

**FOR CONTRACT NO.: 01-0A3804**

Project ID: 0100020313

# INFORMATION HANDOUT

## MATERIALS INFORMATION

ASBESTOS AND LEAD-CONTAINING PAINT SURVEY REPORTS

**ROUTE: 01-HUM-255-0.2/1.8**



Project No. S9300-06-162  
July 29, 2011

Steve Werner, Task Order Manager  
Caltrans District 1  
Environmental Engineering Office  
1656 Union Street  
Eureka, California 95501

Subject: ASBESTOS AND LEAD-CONTAINING PAINT SURVEY REPORT  
RICHARD F. DENBO MEMORIAL BRIDGE (04-0228)  
HUMBOLDT COUNTY, CALIFORNIA  
CONTRACT NO. 03A1368, E-FIS 01 0002 0313 (EA 01-0A3800)  
TASK ORDER NO. 162, 01-HUM-255, PM 1.37

Dear Mr. Werner:

In accordance with California Department of Transportation Contract No. 03A1368 and Task Order No. 162, we have performed an asbestos and lead-containing paint (LCP) survey of the subject bridge in Humboldt County, California. The scope of services included surveying the bridge for suspect asbestos-containing materials and lead-containing paint, collecting bulk samples, and submitting the samples to laboratories for analyses.

### **PROJECT DESCRIPTION**

The project consists of the Richard F. Denbo Memorial Bridge (04-0228) over the Samoa Channel at Post Mile (PM) 1.37 on Highway 255 in Humboldt County, California. We performed asbestos and LCP survey activities at the project location. The project location is depicted on the Vicinity Map, Figure 1, and Site Plan, Figure 2.

### **GENERAL OBJECTIVES**

The scope of services outlined in TO-162 included the determination of the presence and quantity of asbestos and LCP at the project location prior to various improvements. Assuming that no asbestos is added during future operations, our survey would satisfy National Emissions Standards for Hazardous Air Pollutants (NESHAP) requirements. The information obtained from this investigation will be used by Caltrans for waste profiling, determining California Occupational Safety and Health Administration (Cal/OSHA) applicability, and coordinating asbestos and LCP disturbance activities.

### **BACKGROUND**

#### **Asbestos**

The Code of Federal Regulations (CFR), 40 CFR 61, Subpart M, 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 nonfriable 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 (can be crumbled, pulverized, or reduced to powder by hand pressure); 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 nonfriable 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 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 addressed. 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).

## **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 substrate. Demolition of a deteriorated LCP component would require waste characterization and appropriate disposal. Intact LCP on a component is currently accepted by most landfills and recycling facilities; 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 concentration) 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 lead-containing paint. 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 Title 8, CCR, Section 1532.1.

## **Architectural Drawings and Previous Survey Activities**

We reviewed structure architectural plans provided by Caltrans prior to field activities. We observed no evidence of asbestos or lead paint use on the architectural plans provided. Previous asbestos survey reports were not available for our review.

## **SCOPE OF SERVICES**

Mr. David Watts, a California-Certified Asbestos Consultant (CAC), certification No. 98-2404 (expiration September 16, 2011), and Certified Lead Paint Inspector/Assessor and Project Monitor with the California Department of Public Health Services (DPH), certification numbers I-1734 and M-1734 (expiration December 4, 2011), performed the asbestos and LCP survey at the project location on June 7, 2011.

### **Asbestos**

Suspect ACM were grouped into homogeneous areas with representative samples randomly collected from each. In addition, each potential ACM was evaluated for friability. A total of five bulk asbestos samples representing three suspect components were collected.

Our procedures for inspection and sampling in accordance with TO-162 are discussed below:

- Collected bulk asbestos samples after first wetting friable materials with a light mist of water. The samples were then cut from the substrate and transferred to labeled containers.

- Relinquished bulk asbestos samples to EMSL Analytical, Inc., a California-licensed and Caltrans-approved subcontractor, for asbestos analysis in accordance with United States Environmental Protection Agency (EPA) Test Method 600/R-93/116 using polarized light microscopy (PLM) under chain-of-custody protocol. EMSL Analytical, Inc. is a laboratory accredited by the National Institute of Standards and Technology National Voluntary Laboratory Accreditation Program (NIST-NVLAP) for bulk asbestos fiber analysis. The laboratory analyses were requested on a five-day turnaround time.

Approximate sample locations are presented on Figure 2. Materials represented by the samples collected are shown in the attached photographs.

### Lead Paint

Two bulk paint samples were collected from suspect LCP observed at the project location. We did not observe deteriorated LCP during our survey. Our sampling procedures in accordance with TO-162 are discussed below:

- Collected bulk samples of suspect LCP using techniques presented in HUD guidelines. In addition, the painted areas were evaluated for evidence of deterioration such as flaking or cracking.
- Relinquished bulk LCP samples under chain-of-custody protocol to Advanced Technology Laboratories, a California-licensed and Caltrans-approved subcontractor, for lead analysis in accordance with EPA Test Method 6010B. Advanced Technology Laboratories is accredited by the DPH for lead analysis. The laboratory analyses were requested on a seven-day turnaround time.

Approximate sample locations are presented on Figure 2. Materials represented by the samples collected are shown in the attached photographs.

## INVESTIGATIVE RESULTS

### Asbestos

Chrysotile asbestos at a concentration of 80% was detected in a sample representing approximately 300 square feet of nonfriable sheet packing used as shims on the bridge barrier rail systems.

No asbestos was detected in samples of the remaining suspect materials collected during our survey. Sample identification numbers, material descriptions, approximate quantities, friability assessments, and a summary of the analytical laboratory test results for asbestos are summarized below. Reproductions of the laboratory report and chain-of-custody documentation are attached.

Polarized Light Microscopy (PLM) - EPA Test Method 600/R-93/116				
Sample No.	Description of Material	Approximate Quantity	Friable	Asbestos Content
0228-1A and B	Concrete	NA	NA	ND
0228-2A and B	Expansion joint fill material	NA	NA	ND
0228-3A	Barrier rail shims	300 square feet	No	80%

NA = Not applicable (no asbestos detected)

ND = Not detected

## Lead Paint

A sample representing intact yellow traffic striping exhibited a total lead concentration of 3,100 mg/kg and a TCLP lead concentration of 0.85 mg/l.

A sample representing intact white traffic striping did not contain detectable total lead above the laboratory reporting limit (RL) of 2.0 mg/kg.

Sample identification numbers, descriptions, peeling and flaking quantities, and a summary of the analytical laboratory test results for paint are summarized below. Reproductions of the laboratory reports and chain-of-custody documentation are attached.

Total and Soluble Lead				
Sample No.	Paint Description	Approximate Quantity Peeling/Flaking	Total Lead (mg/kg)	TCLP Lead (mg/l)
0228-P1	Yellow traffic striping	Intact	3,100	0.85
0228-P2	White traffic striping	Intact	<2.0	---

TCLP = Toxicity Characteristic Leaching Procedure (EPA Test Method 1311)

mg/kg = milligrams per kilogram (EPA Test Method 6010)

mg/l = milligrams per liter

< = Not detected at or above the indicated laboratory reporting limit

--- = Not analyzed

## RECOMMENDATIONS

### Asbestos

NESHAP regulations do not require that asbestos-containing sheet piling (a Category I nonfriable/nonhazardous material) identified during our survey be removed prior to demolition or be treated as hazardous waste. However, the disturbance of the material is still covered by the Cal/OSHA asbestos standard (Title 8, CCR Section 1529).

We recommend that a licensed contractor registered with Cal/OSHA for asbestos-related work perform any activities that would *disturb* the asbestos-containing materials identified during our survey. Contractors are responsible for informing the landfill of the contractor's intent to dispose of asbestos waste. Some landfills and recycling facilities may require additional waste characterization. Contractors are responsible for segregating and characterizing waste streams prior to disposal.

Geocon also recommends the notification of contractors (that will be conducting renovation or related activities) of the presence of asbestos in their work areas (i.e., provide contractor[s] with a copy of this report and a list of asbestos removed during subsequent activities). Contractors not trained for asbestos work should be instructed not to disturb asbestos during their activities.

Written notification to the North Coast Unified Air Quality Management District (NCUAQMD) is required ten working days prior to commencement of *any* demolition activity (whether asbestos is present or not).

## **Lead Paint**

Yellow traffic striping sampled during our survey would be classified as California hazardous based on lead content if stripped, blasted, or otherwise separated from the substrate.

White traffic striping sampled during our survey would not be considered a 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 any future 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.

## **REPORT LIMITATIONS**

The asbestos and LCP survey was conducted in conformance with generally accepted standards of practice for identifying and evaluating asbestos and LCP in structures. The survey addressed only the structure identified above. Due to the nature of structure surveys, asbestos and LCP use, and laboratory analytical limitations, some ACM or LCP at the project location may not have been identified. Spaces such as cavities, voids, crawlspaces, and pipe chases may have been concealed to our investigator. Previous 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 ACM with indistinguishable non-ACM. Asbestos and/or LCP may exist in areas of the structure that were not accessible or sampled in conjunction with this TO.

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 ACM and/or LCP 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 Caltrans. 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 author who is 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.

Please contact us should you have any questions concerning the contents of this report or if we may be of further service.

Sincerely,

GEOCON CONSULTANTS INC.



