SFO-280, E8560-06-30
Report To : Dave Watts
Reported : 12/13/2011

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
P1A	1100512-01	Paint Chip	12/02/11 0:00	12/07/11 10:49
P1B	1100512-02	Paint Chip	12/02/11 0:00	12/07/11 10:49
P2A	1100512-03	Paint Chip	12/02/11 0:00	12/07/11 10:49
P2B	1100512-04	Paint Chip	12/02/11 0:00	12/07/11 10:49



Geocom Consultants, Inc.
6671 Brisa Street
Livermore, CA 94550

Project Number : SFO-280, E8560-06-30

Report To : Dave Watts

Reported : 12/13/2011

Total Metals by ICP-AES EPA 6010B Analyte: Lead Analyst: KK

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1100512-01	P1A	120	(mg/kg)	2.0	NA	1	B1L0344	12/12/2011	12/13/11 11:40	
1100512-02	P1B	96	(mg/kg)	2.0	NA	1	B1L0344	12/12/2011	12/13/11 11:42	
1100512-03	P2A	6.8	(mg/kg)	2.0	NA	1	B1L0344	12/12/2011	12/13/11 11:44	
1100512-04	P2B	2.9	(mg/kg)	2.0	NA	1	B1L0344	12/12/2011	12/13/11 11:46	



Geoson Consultants, Inc.
 6671 Brisa Street
 Livermore, CA 94550

Project Number : SFO-280, E8560-06-30

Report To : Dave Watts

Reported : 12/13/2011

QUALITY CONTROL SECTION

Total Metals by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec Limits	RPD	RPD Limit	Notes
Batch B1L0344 - EPA 3050B								
Blank (B1L0344-BLK1)								Prepared: 12/12/2011 Analyzed: 12/13/2011
Lead	ND	1.0						NR
LCS (B1L0344-BS1)								Prepared: 12/12/2011 Analyzed: 12/13/2011
Lead	47	1.0	50.0		94.9	80 - 120		
Duplicate (B1L0344-DUP1)								Prepared: 12/12/2011 Analyzed: 12/13/2011
Lead	25	1.0		30	NR		18.1	20
Matrix Spike (B1L0344-MS1)								Prepared: 12/12/2011 Analyzed: 12/13/2011
Lead	110	1.0	125	30	66.7	46 - 116		
Matrix Spike Dup (B1L0344-MSD1)								Prepared: 12/12/2011 Analyzed: 12/13/2011
Lead	110	1.0	125	30	62.1	46 - 116	5.15	20



Geoson Consultants, Inc.

6671 Brisa Street

Livermore, CA 94550

Project Number: SFO-280, E8560-06-30

Report To: Dave Watts

Reported: 12/13/2011

Notes and Definitions

ND Analyte not detected at or above reporting limit
PQL Practical Quantitation Limit
MDL Method Detection Limit
NR Not Reported
RPD Relative Percent Difference

CHAIN OF CUSTODY RECORD

Pg _____

T of _____

ADVANCED TECHNOLOGY LABORATORIES
 3275 Walnut Ave., Signal Hill, CA 90755
 Tel: (562) 989-4045 • Fax: (562) 989-4040

FOR LABORATORY USE ONLY:

Method of Transport:
 Client ATL
 FedEx OnTrac
 GSO Other: _____

Sample Condition Upon Receipt:
 1. CHILLED Y N 4. CUSTODY SEAL Y N
 2. HEADSPACE (VOA) Y N 5. # OF SPLS MATCH COC Y N
 3. CONTAINER INTACT Y N 6. PRESERVED Y N

Quote #: _____ Date: 12/7/11
 Logged By: _____
 NOTE: Please include your Quote No. to ensure proper pricing of your project.

Geocon Consultants, Inc.
 Address: 6871 Brisa Street
 City: Livermore State: CA Zip Code: 94550
 TEL: (925) 371-5900 FAX: (925) 371-5915

Project Name: SFO-280
 Project #: E8560-06-30
 Sampler: D. WATTS
 Received by: (Signature and Printed Name) [Signature] Date: 12/12/11 Time: 19:00
 Received by: (Signature and Printed Name) [Signature] Date: 12/12/11 Time: 19:00
 Received by: (Signature and Printed Name) [Signature] Date: 12/12/11 Time: 19:00

Send Report To:
 Attn: SEE "CLIENT"
 Co: _____
 Addr: _____
 City: _____ State: _____ Zip: _____

Bill To:
 Attn: _____
 Co: _____
 Addr: _____
 City: _____ State: _____ Zip: _____

Special Instructions/Comments:
 Paint - Total Pb
 Anticipate Soluble Request

Sample/Records - Archival & Disposal
 Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

Storage Fees (applies when storage is requested):
 • Sample: \$2.00 / sample / mo (after 45 days)
 • Records: \$1.00 / ATL workorder / mo (after 1 year)