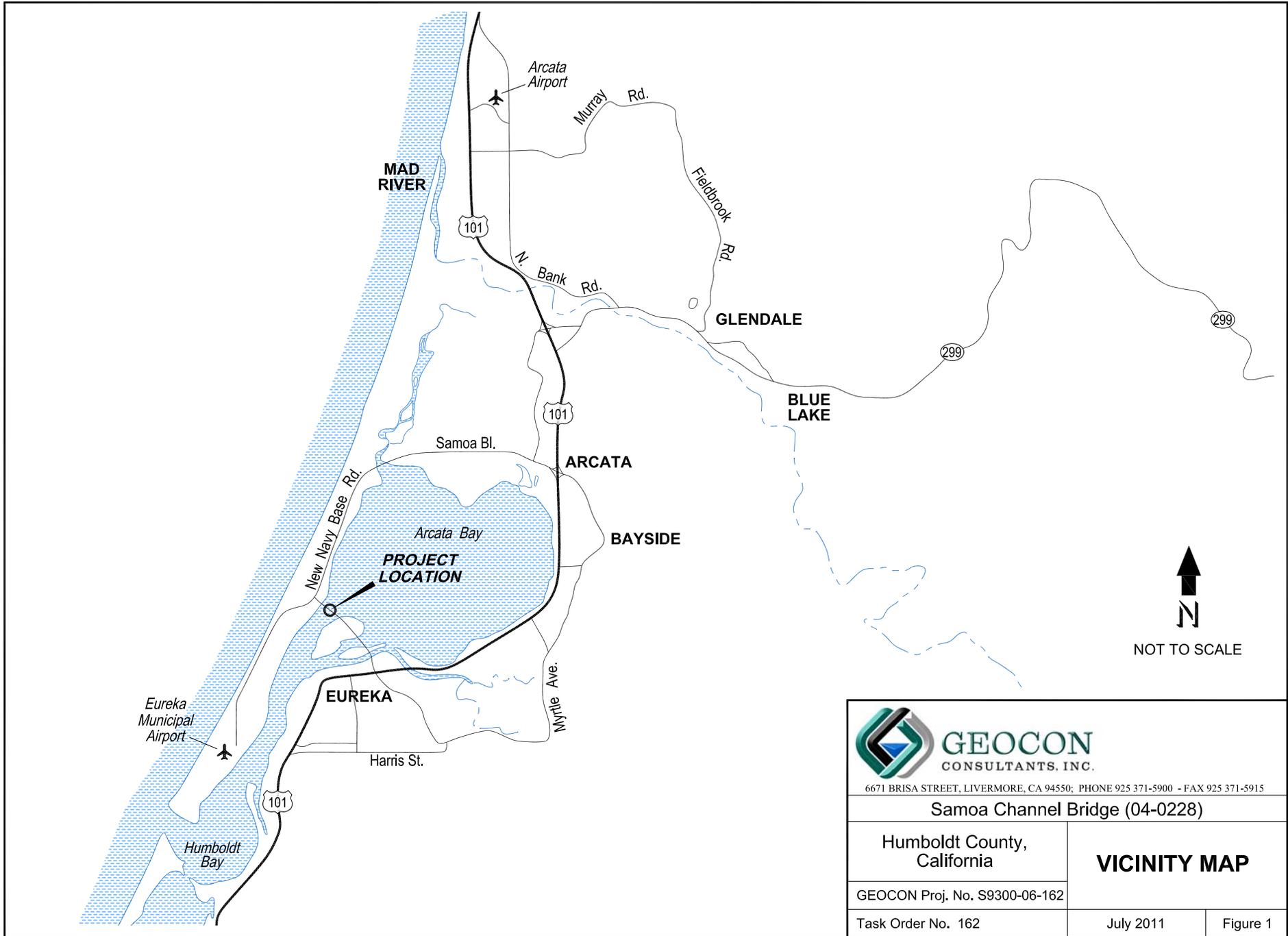
David A. Watts, CAC  
Senior Project Scientist



John E. Juhrend, PE, CEG  
Project Manager

(2 + 4 CD) Addressee

Attachments:        Figure 1, Vicinity Map  
                              Figure 2, Site Plan  
                              Site Photographs (1 through 3)  
                              Analytical Laboratory Reports and Chain-of-custody Documentation



 <p>6671 BRISA STREET, LIVERMORE, CA 94550; PHONE 925 371-5900 - FAX 925 371-5915</p>	
<p><b>Samoa Channel Bridge (04-0228)</b></p>	
<p>Humboldt County, California</p>	<p><b>VICINITY MAP</b></p>
<p>GEOCON Proj. No. S9300-06-162</p>	
<p>Task Order No. 162</p>	<p>July 2011</p>
<p>Figure 1</p>	

**LEGEND:**

- Approximate Asbestos Sample Location
- ▲ Approximate Paint Sample Location



**Bridge 04-0228**



6671 BRISA STREET, LIVERMORE, CA 94550; PHONE 925 371-5900 - FAX 925 371-5915

Samoa Channel Bridge (04-0228)

Humboldt County,  
California

**SITE PLAN**

GEOCON Proj. No. S9300-06-162

Task Order No. 162

July 2011

Figure 2



**Photo 1 – Bridge 04-0228 in Humboldt County, California**



**Photo 2 – Bridge deck and barrier rails**



**Photo 3 – Bridge abutment**



**GEOCON**  
CONSULTANTS, INC.

3160 GOLD VALLEY DR - SUITE 800 - RANCHO CORDOVA, CA 95742  
PHONE 916.852.9118 - FAX 916.852.9132

<b>PHOTOGRAPHS 1, 2, &amp; 3</b>		
Samoa Channel Bridge 04-0228 Humboldt County, California		
S9300-06-162	Task Order No. 162	July 2011



**EMSL Analytical, Inc.**  
 528 Mineola Avenue, Carle Place, NY 11514

Phone: (516) 997-7251 Fax: (516) 997-7528 Email: [carleplacelab@emsl.com](mailto:carleplacelab@emsl.com)

Attn: **Dave Watts**  
**Geocon Consultants, Inc.**  
**6671 Brisa Street**  
  
**Livermore, CA 94550**

Customer ID: GECN21  
 Customer PO:  
 Received: 06/13/11 9:00 AM  
 EMSL Order: 061105148

Fax: (925) 371-5915 Phone: (925) 371-5900  
 Project: **04-0228, S9300-06-162**

EMSL Proj: S9300-06-\*\*  
 Analysis Date: 6/17/2011

### Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
0228-1A <i>061105148-0001</i>	Concrete	Gray Non-Fibrous Heterogeneous		60% Non-fibrous (other) 40% Quartz	<b>None Detected</b>
0228-1B <i>061105148-0002</i>	Concrete	Gray Non-Fibrous Heterogeneous		60% Non-fibrous (other) 40% Quartz	<b>None Detected</b>
0228-2A <i>061105148-0003</i>	JFM	Brown Fibrous Heterogeneous	90% Cellulose	10% Non-fibrous (other)	<b>None Detected</b>
0228-2B <i>061105148-0004</i>	JFM	Brown Fibrous Heterogeneous	90% Cellulose	10% Non-fibrous (other)	<b>None Detected</b>
0228-3A <i>061105148-0005</i>	SHIMS	Gray Fibrous Heterogeneous		20% Non-fibrous (other)	<b>80% Chrysotile</b>

Initial report from 06/20/2011 09:02:03

Analyst(s)

*Daniel Clarke (5)*

Michelle McGowan, Laboratory Manager  
 or other approved signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Carle Place, NY NVLAP Lab Code 101048-10, CA ELAP 2339, NYS ELAP 11469



EMSL ANALYTICAL, INC.  
LABORATORY PRODUCTS TRAINING

# Asbestos Chain of Custody

EMSL Order Number (Lab Use Only):

**061105148**

EMSL ANALYTICAL, INC.  
2235 POLVOROSA DR., STE. 230  
SAN LEANDRO, CA 94577  
PHONE: (510) 895-3675  
FAX: (510) 895-3680

Company: <b>Geocon</b>		EMSL-Bill to: <input checked="" type="checkbox"/> Same <input type="checkbox"/> Different If Bill to is Different note instructions in Comments**	
Street: <b>6671 BRISA ST</b>		Third Party Billing requires written authorization from third party	
City: <b>LIVERMORE</b>	State/Province: <b>CA</b>	Zip/Postal Code: <b>94550</b>	Country: <b>USA</b>
Report To (Name): <b>D. WATTS</b>		Fax #: <b>925-371-5915</b>	
Telephone #: <b>925-371-5900</b>		Email Address: <b>WATTS@GEOCONINC.COM</b>	
Project Name/Number: <b>04-0228</b>		<b>39300-06-162</b>	
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

3 Hour  
  6 Hour  
  24 Hour  
  48 Hour  
  72 Hour  
  96 Hour  
  1 Week  
  2 Week

\*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.

<b>PCM - Air</b> <input type="checkbox"/> NIOSH 7400 <input type="checkbox"/> w/ OSHA 8hr. TWA <b>PLM - Bulk (reporting limit)</b> <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%)	<b>TEM - Air</b> <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 <b>TEM - Bulk</b> <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 <b>TEM - Water: EPA 100.2</b> Fibers >10µm <input type="checkbox"/> Waste <input type="checkbox"/> Drinking All Fiber Sizes <input type="checkbox"/> Waste <input type="checkbox"/> Drinking	<b>TEM - Dust</b> <input type="checkbox"/> Microvac - ASTM D 5755 <input type="checkbox"/> Wipe - ASTM D6480 <input type="checkbox"/> Carpet Sonication (EPA 600/J-93/167) <b>Soil/Rock/Vermiculite</b> <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) <b>Other:</b> <input type="checkbox"/>
---	--	---

Check For Positive Stop - Clearly Identify Homogenous Group

Samplers Name: **D. WATTS**      Samplers Signature: **Watts**

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
0228-1A/1B	CONCRETE	NA	6/7/11
↓ -2A/2B	JFM	↓	↓
↓ -3A	SITING	↓	↓

RECEIVED  
 ANALYTICAL  
 DEPARTMENT  
 SAN LEANDRO, CA  
 JUN 15 AM 9:37

Client Sample # (s):	Total # of Samples:
Relinquished (Client): <b>Watts</b> Date: <b>6/9/11</b> Time: <b>1800</b>	
Received (Lab): <b>Watts</b> Date: <b>6/13/11</b> Time: <b>0900h</b>	
Comments/Special Instructions:	

Relinquished by EMSL San  
Controlled Leandro **6/14/11**  
**Watts**

June 27, 2011



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

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

Workorder No.: 118391

RE: 04-0228, S9300-06-162

Attention: Dave Watts

Enclosed are the results for sample(s) received on June 13, 2011 by Advanced Technology Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (562)989-4045 if I can be of further assistance to your company.

Sincerely,

A handwritten signature in black ink, appearing to read "Eddie F. Rodriguez".

Eddie F. Rodriguez  
Laboratory Director

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



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**CLIENT:** Geocon Consultants, Inc.  
**Project:** 04-0228, S9300-06-162  
**Lab Order:** 118391

**CASE NARRATIVE**

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Analytical Comments for Method 6010

Dilution was necessary for sample 118391-001A, due to sample matrix.

RPD for Duplicate (DUP) is outside criteria for sample 118392-001ADUP; however, the Laboratory Control Sample (LCS) validated the analytical batch.

Analytical Comments for Method 7420

RPD for Duplicate (DUP) is outside criteria for sample 118427-049ADUP; however, the Laboratory Control Sample (LCS) validated the analytical batch.



# Advanced Technology Laboratories

# ANALYTICAL RESULTS

Print Date: 27-Jun-11

**CLIENT:** Geocon Consultants, Inc.  
**Project:** 04-0228, S9300-06-162

**Lab Order:** 118391

**Lab ID:** 118391-001

**Collection Date:** 6/7/2011

**Client Sample ID:** 0228-P1

**Matrix:** PAINT CHIP

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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## ICP METALS

### EPA 3050B

### EPA 6010B

RunID: ICP8_110616I	QC Batch: 73628				PrepDate: 6/16/2011	Analyst: CBB
Lead	3100	20		mg/Kg	10	6/16/2011 08:29 PM

## LEAD BY ATOMIC ABSORPTION (TCLP)

### EPA3010A

### EPA 1311/ 7420

RunID: AA2_110624C	QC Batch: 73851				PrepDate: 6/24/2011	Analyst: VV
Lead	0.85	0.25		mg/L	1	6/24/2011 03:02 PM

**Lab ID:** 118391-002

**Collection Date:** 6/7/2011

**Client Sample ID:** 0228-P2

**Matrix:** PAINT CHIP

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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## ICP METALS

### EPA 3050B

### EPA 6010B

RunID: ICP8_110616I	QC Batch: 73628				PrepDate: 6/16/2011	Analyst: CBB
Lead	ND	2.0		mg/Kg	1	6/17/2011 05:59 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	



Advanced Technology  
Laboratories

3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562.989.4045 Fax: 562.989.4040

**CLIENT:** Geocon Consultants, Inc.  
**Work Order:** 118391  
**Project:** 04-0228, S9300-06-162

**ANALYTICAL QC SUMMARY REPORT**

**TestCode: 6010\_S**

Sample ID: <b>MB-73628</b>	SampType: <b>MBLK</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/16/2011</b>	RunNo: <b>134140</b>						
Client ID: <b>PBS</b>	Batch ID: <b>73628</b>	TestNo: <b>EPA 6010B EPA 3050B</b>		Analysis Date: <b>6/16/2011</b>	SeqNo: <b>2191560</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.194 1.0

Sample ID: <b>LCS-73628</b>	SampType: <b>LCS</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/16/2011</b>	RunNo: <b>134140</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>73628</b>	TestNo: <b>EPA 6010B EPA 3050B</b>		Analysis Date: <b>6/16/2011</b>	SeqNo: <b>2191561</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 54.951 1.0 50.00 0.1944 110 80 120

Sample ID: <b>MB-73628-MS</b>	SampType: <b>MS</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/16/2011</b>	RunNo: <b>134140</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>73628</b>	TestNo: <b>EPA 6010B EPA 3050B</b>		Analysis Date: <b>6/16/2011</b>	SeqNo: <b>2191562</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 115.015 1.0 125.0 0 92.0 34 126

Sample ID: <b>MB-73628-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/16/2011</b>	RunNo: <b>134140</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>73628</b>	TestNo: <b>EPA 6010B EPA 3050B</b>		Analysis Date: <b>6/16/2011</b>	SeqNo: <b>2191563</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

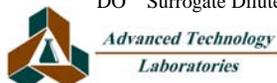
Lead 124.735 1.0 125.0 0 99.8 34 126 115.0 8.11 20

Sample ID: <b>118392-001A-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/16/2011</b>	RunNo: <b>134140</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>73628</b>	TestNo: <b>EPA 6010B EPA 3050B</b>		Analysis Date: <b>6/16/2011</b>	SeqNo: <b>2191569</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 8149.660 20 5388 40.8 20 R

**Qualifiers:**

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference



**CLIENT:** Geocon Consultants, Inc.  
**Work Order:** 118391  
**Project:** 04-0228, S9300-06-162

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 7420\_TC**

Sample ID: <b>MB-73851A</b>	SampType: <b>MBLK</b>	TestCode: <b>7420_TC</b>	Units: <b>mg/L</b>	Prep Date: <b>6/24/2011</b>	RunNo: <b>134392</b>						
Client ID: <b>PBS</b>	Batch ID: <b>73851</b>	TestNo: <b>EPA 1311/ 74 EPA3010A</b>		Analysis Date: <b>6/24/2011</b>	SeqNo: <b>2196707</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.25									

Sample ID: <b>MB-73843A TCLP</b>	SampType: <b>MBLK</b>	TestCode: <b>7420_TC</b>	Units: <b>mg/L</b>	Prep Date: <b>6/24/2011</b>	RunNo: <b>134392</b>						
Client ID: <b>PBS</b>	Batch ID: <b>73851</b>	TestNo: <b>EPA 1311/ 74 EPA3010A</b>		Analysis Date: <b>6/24/2011</b>	SeqNo: <b>2196708</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.25									

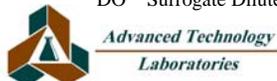
Sample ID: <b>LCS-73851</b>	SampType: <b>LCS</b>	TestCode: <b>7420_TC</b>	Units: <b>mg/L</b>	Prep Date: <b>6/24/2011</b>	RunNo: <b>134392</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>73851</b>	TestNo: <b>EPA 1311/ 74 EPA3010A</b>		Analysis Date: <b>6/24/2011</b>	SeqNo: <b>2196709</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	1.061	0.25	1.000	0	106	80	120				

Sample ID: <b>118427-006A-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>7420_TC</b>	Units: <b>mg/L</b>	Prep Date: <b>6/24/2011</b>	RunNo: <b>134392</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>73851</b>	TestNo: <b>EPA 1311/ 74 EPA3010A</b>		Analysis Date: <b>6/24/2011</b>	SeqNo: <b>2196720</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.366	0.25						0.3911	6.74	20	

Sample ID: <b>118427-006A-MS</b>	SampType: <b>MS</b>	TestCode: <b>7420_TC</b>	Units: <b>mg/L</b>	Prep Date: <b>6/24/2011</b>	RunNo: <b>134392</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>73851</b>	TestNo: <b>EPA 1311/ 74 EPA3010A</b>		Analysis Date: <b>6/24/2011</b>	SeqNo: <b>2196721</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	3.168	0.25	2.500	0.3911	111	70	130				

**Qualifiers:**

- |   |  |  |
|---|--|--|
| B Analyte detected in the associated Method Blank | E Value above quantitation range       | H Holding times for preparation or analysis exceeded           |
| ND Not Detected at the Reporting Limit            | R RPD outside accepted recovery limits | S Spike/Surrogate outside of limits due to matrix interference |
| DO Surrogate Diluted Out                          | Calculations are based on raw values   |  |



**CLIENT:** Geocon Consultants, Inc.  
**Work Order:** 118391  
**Project:** 04-0228, S9300-06-162

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 7420\_TC**

Sample ID: <b>MB-73851B</b>	SampType: <b>MBLK</b>	TestCode: <b>7420_TC</b>	Units: <b>mg/L</b>	Prep Date: <b>6/24/2011</b>	RunNo: <b>134392</b>						
Client ID: <b>PBS</b>	Batch ID: <b>73851</b>	TestNo: <b>EPA 1311/ 74 EPA3010A</b>		Analysis Date: <b>6/24/2011</b>	SeqNo: <b>2196722</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.230	0.25									

Sample ID: <b>MB-73843B TCLP</b>	SampType: <b>MBLK</b>	TestCode: <b>7420_TC</b>	Units: <b>mg/L</b>	Prep Date: <b>6/24/2011</b>	RunNo: <b>134392</b>						
Client ID: <b>PBS</b>	Batch ID: <b>73851</b>	TestNo: <b>EPA 1311/ 74 EPA3010A</b>		Analysis Date: <b>6/24/2011</b>	SeqNo: <b>2196723</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.211	0.25									

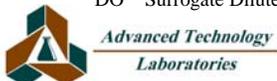
Sample ID: <b>118427-049A-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>7420_TC</b>	Units: <b>mg/L</b>	Prep Date: <b>6/24/2011</b>	RunNo: <b>134392</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>73851</b>	TestNo: <b>EPA 1311/ 74 EPA3010A</b>		Analysis Date: <b>6/24/2011</b>	SeqNo: <b>2196734</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.539	0.25						0.3855	33.2	20	R

Sample ID: <b>118427-049A-MS</b>	SampType: <b>MS</b>	TestCode: <b>7420_TC</b>	Units: <b>mg/L</b>	Prep Date: <b>6/24/2011</b>	RunNo: <b>134392</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>73851</b>	TestNo: <b>EPA 1311/ 74 EPA3010A</b>		Analysis Date: <b>6/24/2011</b>	SeqNo: <b>2196735</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	3.442	0.25	2.500	0.3855	122	70	130				

Sample ID: <b>118427-049A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>7420_TC</b>	Units: <b>mg/L</b>	Prep Date: <b>6/24/2011</b>	RunNo: <b>134392</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>73851</b>	TestNo: <b>EPA 1311/ 74 EPA3010A</b>		Analysis Date: <b>6/24/2011</b>	SeqNo: <b>2196736</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	3.428	0.25	2.500	0.3855	122	70	130	3.442	0.429	20	

**Qualifiers:**

- |   |  |  |
|---|--|--|
| B Analyte detected in the associated Method Blank | E Value above quantitation range       | H Holding times for preparation or analysis exceeded           |
| ND Not Detected at the Reporting Limit            | R RPD outside accepted recovery limits | S Spike/Surrogate outside of limits due to matrix interference |
| DO Surrogate Diluted Out                          | Calculations are based on raw values   |  |





## Diane Galvan

---

**From:** David Watts [watts@geoconinc.com]  
**Sent:** Monday, June 13, 2011 1:10 PM  
**To:** Diane Galvan  
**Cc:** Steve Werner  
**Subject:** S9300-06-162

Diane,

For the paint samples you receive today on this job:

- 1) Please run TCLPs on all samples with a TTLC of 1000 ppm or greater.
- 2) Please run WETs on any sample with a TTLC ranging from 50 to 999 ppm.
- 3) Please run TCLPs on any sample that fails WET that also has a TTLC of 100 ppm or greater.

Please run Cr6 on paint samples:

0072-P3  
0123-P3  
0014-P3  
0017L-P3  
0215-P2  
0044-P3  
0137-P3  
0023-P3  
0019-P3.

Standard TATs.

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](http://www.geoconinc.com)



Project No. S9300-06-162  
July 29, 2011

Steve Werner, Task Order Manager  
Caltrans District 1  
Environmental Engineering Office  
1656 Union Street  
Eureka, California 95501

Subject: ASBESTOS AND LEAD-CONTAINING PAINT SURVEY REPORT  
CARL L. CHRISTENSEN MEMORIAL BRIDGE (04-0229)  
HUMBOLDT COUNTY, CALIFORNIA  
CONTRACT NO. 03A1368, E-FIS 01 0002 0313 (EA 01-0A3800)  
TASK ORDER NO. 162, 01-HUM-255, PM 0.67

Dear Mr. Werner:

In accordance with California Department of Transportation Contract No. 03A1368 and Task Order No. 162, we have performed an asbestos and lead-containing paint (LCP) survey of the subject bridge in Humboldt County, California. The scope of services included surveying the bridge for suspect asbestos-containing materials and lead-containing paint, collecting bulk samples, and submitting the samples to laboratories for analyses.

### PROJECT DESCRIPTION

The project consists of the Carl L. Christensen Memorial Bridge (04-0229) over Middle Channel at Post Mile (PM) 0.67 on Highway 255 in Humboldt County, California. We performed asbestos and LCP survey activities at the project location. The project location is depicted on the Vicinity Map, Figure 1, and Site Plan, Figure 2.