I T E M	LAB USE ONLY:		Sample Description	Sample I.D. / Location	Date	Time
	Batch #:	Lab No.				
1	1105/2-01	P1A			12/24	App
2		P1B				
3		P2A				
4		P2B				

Specify Appropriate Matrix:

SOLID	Container(s)	Type	Q/A/QC
BEDMENT			RTNE <input checked="" type="checkbox"/> CT <input type="checkbox"/> Legal <input type="checkbox"/>
DRINKING WATER			SWRCB Logcode <input type="checkbox"/>
GROUND WATER			OTHER REMARKS
WASTEWATER			
STORMWATER			
AQUEOUS			

Preservatives:
 H=HCl N=HNO₃ S=H₂SO₄ C=4°C
 Z=Zn(Ac) D=NaOH T=Na₂S₂O₈

TAT: A= Overnight ≤ 24 hrs B= Next workday C= 2 Workdays D= 3 Workdays E= 7 Workdays Routine

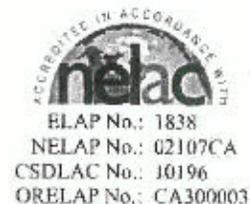
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

DISTRIBUTION: White with report, Yellow to folder, Pink to submitter.

ADVANCED  TECHNOLOGY
LABORATORIES

December 28, 2011

Dave Watts
Geocon Consultants, Inc.
6671 Brisa Street
Livermore, CA 94550
Tel: (925) 371-5900
Fax: (925) 371-5915

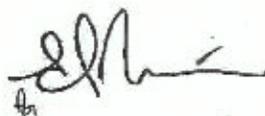


Re: ATL Work Order Number : 1100512
Client Reference : SFO-280, E8560-06-30

Enclosed are the results for sample(s) received on December 07, 2011 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,



Eddie Rodriguez
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.

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Gecon Consultants, Inc.
6671 Brisa Street
Livermore, CA 94550

Project Number : SFO-280, E8560-06-30

Report To : Dave Watts

Reported : 12/28/2011

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Composite PIA / PIB	1100512-05	Paint Chip	12/02/11 0:00	12/07/11 10:49



Gecon Consultants, Inc.
6671 Brisa Street
Livermore, CA 94550

Project Number: SFO-280, ER560-06-30
Report To: Dave Watts
Reported: 12/28/2011

Client Sample ID Composite P1A / P1B
Lab ID: 1100512-05

STLC Lead by AA (Direct Aspiration) by EPA 7420

Analyst: VV

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Lead	0.91	0.50	NA	1	B1L0673	12/20/2011	12/22/11 16:03	

QUALITY CONTROL SECTION

STLC Lead by AA (Direct Aspiration) by EPA 7420 - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B1L0673 - STLC Extraction									
Blank (B1L0673-BLK1)					Prepared: 12/20/2011 Analyzed: 12/22/2011				
Lead	ND	0.50					NR		
LCS (B1L0673-BS1)					Prepared: 12/22/2011 Analyzed: 12/22/2011				
Lead	5.0	0.05	5.00		99.6	80 - 120			
Duplicate (B1L0673-DUP1)					Source: 1100512-05 Prepared: 12/20/2011 Analyzed: 12/22/2011				
Lead	0.71	0.50		0.91	NR		24.9	20	R
Matrix Spike (B1L0673-MS1)					Source: 1100512-05 Prepared: 12/22/2011 Analyzed: 12/22/2011				
Lead	5.9	0.05	5.00	0.91	100	80 - 120			
Matrix Spike Dup (B1L0673-MSD1)					Source: 1100512-05 Prepared: 12/22/2011 Analyzed: 12/22/2011				
Lead	5.9	0.05	5.00	0.91	99.2	80 - 120	0.765	20	



Geoson Consultants, Inc.

6671 Brisa Street

Livermore, CA 94550

Project Number : SFO-280, E8560-06-30

Report To : Dave Watts

Reported : 12/28/2011

Notes and Definitions

R	RPI) value outside acceptance criteria. Calculation is based on raw values.
ND	Analyte not detected at or above reporting limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA1	CA-NELAP (CDPH)
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

Diane Galvan

From: David Watts [watts@geoconinc.com]
Sent: Thursday, December 15, 2011 4:16 PM
To: Diane Galvan
Subject: RE: Results/EDD - SFO-280 (1100512)

Please composite P1A and P1B and run a WET. Run TCLP if we fail WET.
Same TAT as CofC

thanks



David Watts, CAC | Sr. Project Scientist
Geocon Consultants, Inc.
6671 Brisa Street, Livermore, California 94550
Tel 925.371.5900 Fax 925.371.5915 Cell 925.785.5340
www.geoconinc.com