### GENERAL OBJECTIVES

The scope of services outlined in TO-162 included the determination of the presence and quantity of asbestos and LCP at the project location prior to various improvements. Assuming that no asbestos is added during future operations, our survey would satisfy National Emissions Standards for Hazardous Air Pollutants (NESHAP) requirements. The information obtained from this investigation will be used by Caltrans for waste profiling, determining California Occupational Safety and Health Administration (Cal/OSHA) applicability, and coordinating asbestos and LCP disturbance activities.

### BACKGROUND

#### Asbestos

The Code of Federal Regulations (CFR), 40 CFR 61, Subpart M, 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 nonfriable 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 (can be crumbled, pulverized, or reduced to powder by hand pressure); 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 nonfriable 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 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 addressed. 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).

## **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 substrate. Demolition of a deteriorated LCP component would require waste characterization and appropriate disposal. Intact LCP on a component is currently accepted by most landfills and recycling facilities; 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 concentration) 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 lead-containing paint. 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 Title 8, CCR, Section 1532.1.

### **Architectural Drawings and Previous Survey Activities**

We reviewed structure architectural plans provided by Caltrans prior to field activities. We observed no evidence of asbestos or lead paint use on the architectural plans provided. Previous asbestos survey reports were not available for our review.

### **SCOPE OF SERVICES**

Mr. David Watts, a California-Certified Asbestos Consultant (CAC), certification No. 98-2404 (expiration September 16, 2011), and Certified Lead Paint Inspector/Assessor and Project Monitor with the California Department of Public Health Services (DPH), certification numbers I-1734 and M-1734 (expiration December 4, 2011), performed the asbestos and LCP survey at the project location on June 7, 2011.

### **Asbestos**

Suspect ACM were grouped into homogeneous areas with representative samples randomly collected from each. In addition, each potential ACM was evaluated for friability. A total of five bulk asbestos samples representing three suspect components were collected.

Our procedures for inspection and sampling in accordance with TO-162 are discussed below:

- Collected bulk asbestos samples after first wetting friable materials with a light mist of water. The samples were then cut from the substrate and transferred to labeled containers.
- Relinquished bulk asbestos samples to EMSL Analytical, Inc., a California-licensed and Caltrans-approved subcontractor, for asbestos analysis in accordance with United States Environmental Protection Agency (EPA) Test Method 600/R-93/116 using polarized light microscopy (PLM)

under chain-of-custody protocol. EMSL Analytical, Inc. is a laboratory accredited by the National Institute of Standards and Technology National Voluntary Laboratory Accreditation Program (NIST-NVLAP) for bulk asbestos fiber analysis. The laboratory analyses were requested on a five-day turnaround time.

Approximate sample locations are presented on Figure 2. Materials represented by the samples collected are shown in the attached photographs.

**Lead Paint**

Two bulk paint samples were collected from suspect LCP observed at the project location. We did not observe deteriorated LCP during our survey. Our sampling procedures in accordance with TO-162 are discussed below:

- Collected bulk samples of suspect LCP using techniques presented in HUD guidelines. In addition, the painted areas were evaluated for evidence of deterioration such as flaking or cracking.
- Relinquished bulk LCP samples under chain-of-custody protocol to Advanced Technology Laboratories, a California-licensed and Caltrans-approved subcontractor, for lead analysis in accordance with EPA Test Method 6010B. Advanced Technology Laboratories is accredited by the DPH for lead analysis. The laboratory analyses were requested on a seven-day turnaround time.

Approximate sample locations are presented on Figure 2. Materials represented by the samples collected are shown in the attached photographs.

**INVESTIGATIVE RESULTS**

**Asbestos**

Chrysotile asbestos at a concentration of 80% was detected in a sample representing approximately 250 square feet of nonfriable sheet packing used as shims on the bridge barrier rail systems.

No asbestos was detected in samples of the remaining suspect materials collected during our survey. Sample identification numbers, material descriptions, approximate quantities, friability assessments, and a summary of the analytical laboratory test results for asbestos are summarized below. Reproductions of the laboratory report and chain-of-custody documentation are attached.

<b>Polarized Light Microscopy (PLM) - EPA Test Method 600/R-93/116</b>				
<b>Sample No.</b>	<b>Description of Material</b>	<b>Approximate Quantity</b>	<b>Friable</b>	<b>Asbestos Content</b>
0229-1A and B	Concrete	NA	NA	ND
0229-2A and B	Expansion joint fill material	NA	NA	ND
0229-3A	Barrier rail shims	250 square feet	No	80%

NA = Not applicable (no asbestos detected)  
 ND = Not detected

## Lead Paint

A sample representing intact yellow traffic striping exhibited a total lead concentration of 4,500 mg/kg and a TCLP lead concentration of 0.49 mg/l.

A sample representing intact white traffic striping exhibited a total lead concentration of 4.8 mg/kg.

Sample identification numbers, descriptions, peeling and flaking quantities, and a summary of the analytical laboratory test results for paint are summarized below. Reproductions of the laboratory reports and chain-of-custody documentation are attached.

Total and Soluble Lead				
Sample No.	Paint Description	Approximate Quantity Peeling/Flaking	Total Lead (mg/kg)	TCLP Lead (mg/l)
0229-P1	Yellow traffic striping	Intact	4,500	0.49
0229-P2	White traffic striping	Intact	4.8	---

TCLP = Toxicity Characteristic Leaching Procedure (EPA Test Method 1311)

mg/kg = milligrams per kilogram (EPA Test Method 6010)

mg/l = milligrams per liter

--- = Not analyzed

## RECOMMENDATIONS

### Asbestos

NESHAP regulations do not require that asbestos-containing sheet piling (a Category I nonfriable/nonhazardous material) identified during our survey be removed prior to demolition or be treated as hazardous waste. However, the disturbance of the material is still covered by the Cal/OSHA asbestos standard (Title 8, CCR Section 1529).

We recommend that a licensed contractor registered with Cal/OSHA for asbestos-related work perform any activities that would *disturb* the asbestos-containing materials identified during our survey. Contractors are responsible for informing the landfill of the contractor's intent to dispose of asbestos waste. Some landfills and recycling facilities may require additional waste characterization. Contractors are responsible for segregating and characterizing waste streams prior to disposal.

Geocon also recommends the notification of contractors (that will be conducting renovation or related activities) of the presence of asbestos in their work areas (i.e., provide contractor[s] with a copy of this report and a list of asbestos removed during subsequent activities). Contractors not trained for asbestos work should be instructed not to disturb asbestos during their activities.

Written notification to the North Coast Unified Air Quality Management District (NCUAQMD) is required ten working days prior to commencement of *any* demolition activity (whether asbestos is present or not).

## **Lead Paint**

Yellow traffic striping sampled during our survey would be classified as California hazardous based on lead content if stripped, blasted, or otherwise separated from the substrate.

White traffic striping sampled during our survey would not be considered a 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 any future 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.

## **REPORT LIMITATIONS**

The asbestos and LCP survey was conducted in conformance with generally accepted standards of practice for identifying and evaluating asbestos and LCP in structures. The survey addressed only the structure identified above. Due to the nature of structure surveys, asbestos and LCP use, and laboratory analytical limitations, some ACM or LCP at the project location may not have been identified. Spaces such as cavities, voids, crawlspaces, and pipe chases may have been concealed to our investigator. Previous 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 ACM with indistinguishable non-ACM. Asbestos and/or LCP may exist in areas of the structure that were not accessible or sampled in conjunction with this TO.

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 ACM and/or LCP 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 Caltrans. 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 author who is 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.

Please contact us should you have any questions concerning the contents of this report or if we may be of further service.

Sincerely,

GEOCON CONSULTANTS INC.



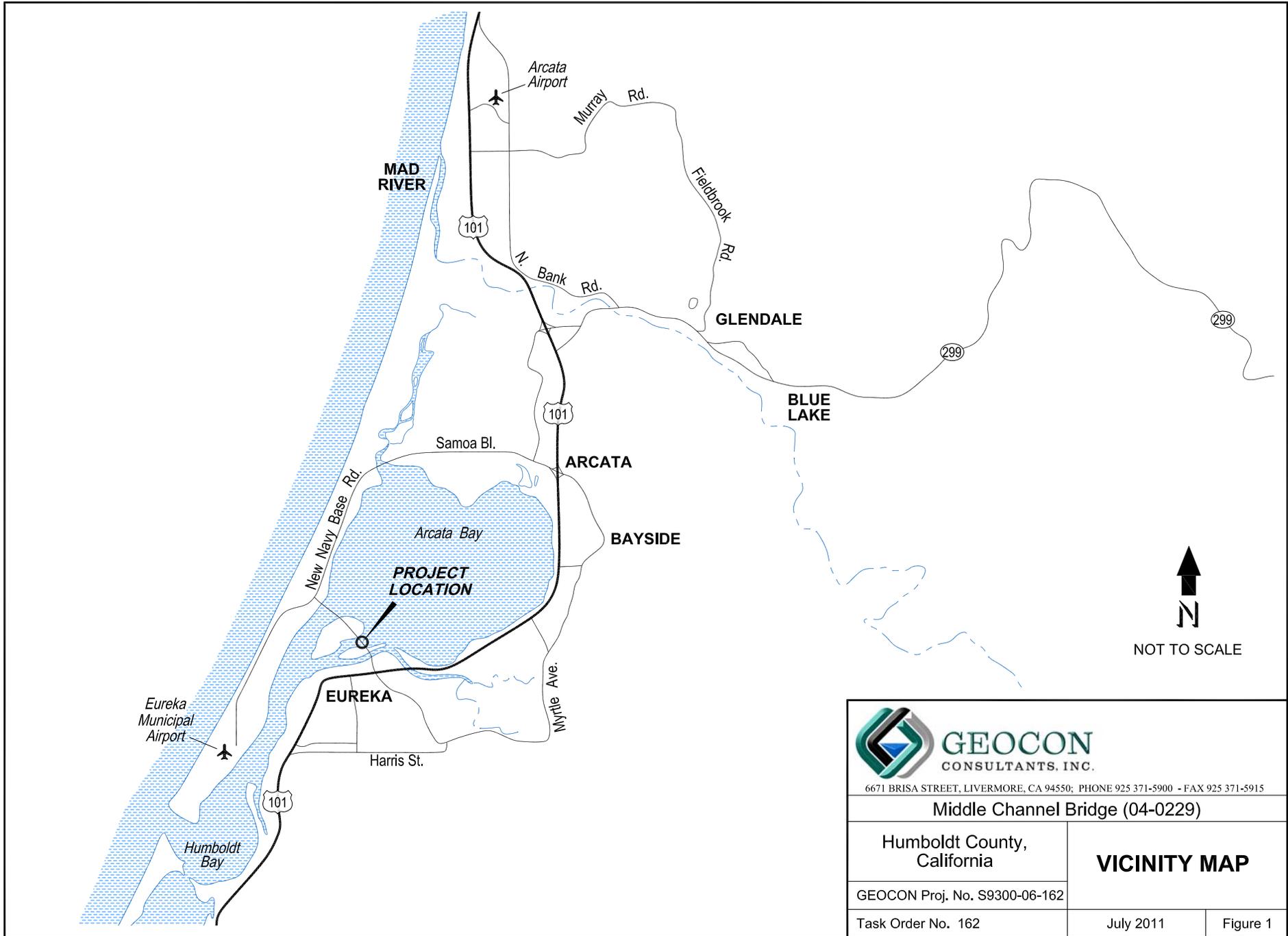
David A. Watts, CAC  
Senior Project Scientist



John E. Juhrend, PE, CEG  
Project Manager

(2 + 4 CD) Addressee

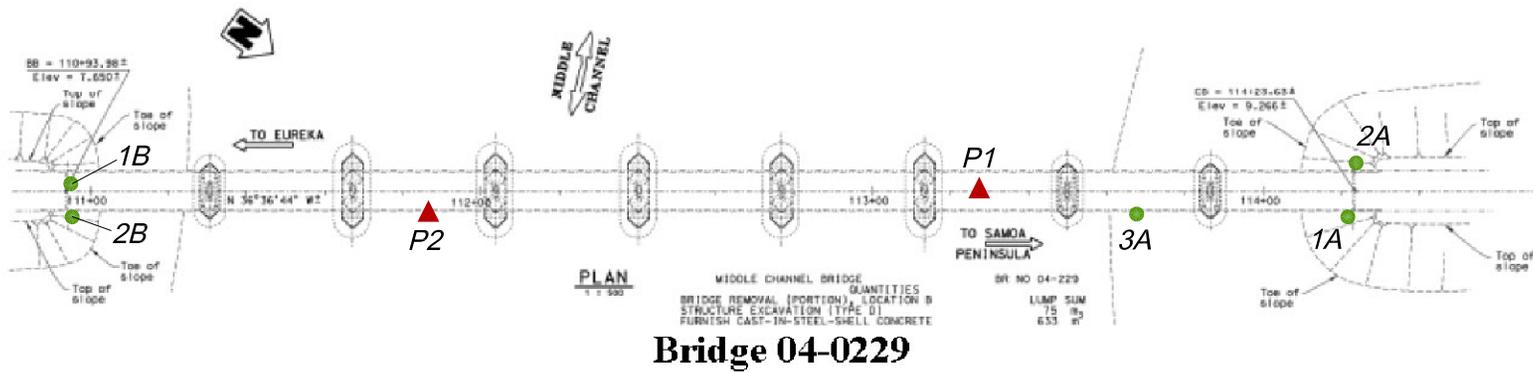
Attachments:      Figure 1, Vicinity Map  
                            Figure 2, Site Plan  
                            Site Photographs (1 through 3)  
                            Analytical Laboratory Reports and Chain-of-custody Documentation



 <p>6671 BRISA STREET, LIVERMORE, CA 94550; PHONE 925 371-5900 - FAX 925 371-5915</p>	
<p><b>Middle Channel Bridge (04-0229)</b></p>	
<p>Humboldt County, California</p>	<p><b>VICINITY MAP</b></p>
<p>GEOCON Proj. No. S9300-06-162</p>	
<p>Task Order No. 162</p>	<p>July 2011</p>
<p>Figure 1</p>	

**LEGEND:**

- Approximate Asbestos Sample Location
- ▲ Approximate Paint Sample Location



 <p>6671 BRISA STREET, LIVERMORE, CA 94550; PHONE 925 371-5900 - FAX 925 371-5915</p>	
<p><b>Middle Channel Bridge (04-0229)</b></p>	
<p>Humboldt County, California</p>	<p><b>SITE PLAN</b></p>
<p>GEOCON Proj. No. S9300-06-162</p>	
<p>Task Order No. 162</p>	<p>July 2011</p>
<p>Figure 2</p>	



**Photo 1 – Bridge 04-0229 in Humboldt County, California**



**Photo 2 – Bridge deck and barrier rails**



**Photo 3 – Bridge abutment**



**GEOCON**  
CONSULTANTS, INC.

3160 GOLD VALLEY DR - SUITE 800 - RANCHO CORDOVA, CA 95742  
PHONE 916.852.9118 - FAX 916.852.9132

**PHOTOGRAPHS 1, 2, & 3**

Middle Channel Bridge 04-0229  
Humboldt County, California

S9300-06-162

Task Order No. 162

July 2011



**EMSL Analytical, Inc.**  
528 Mineola Avenue, Carle Place, NY 11514

Phone: (516) 997-7251 Fax: (516) 997-7528 Email: [carleplacelab@emsl.com](mailto:carleplacelab@emsl.com)

Attn: **Dave Watts**  
**Geocon Consultants, Inc.**  
**6671 Brisa Street**  
  
**Livermore, CA 94550**

Customer ID: GECN21  
Customer PO:  
Received: 06/13/11 9:00 AM  
EMSL Order: 061105147

Fax: (925) 371-5915 Phone: (925) 371-5900  
Project: **04-0229, S9300-06-162**

EMSL Proj: S9300-06-\*\*  
Analysis Date: 6/17/2011

### Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
0229-1A <i>061105147-0001</i>	Concrete	Gray Non-Fibrous Heterogeneous		60% Non-fibrous (other) 40% Quartz	<b>None Detected</b>
0229-1B <i>061105147-0002</i>	Concrete	Gray Non-Fibrous Heterogeneous		60% Non-fibrous (other) 40% Quartz	<b>None Detected</b>
0229-2A <i>061105147-0003</i>	JFM	Brown Fibrous Heterogeneous	90% Cellulose	10% Non-fibrous (other)	<b>None Detected</b>
0229-2B <i>061105147-0004</i>	JFM	Brown Fibrous Heterogeneous	90% Cellulose	10% Non-fibrous (other)	<b>None Detected</b>
0229-3A <i>061105147-0005</i>	SHIMS	Gray Fibrous Heterogeneous		20% Non-fibrous (other)	<b>80% Chrysotile</b>

Initial report from 06/20/2011 09:03:40

Analyst(s)

*Daniel Clarke (5)*

Michelle McGowan, Laboratory Manager  
or other approved signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Carle Place, NY NVLAP Lab Code 101048-10, CA ELAP 2339, NYS ELAP 11469



EMSL ANALYTICAL, INC.  
LABORATORY PRODUCTS TRAINING

# Asbestos Chain of Custody

EMSL Order Number (Lab Use Only):

**061105147**

EMSL ANALYTICAL, INC.  
2235 POLVOROSA DR., STE. 230  
SAN LEANDRO, CA 94577  
PHONE: (510) 895-3675  
FAX: (510) 895-3680

Company: <b>GEDCON</b>		EMSL-Bill to: <input checked="" type="checkbox"/> Same <input type="checkbox"/> Different If Bill to is Different note instructions in Comments**	
Street: <b>6671 BRISA ST</b>		Third Party Billing requires written authorization from third party	
City: <b>LIVERMORE</b>	State/Province: <b>CA</b>	Zip/Postal Code: <b>94550</b>	Country: <b>USA</b>
Report To (Name): <b>D. WATTS</b>		Fax #: <b>925-371-5915</b>	
Telephone #: <b>925-371-5900</b>		Email Address: <b>WATTS@GEDCONINC.COM</b>	
Project Name/Number: <b>04-0229</b>		<b>39300-06-162</b>	
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

3 Hour   
  6 Hour   
  24 Hour   
  48 Hour   
  72 Hour   
  96 Hour   
  1 Week   
  2 Week

\*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.

<b>PCM - Air</b> <input type="checkbox"/> NIOSH 7400 <input type="checkbox"/> w/ OSHA 8hr. TWA <b>PLM - Bulk (reporting limit)</b> <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%)	<b>TEM - Air</b> <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 <b>TEM - Bulk</b> <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 <b>TEM - Water: EPA 100.2</b> Fibers >10µm <input type="checkbox"/> Waste <input type="checkbox"/> Drinking All Fiber Sizes <input type="checkbox"/> Waste <input type="checkbox"/> Drinking	<b>TEM- Dust</b> <input type="checkbox"/> Microvac - ASTM D 5755 <input type="checkbox"/> Wipe - ASTM D6480 <input type="checkbox"/> Carpet Sonication (EPA 600/J-93/167) <b>Soil/Rock/Vermiculite</b> <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) <b>Other:</b> <input type="checkbox"/>
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Check For Positive Stop - Clearly Identify Homogenous Group

Samplers Name: **D. WATTS**      Samplers Signature: **WATTS**

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
0229-1A/1B	CONCRETE	NA	6/7/11
↓ -2A/2B	JFM	↓	↓
↓ -3A	SHIMS	↓	↓

RECEIVED  
 EMSL ANALYTICAL, INC.  
 CARLE PLACE, N.Y.

Client Sample # (s): \_\_\_\_\_ Total # of Samples: **86**

Relinquished (Client): **Watts**      Date: **6/9/11**      Time: **1800**

Received (Lab): **Alex**      Date: **6/13/11**      Time: **0900A**

Comments/Special Instructions: \_\_\_\_\_

Relinquished by EMSL San  
Leandro **6/14/11 1630**

**Watts**

June 27, 2011



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

ELAP No.: 1838  
NELAP No.: 02107CA  
CSDLAC No.: 10196  
ORELAP No.: CA300003  
Workorder No.: 118390

RE: 04-0229, S9300-06-162

Attention: Dave Watts

Enclosed are the results for sample(s) received on June 13, 2011 by Advanced Technology Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (562)989-4045 if I can be of further assistance to your company.

Sincerely,

A handwritten signature in black ink, appearing to read "Eddie F. Rodriguez".

Eddie F. Rodriguez  
Laboratory Director

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



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**CLIENT:** Geocon Consultants, Inc.  
**Project:** 04-0229, S9300-06-162  
**Lab Order:** 118390

**CASE NARRATIVE**

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Analytical Comments for Method 6010

Dilution was necessary for sample 118390-001A, due to sample matrix.

RPD for Duplicate (DUP) is outside criteria for sample 118392-001ADUP; however, the Laboratory Control Sample (LCS) validated the analytical batch.

Analytical Comments for Method 7420

RPD for Duplicate (DUP) is outside criteria for sample 118427-049ADUP; however, the Laboratory Control Sample (LCS) validated the analytical batch.



**Advanced Technology Laboratories**

**ANALYTICAL RESULTS**

Print Date: 27-Jun-11

**CLIENT:** Geocon Consultants, Inc.  
**Project:** 04-0229, S9300-06-162

**Lab Order:** 118390

**Lab ID:** 118390-001  
**Client Sample ID:** 0229-P1

**Collection Date:** 6/7/2011  
**Matrix:** PAINT CHIP

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

**ICP METALS**

**EPA 3050B**

**EPA 6010B**

RunID: ICP8_1106161	QC Batch: 73628				PrepDate: 6/16/2011	Analyst: <b>CBB</b>
Lead	4500	20		mg/Kg	10	6/16/2011 08:22 PM

**LEAD BY ATOMIC ABSORPTION (TCLP)**

**EPA3010A**

**EPA 1311/ 7420**

RunID: AA2_110624C	QC Batch: 73851				PrepDate: 6/24/2011	Analyst: <b>VV</b>
Lead	0.49	0.25		mg/L	1	6/24/2011 03:02 PM

**Lab ID:** 118390-002  
**Client Sample ID:** 0229-P2

**Collection Date:** 6/7/2011  
**Matrix:** PAINT CHIP

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

**ICP METALS**

**EPA 3050B**

**EPA 6010B**

RunID: ICP8_1106161	QC Batch: 73628				PrepDate: 6/16/2011	Analyst: <b>CBB</b>
Lead	4.8	4.2		mg/Kg	1	6/17/2011 05:54 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	



**Advanced Technology  
Laboratories**

3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562.989.4045 Fax: 562.989.4040

**CLIENT:** Geocon Consultants, Inc.  
**Work Order:** 118390  
**Project:** 04-0229, S9300-06-162

**ANALYTICAL QC SUMMARY REPORT**

**TestCode: 6010\_S**

Sample ID: <b>MB-73628</b>	SampType: <b>MBLK</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/16/2011</b>	RunNo: <b>134140</b>						
Client ID: <b>PBS</b>	Batch ID: <b>73628</b>	TestNo: <b>EPA 6010B EPA 3050B</b>		Analysis Date: <b>6/16/2011</b>	SeqNo: <b>2191560</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.194 1.0

Sample ID: <b>LCS-73628</b>	SampType: <b>LCS</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/16/2011</b>	RunNo: <b>134140</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>73628</b>	TestNo: <b>EPA 6010B EPA 3050B</b>		Analysis Date: <b>6/16/2011</b>	SeqNo: <b>2191561</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 54.951 1.0 50.00 0.1944 110 80 120

Sample ID: <b>MB-73628-MS</b>	SampType: <b>MS</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/16/2011</b>	RunNo: <b>134140</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>73628</b>	TestNo: <b>EPA 6010B EPA 3050B</b>		Analysis Date: <b>6/16/2011</b>	SeqNo: <b>2191562</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 115.015 1.0 125.0 0 92.0 34 126

Sample ID: <b>MB-73628-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/16/2011</b>	RunNo: <b>134140</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>73628</b>	TestNo: <b>EPA 6010B EPA 3050B</b>		Analysis Date: <b>6/16/2011</b>	SeqNo: <b>2191563</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

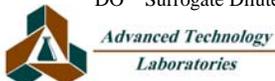
Lead 124.735 1.0 125.0 0 99.8 34 126 115.0 8.11 20

Sample ID: <b>118392-001A-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/16/2011</b>	RunNo: <b>134140</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>73628</b>	TestNo: <b>EPA 6010B EPA 3050B</b>		Analysis Date: <b>6/16/2011</b>	SeqNo: <b>2191569</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 8149.660 20 5388 40.8 20 R

**Qualifiers:**

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference



**CLIENT:** Geocon Consultants, Inc.  
**Work Order:** 118390  
**Project:** 04-0229, S9300-06-162

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 7420\_TC**

Sample ID: <b>118427-006A-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>7420_TC</b>	Units: <b>mg/L</b>	Prep Date: <b>6/24/2011</b>	RunNo: <b>134392</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>73851</b>	TestNo: <b>EPA 1311/ 74 EPA3010A</b>		Analysis Date: <b>6/24/2011</b>	SeqNo: <b>2196720</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.366	0.25						0.3911	6.74	20	

Sample ID: <b>118427-006A-MS</b>	SampType: <b>MS</b>	TestCode: <b>7420_TC</b>	Units: <b>mg/L</b>	Prep Date: <b>6/24/2011</b>	RunNo: <b>134392</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>73851</b>	TestNo: <b>EPA 1311/ 74 EPA3010A</b>		Analysis Date: <b>6/24/2011</b>	SeqNo: <b>2196721</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	3.168	0.25	2.500	0.3911	111	70	130				

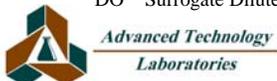
Sample ID: <b>118427-049A-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>7420_TC</b>	Units: <b>mg/L</b>	Prep Date: <b>6/24/2011</b>	RunNo: <b>134392</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>73851</b>	TestNo: <b>EPA 1311/ 74 EPA3010A</b>		Analysis Date: <b>6/24/2011</b>	SeqNo: <b>2196734</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.539	0.25						0.3855	33.2	20	R

Sample ID: <b>118427-049A-MS</b>	SampType: <b>MS</b>	TestCode: <b>7420_TC</b>	Units: <b>mg/L</b>	Prep Date: <b>6/24/2011</b>	RunNo: <b>134392</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>73851</b>	TestNo: <b>EPA 1311/ 74 EPA3010A</b>		Analysis Date: <b>6/24/2011</b>	SeqNo: <b>2196735</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	3.442	0.25	2.500	0.3855	122	70	130				

Sample ID: <b>118427-049A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>7420_TC</b>	Units: <b>mg/L</b>	Prep Date: <b>6/24/2011</b>	RunNo: <b>134392</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>73851</b>	TestNo: <b>EPA 1311/ 74 EPA3010A</b>		Analysis Date: <b>6/24/2011</b>	SeqNo: <b>2196736</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	3.428	0.25	2.500	0.3855	122	70	130	3.442	0.429	20	

**Qualifiers:**

- |   |  |  |
|---|--|--|
| B Analyte detected in the associated Method Blank | E Value above quantitation range       | H Holding times for preparation or analysis exceeded           |
| ND Not Detected at the Reporting Limit            | R RPD outside accepted recovery limits | S Spike/Surrogate outside of limits due to matrix interference |
| DO Surrogate Diluted Out                          | Calculations are based on raw values   |  |





## Diane Galvan

---

**From:** David Watts [watts@geoconinc.com]  
**Sent:** Monday, June 13, 2011 1:10 PM  
**To:** Diane Galvan  
**Cc:** Steve Werner  
**Subject:** S9300-06-162

Diane,

For the paint samples you receive today on this job:

- 1) Please run TCLPs on all samples with a TTLC of 1000 ppm or greater.
- 2) Please run WETs on any sample with a TTLC ranging from 50 to 999 ppm.
- 3) Please run TCLPs on any sample that fails WET that also has a TTLC of 100 ppm or greater.

Please run Cr6 on paint samples:

0072-P3  
0123-P3  
0014-P3  
0017L-P3  
0215-P2  
0044-P3  
0137-P3  
0023-P3  
0019-P3.

Standard TATs.

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](http://www.geoconinc.com)



Project No. S9300-06-162  
July 29, 2011

Steve Werner, Task Order Manager  
Caltrans District 1  
Environmental Engineering Office  
1656 Union Street  
Eureka, California 95501

Subject: ASBESTOS AND LEAD-CONTAINING PAINT SURVEY REPORT  
A. M. BISTRIN MEMORIAL BRIDGE (04-0230)  
HUMBOLDT COUNTY, CALIFORNIA  
CONTRACT NO. 03A1368, E-FIS 01 0002 0313 (EA 01-0A3800)  
TASK ORDER NO. 162, 01-HUM-255, PM 0.20

Dear Mr. Werner:

In accordance with California Department of Transportation Contract No. 03A1368 and Task Order No. 162, we have performed an asbestos and lead-containing paint (LCP) survey of the subject bridge in Humboldt County, California. The scope of services included surveying the bridge for suspect asbestos-containing materials and lead-containing paint, collecting bulk samples, and submitting the samples to laboratories for analyses.

### PROJECT DESCRIPTION

The project consists of the A. M. Bistrin Memorial Bridge (04-0230) over the Eureka Channel at Post Mile (PM) 0.20 on Highway 255 in Humboldt County, California. We performed asbestos and LCP survey activities at the project location. The project location is depicted on the Vicinity Map, Figure 1, and Site Plan, Figure 2.

### GENERAL OBJECTIVES

The scope of services outlined in TO-162 included the determination of the presence and quantity of asbestos and LCP at the project location prior to various improvements. Assuming that no asbestos is added during future operations, our survey would satisfy National Emissions Standards for Hazardous Air Pollutants (NESHAP) requirements. The information obtained from this investigation will be used by Caltrans for waste profiling, determining California Occupational Safety and Health Administration (Cal/OSHA) applicability, and coordinating asbestos and LCP disturbance activities.

### BACKGROUND

#### Asbestos

The Code of Federal Regulations (CFR), 40 CFR 61, Subpart M, 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 nonfriable 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 (can be crumbled, pulverized, or reduced to powder by hand pressure); 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 nonfriable 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 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 addressed. 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).

## **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 substrate. Demolition of a deteriorated LCP component would require waste characterization and appropriate disposal. Intact LCP on a component is currently accepted by most landfills and recycling facilities; 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 concentration) 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 lead-containing paint. 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 Title 8, CCR, Section 1532.1.

### **Architectural Drawings and Previous Survey Activities**

We reviewed structure architectural plans provided by Caltrans prior to field activities. We observed no evidence of asbestos or lead paint use on the architectural plans provided. Previous asbestos survey reports were not available for our review.

### **SCOPE OF SERVICES**

Mr. David Watts, a California-Certified Asbestos Consultant (CAC), certification No. 98-2404 (expiration September 16, 2011), and Certified Lead Paint Inspector/Assessor and Project Monitor with the California Department of Public Health Services (DPH), certification numbers I-1734 and M-1734 (expiration December 4, 2011), performed the asbestos and LCP survey at the project location on June 7, 2011.

### **Asbestos**

Suspect ACM were grouped into homogeneous areas with representative samples randomly collected from each. In addition, each potential ACM was evaluated for friability. A total of five bulk asbestos samples representing three suspect components were collected.

Our procedures for inspection and sampling in accordance with TO-162 are discussed below:

- Collected bulk asbestos samples after first wetting friable materials with a light mist of water. The samples were then cut from the substrate and transferred to labeled containers.

- Relinquished bulk asbestos samples to EMSL Analytical, Inc., a California-licensed and Caltrans-approved subcontractor, for asbestos analysis in accordance with United States Environmental Protection Agency (EPA) Test Method 600/R-93/116 using polarized light microscopy (PLM) under chain-of-custody protocol. EMSL Analytical, Inc. is a laboratory accredited by the National Institute of Standards and Technology National Voluntary Laboratory Accreditation Program (NIST-NVLAP) for bulk asbestos fiber analysis. The laboratory analyses were requested on a five-day turnaround time.

Approximate sample locations are presented on Figure 2. Materials represented by the samples collected are shown in the attached photographs.

### Lead Paint

Two bulk paint samples were collected from suspect LCP observed at the project location. We did not observe deteriorated LCP during our survey. Our sampling procedures in accordance with TO-162 are discussed below:

- Collected bulk samples of suspect LCP using techniques presented in HUD guidelines. In addition, the painted areas were evaluated for evidence of deterioration such as flaking or cracking.
- Relinquished bulk LCP samples under chain-of-custody protocol to Advanced Technology Laboratories, a California-licensed and Caltrans-approved subcontractor, for lead analysis in accordance with EPA Test Method 6010B. Advanced Technology Laboratories is accredited by the DPH for lead analysis. The laboratory analyses were requested on a seven-day turnaround time.

Approximate sample locations are presented on Figure 2. Materials represented by the samples collected are shown in the attached photographs.

## INVESTIGATIVE RESULTS

### Asbestos

Chrysotile asbestos at a concentration of 75% was detected in a sample representing approximately 200 square feet of nonfriable sheet packing used as shims on the bridge barrier rail systems.

No asbestos was detected in samples of the remaining suspect materials collected during our survey. Sample identification numbers, material descriptions, approximate quantities, friability assessments, and a summary of the analytical laboratory test results for asbestos are summarized below. Reproductions of the laboratory report and chain-of-custody documentation are attached.

Polarized Light Microscopy (PLM) - EPA Test Method 600/R-93/116				
Sample No.	Description of Material	Approximate Quantity	Friable	Asbestos Content
0230-1A and B	Concrete	NA	NA	ND
0230-2A and B	Expansion joint fill material	NA	NA	ND
0230-3A	Barrier rail shims	200 square feet	No	75%

NA = Not applicable (no asbestos detected)

ND = Not detected

## Lead Paint

A sample representing intact yellow traffic striping exhibited a total lead concentration of 13 mg/kg.

A sample representing intact white traffic striping exhibited a total lead concentration of 4.5 mg/kg.

Sample identification numbers, descriptions, peeling and flaking quantities, and a summary of the analytical laboratory test results for paint are summarized below. Reproductions of the laboratory reports and chain-of-custody documentation are attached.

Total Lead			
Sample No.	Paint Description	Approximate Quantity Peeling/Flaking	Total Lead (mg/kg)
0230-P1	Yellow traffic striping	Intact	13
0230-P2	White traffic striping	Intact	4.5

mg/kg = milligrams per kilogram (EPA Test Method 6010)

## RECOMMENDATIONS

### Asbestos

NESHAP regulations do not require that asbestos-containing sheet piling (a Category I nonfriable/nonhazardous material) identified during our survey be removed prior to demolition or be treated as hazardous waste. However, the disturbance of the material is still covered by the Cal/OSHA asbestos standard (Title 8, CCR Section 1529).

We recommend that a licensed contractor registered with Cal/OSHA for asbestos-related work perform any activities that would *disturb* the asbestos-containing materials identified during our survey. Contractors are responsible for informing the landfill of the contractor's intent to dispose of asbestos waste. Some landfills and recycling facilities may require additional waste characterization. Contractors are responsible for segregating and characterizing waste streams prior to disposal.

Geocon also recommends the notification of contractors (that will be conducting renovation or related activities) of the presence of asbestos in their work areas (i.e., provide contractor[s] with a copy of this report and a list of asbestos removed during subsequent activities). Contractors not trained for asbestos work should be instructed not to disturb asbestos during their activities.

Written notification to the North Coast Unified Air Quality Management District (NCUAQMD) is required ten working days prior to commencement of *any* demolition activity (whether asbestos is present or not).

### Lead Paint

Yellow and white traffic striping sampled during our survey would not be considered a 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 any future 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.

## **REPORT LIMITATIONS**

The asbestos and LCP survey was conducted in conformance with generally accepted standards of practice for identifying and evaluating asbestos and LCP in structures. The survey addressed only the structure identified above. Due to the nature of structure surveys, asbestos and LCP use, and laboratory analytical limitations, some ACM or LCP at the project location may not have been identified. Spaces such as cavities, voids, crawlspaces, and pipe chases may have been concealed to our investigator. Previous 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 ACM with indistinguishable non-ACM. Asbestos and/or LCP may exist in areas of the structure that were not accessible or sampled in conjunction with this TO.

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 ACM and/or LCP 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 Caltrans. 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 author who is 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.

Please contact us should you have any questions concerning the contents of this report or if we may be of further service.

Sincerely,

GEOCON CONSULTANTS INC.



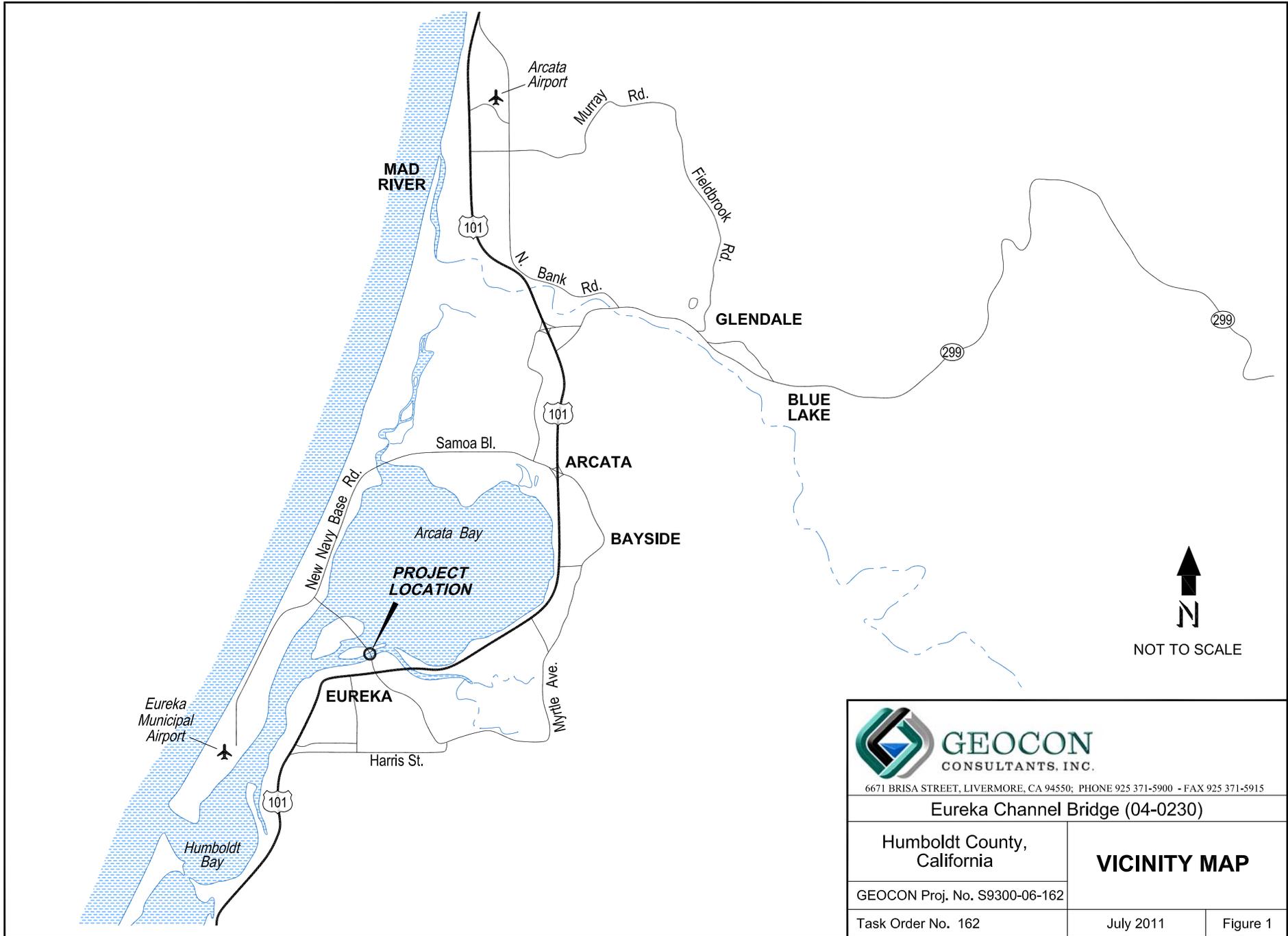
David A. Watts, CAC  
Senior Project Scientist



John E. Juhrend, PE, CEG  
Project Manager

(2 + 4 CD) Addressee

Attachments:        Figure 1, Vicinity Map  
                             Figure 2, Site Plan  
                             Site Photographs (1 through 3)  
                             Analytical Laboratory Reports and Chain-of-custody Documentation



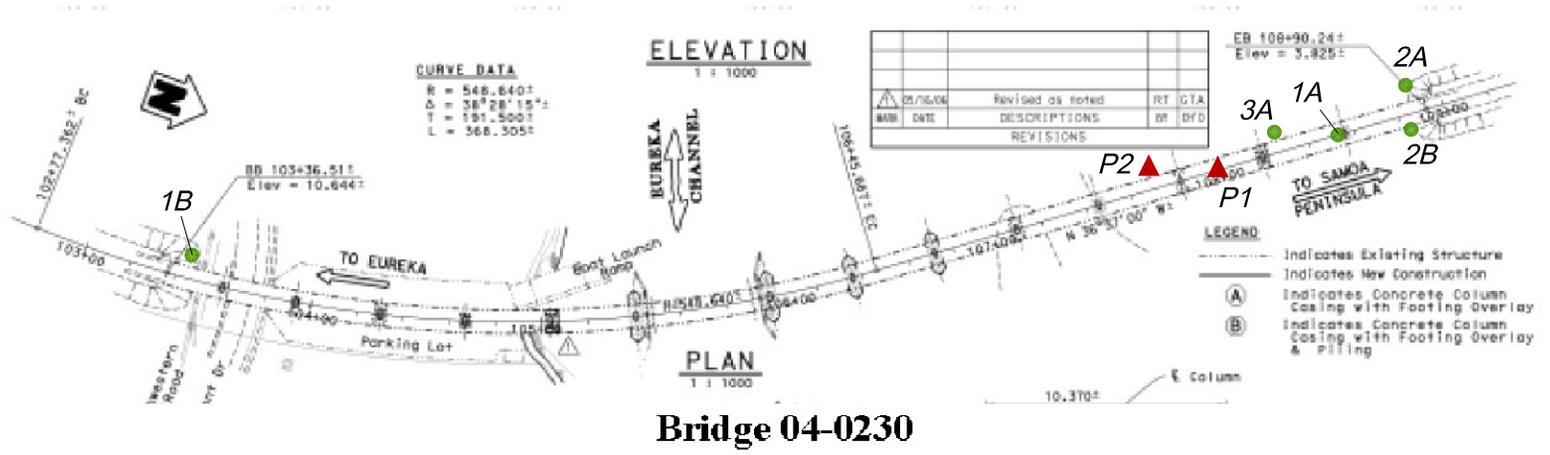
6671 BRISA STREET, LIVERMORE, CA 94550; PHONE 925 371-5900 - FAX 925 371-5915

**Eureka Channel Bridge (04-0230)**

Humboldt County, California		<b>VICINITY MAP</b>
GEOCON Proj. No. S9300-06-162		
Task Order No. 162	July 2011	Figure 1

**LEGEND:**

- Approximate Asbestos Sample Location
- ▲ Approximate Paint Sample Location





6671 BRISA STREET, LIVERMORE, CA 94550; PHONE 925 371-5900 - FAX 925 371-5915

**Eureka Channel Bridge (04-0230)**

Humboldt County, California	<b>SITE PLAN</b>
GEOCON Proj. No. S9300-06-162	
Task Order No. 162	July 2011
Figure 2	



**Photo 1 – Bridge 04-0230 in Humboldt County, California**



**Photo 2 – Bridge deck and barrier rails**



**Photo 3 – Bridge abutment**



**GEOCON**  
CONSULTANTS, INC.

3160 GOLD VALLEY DR – SUITE 800 – RANCHO CORDOVA, CA 95742  
PHONE 916.852.9118 – FAX 916.852.9132

<b>PHOTOGRAPHS 1, 2, &amp; 3</b>		
Eureka Channel Bridge 04-0230		
Humboldt County, California		
S9300-06-162	Task Order No. 162	July 2011



**EMSL Analytical, Inc.**  
528 Mineola Avenue, Carle Place, NY 11514

Phone: (516) 997-7251 Fax: (516) 997-7528 Email: [carleplacelab@emsl.com](mailto:carleplacelab@emsl.com)

Attn: **Dave Watts**  
**Geocon Consultants, Inc.**  
**6671 Brisa Street**  
  
**Livermore, CA 94550**

Customer ID: GECN21  
Customer PO:  
Received: 06/13/11 9:00 AM  
EMSL Order: 061105146

Fax: (925) 371-5915 Phone: (925) 371-5900  
Project: **04-0230, S9300-06-162**

EMSL Proj: S9300-06-\*\*  
Analysis Date: 6/17/2011

### Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
0230-1A <i>061105146-0001</i>	Concrete	Gray Non-Fibrous Heterogeneous		60% Non-fibrous (other) 40% Quartz	<b>None Detected</b>
0230-1B <i>061105146-0002</i>	Concrete	Gray Non-Fibrous Heterogeneous		60% Non-fibrous (other) 40% Quartz	<b>None Detected</b>
0230-2A <i>061105146-0003</i>	JFM	Brown Fibrous Heterogeneous	90% Cellulose	10% Non-fibrous (other)	<b>None Detected</b>
0230-2B <i>061105146-0004</i>	JFM	Brown Fibrous Heterogeneous	90% Cellulose	10% Non-fibrous (other)	<b>None Detected</b>
0230-3A <i>061105146-0005</i>	SHIMS	Gray Fibrous Heterogeneous		25% Non-fibrous (other)	<b>75% Chrysotile</b>

Initial report from 06/20/2011 09:04:29

Analyst(s)

*Daniel Clarke (5)*

Michelle McGowan, Laboratory Manager  
or other approved signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Carle Place, NY NVLAP Lab Code 101048-10, CA ELAP 2339, NYS ELAP 11469



EMSL ANALYTICAL, INC.  
LABORATORY • PRODUCTS • TRAINING

### Asbestos Chain of Custody

EMSL Order Number (Lab Use Only):

**061105146**

EMSL ANALYTICAL, INC.  
2235 POLVOROSA DR., STE. 230  
SAN LEANDRO, CA 94577  
PHONE: (510) 895-3675  
FAX: (510) 895-3680

Company: <b>GEDCON</b>		EMSL-Bill to: <input checked="" type="checkbox"/> Same <input type="checkbox"/> Different If Bill to is Different note instructions in Comments**	
Street: <b>6671 BRISA ST</b>		Third Party Billing requires written authorization from third party	
City: <b>LIVERMORE</b>	State/Province: <b>CA</b>	Zip/Postal Code: <b>94550</b>	Country: <b>USA</b>
Report To (Name): <b>D. WATTS</b>		Fax #: <b>925-371-5915</b>	
Telephone #: <b>925-371-5900</b>		Email Address: <b>WATTS@GEDCONINC.COM</b>	
Project Name/Number: <b>04-0230</b>		<b>59300-06-162</b>	
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**

3 Hour   
  6 Hour   
  24 Hour   
  48 Hour   
  72 Hour   
  96 Hour   
  1 Week   
  2 Week

\*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.

<b>PCM - Air</b> <input type="checkbox"/> NIOSH 7400 <input type="checkbox"/> w/ OSHA 8hr. TWA <b>PLM - Bulk (reporting limit)</b> <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%)	<b>TEM - Air</b> <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 <b>TEM - Bulk</b> <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 <b>TEM - Water: EPA 100.2</b> Fibers >10µm <input type="checkbox"/> Waste <input type="checkbox"/> Drinking All Fiber Sizes <input type="checkbox"/> Waste <input type="checkbox"/> Drinking	<b>TEM - Dust</b> <input type="checkbox"/> Microvac - ASTM D 5755 <input type="checkbox"/> Wipe - ASTM D6480 <input type="checkbox"/> Carpet Sonication (EPA 600/J-93/167) <b>Soil/Rock/Vermiculite</b> <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) <b>Other:</b> <input type="checkbox"/>
---	--	---

Check For Positive Stop - Clearly Identify Homogenous Group

Samplers Name: **D. WATTS**      Samplers Signature: **WATTS**

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
0230-1A/1B	CONCRETE	NA	6/7/11
↓ -2A/2B	JFM	↓	↓
↓ -3A	SITING	↓	↓

RECEIVED  
 EMSL ANALYTICAL  
 SAN LEANDRO, CA  
 11 JUN 15 AM

Client Sample # (s): _____	Total # of Samples: <b>5</b>
Relinquished (Client): <b>WATTS</b>	Date: <b>6/9/11</b> Time: <b>1800</b>
Received (Lab): <b>Alex</b>	Date: <b>6/13/11</b> Time: <b>0900 PA</b>
Comments/Special Instructions:	

Relinquished by EMSL San Leandro **6/14/11 1630**

June 20, 2011



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

ELAP No.: 1838  
NELAP No.: 02107CA  
CSDLAC No.: 10196  
ORELAP No.: CA300003  
Workorder No.: 118389

RE: 04-0230, S9300-06-162

Attention: Dave Watts

Enclosed are the results for sample(s) received on June 13, 2011 by Advanced Technology Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (562)989-4045 if I can be of further assistance to your company.

Sincerely,

A handwritten signature in black ink, appearing to read "E. Rodriguez".

Eddie F. Rodriguez  
Laboratory Director

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



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**CLIENT:** Geocon Consultants, Inc.  
**Project:** 04-0230, S9300-06-162  
**Lab Order:** 118389

**CASE NARRATIVE**

---

Analytical Comments for Method 6010

RPD for Duplicate (DUP) is outside criteria for sample 118392-001ADUP; however, the Laboratory Control Sample (LCS) validated the analytical batch.



# Advanced Technology Laboratories

# ANALYTICAL RESULTS

Print Date: 20-Jun-11

**CLIENT:** Geocon Consultants, Inc.  
**Project:** 04-0230, S9300-06-162

**Lab Order:** 118389

**Lab ID:** 118389-001

**Collection Date:** 6/7/2011

**Client Sample ID:** 0230-P1

**Matrix:** PAINT CHIP

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

## ICP METALS

### EPA 3050B

### EPA 6010B

RunID: ICP8_1106161	QC Batch: 73628				PrepDate: 6/16/2011	Analyst: <b>CBB</b>
Lead	13	2.0		mg/Kg	1	6/17/2011 05:45 PM

**Lab ID:** 118389-002

**Collection Date:** 6/7/2011

**Client Sample ID:** 0230-P2

**Matrix:** PAINT CHIP

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

## ICP METALS

### EPA 3050B

### EPA 6010B

RunID: ICP8_1106161	QC Batch: 73628				PrepDate: 6/16/2011	Analyst: <b>CBB</b>
Lead	4.5	3.3		mg/Kg	1	6/17/2011 05:50 PM

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	S Spike/Surrogate outside of limits due to matrix interference	Results are wet unless otherwise specified
	DO Surrogate Diluted Out	



Advanced Technology  
Laboratories

3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562.989.4045 Fax: 562.989.4040

**CLIENT:** Geocon Consultants, Inc.  
**Work Order:** 118389  
**Project:** 04-0230, S9300-06-162

**ANALYTICAL QC SUMMARY REPORT**

**TestCode: 6010\_S**

Sample ID: <b>MB-73628</b>	SampType: <b>MBLK</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/16/2011</b>	RunNo: <b>134140</b>						
Client ID: <b>PBS</b>	Batch ID: <b>73628</b>	TestNo: <b>EPA 6010B EPA 3050B</b>		Analysis Date: <b>6/16/2011</b>	SeqNo: <b>2191560</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	0.194	1.0									
------	-------	-----	--	--	--	--	--	--	--	--	--

Sample ID: <b>LCS-73628</b>	SampType: <b>LCS</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/16/2011</b>	RunNo: <b>134140</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>73628</b>	TestNo: <b>EPA 6010B EPA 3050B</b>		Analysis Date: <b>6/16/2011</b>	SeqNo: <b>2191561</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	54.951	1.0	50.00	0.1944	110	80	120				
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Sample ID: <b>MB-73628-MS</b>	SampType: <b>MS</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/16/2011</b>	RunNo: <b>134140</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>73628</b>	TestNo: <b>EPA 6010B EPA 3050B</b>		Analysis Date: <b>6/16/2011</b>	SeqNo: <b>2191562</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	115.015	1.0	125.0	0	92.0	34	126				
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Sample ID: <b>MB-73628-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/16/2011</b>	RunNo: <b>134140</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>73628</b>	TestNo: <b>EPA 6010B EPA 3050B</b>		Analysis Date: <b>6/16/2011</b>	SeqNo: <b>2191563</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	124.735	1.0	125.0	0	99.8	34	126	115.0	8.11	20	
------	---------	-----	-------	---	------	----	-----	-------	------	----	--

Sample ID: <b>118392-001A-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/16/2011</b>	RunNo: <b>134140</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>73628</b>	TestNo: <b>EPA 6010B EPA 3050B</b>		Analysis Date: <b>6/16/2011</b>	SeqNo: <b>2191569</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	8149.660	20						5388	40.8	20	R
------	----------	----	--	--	--	--	--	------	------	----	---

**Qualifiers:**

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

