

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

## **SPRAY SHED & PAINT-MIX BUILDING BAY BRIDGE MAINTENANCE STATION OAKLAND, CALIFORNIA**

*PREPARED FOR:*  
CALIFORNIA DEPARTMENT OF TRANSPORTATION  
DISTRICT 4  
OFFICE OF ENVIRONMENTAL ENGINEERING  
111 GRAND AVENUE  
OAKLAND, CALIFORNIA



*PREPARED BY:*  
GEOCON CONSULTANTS, INC.  
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GEOCON PROJECT NO. E8721-02-33  
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## REPORT LIMITATIONS

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

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

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

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

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

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**CALIFORNIA DEPARTMENT OF TRANSPORTATION – DISTRICT 4  
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## EXECUTIVE SUMMARY

This asbestos and lead-containing paint (LCP) survey report was prepared for the San Francisco-Oakland Bay Bridge (SFOBB) Spray Shed and Paint-Mix Building located at 210 Burma Road in Oakland, California. We performed an asbestos and LCP survey on the structures. The project location is depicted on the Vicinity Map, Figure 1, and Site Plan, Figure 2. Caltrans has requested an investigation at the project location to provide data regarding the presence of asbestos and LCP prior to demolition.

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

The field investigation was performed on May 20, 2015. The following field activities were performed during asbestos and LCP sampling efforts:

- Collected fourteen bulk samples of suspect asbestos;
- Collected four (2-part composite) bulk samples of suspect LCP; and
- Transported samples to Caltrans-approved, California-certified environmental laboratories.

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

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

We relinquished bulk samples using standard chain-of-custody documentation for asbestos analysis. Asbestos content was determined using U.S. Environmental Protection Agency (EPA) Test Method 600/R-93/116 for polarized light microscopy (PLM). We requested laboratory analyses to be within a 120-hour turnaround.

Bulk paint sampling was performed using techniques presented in U.S. Department of Housing and Urban Development (HUD) guidelines. Four paint systems were identified during the survey (see Table 2).

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

We relinquished our bulk paint samples using standard chain-of-custody documentation for lead analysis. Total lead content was determined using EPA Test Method 6010B. We requested laboratory analyses to be within a 120-hour turnaround.

Chrysotile and crocidolite asbestos forms at concentrations totaling 25% were detected in samples representing approximately 1,000 square feet nonfriable cementitious panels used on the Spray Shed.

No asbestos was detected in samples of the remaining suspect materials collected during our survey. Laboratory results for the asbestos samples are summarized on Table 1. Reproductions of the laboratory report and chain-of-custody documentation are presented in the report appendix.

Representative total lead at concentrations ranging from 79,000 to 160,000 milligrams per kilogram (mg/kg) were reported in deteriorated paint systems totaling approximately 100 square feet observed at both structures. A 4-part composite of the paint samples exhibited a representative Toxicity Characteristic Leaching Procedure (TCLP) lead concentration of 96 milligrams per liter (mg/l).

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

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

NESHAP regulations require that cementitious panels (a Category II nonfriable/nonhazardous material) be removed and disposed of prior to demolition or other activities that would disturb the material. We recommend that the removal of the material be performed by a licensed and certified asbestos abatement contractor. Contractors are responsible for informing the landfill of the contractor's intent to dispose of asbestos waste. Some landfills may require additional waste characterization. Contractors are responsible for segregating and characterizing waste streams prior to disposal.

In accordance with Bay Area Air Quality Management District (BAAQMD) Regulation 11, Rule 2, written notification is required ten working days prior to commencement of *any* demolition activity (whether asbestos is present or not).

Based on analysis of the samples collected during our survey, deteriorated paints at the structures would be classified as a California and Federal hazardous waste based on lead content. As such, the deteriorated paints must be removed and disposed of prior to renovation, demolition, or other activities that would disturb them.

Contractors removing deteriorated LCP should be required to use personnel who have lead-related construction certification as supervisors or workers, as appropriate, from the California Department of Public Health (DPH) for LCP removal work. Loose and peeling/flaking LCP require removal prior to demolition for waste segregation purposes: to separate potentially hazardous waste (Category III concentrated lead such as loose paint, paint sludge, vacuum debris, and vacuum filters) from non-hazardous demolition debris (Category II intact lead-painted architectural components such as doors, windows, framework, cladding, and trim). Category I waste is low lead waste (typically non-hazardous) such as construction materials, filtered wash water, and plastic sheeting. Contractors are responsible for informing the landfill of the contractor's intent to dispose of Federal waste, California hazardous waste, and/or architectural components containing intact LCP. Some landfills and recycling facilities may require additional waste characterization. Contractors are responsible for segregating and characterizing waste streams prior to disposal.

We recommend that all paints at the project location be treated as lead-containing for purposes of determining the applicability of the Cal/OSHA lead standard during demolition activities. This recommendation is based on sample results and the fact that lead was a common ingredient of paints manufactured before 1978 and is still an ingredient of some paints. 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.

# ASBESTOS AND LEAD-CONTAINING PAINT SURVEY REPORT

## 1.0 INTRODUCTION

This asbestos and lead-containing paint (LCP) survey report was prepared for the San Francisco-Oakland Bay Bridge (SFOBB) Spray Shed and Paint-Mix Building in Oakland, California. This report documents the investigation sampling methods and laboratory analytical data.

### 1.1 Site Description and Proposed Improvements

The project consists of the SFOBB Spray Shed and Paint-Mix Building located at 210 Burma Road in Oakland, California. The project location is depicted on the Vicinity Map, Figure 1, and Site Plan, Figure 2. The State of California Department of Transportation (Caltrans) has requested an investigation at the project location to provide data regarding the presence of asbestos and LCP prior to demolition.

### 1.2 Purpose

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

## 2.0 BACKGROUND

### 2.1 Asbestos

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

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

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

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

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

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

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

## **2.2 Lead Paint**

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

For a solid waste containing lead, the waste is classified as California hazardous when: 1) the representative total lead content equals or exceeds the respective Total Threshold Limit

Concentration (TTLC) of 1,000 milligrams per kilogram (mg/kg); or 2) the representative 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 representative 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., representative lead concentrations) is the primary factor considered for waste classification since waste generated during the construction activities would not likely warrant testing for ignitability or other criteria. Waste that is classified as either California hazardous or RCRA hazardous requires management as a hazardous waste.

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

### **3.0 SCOPE OF SERVICES**

The following scope of services was performed:

#### **3.1 Pre-Field Activities**

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

#### **3.2 Field Activities**

Mr. David Watts, a California-Certified Asbestos Consultant (CAC), certification number 98-2404 (expiration September 16, 2015), and Certified Lead Paint Inspector/Assessor and Project Monitor with the California Department of Public Health (DPH), certification numbers I-1734 and M-1734 (expiration December 4, 2015), performed the asbestos and LCP survey on May 20, 2015.

Fourteen bulk samples of suspect asbestos materials were collected. Four (2-part composite) bulk samples of suspect LCP were collected.

## 4.0 INVESTIGATIVE METHODS

### 4.1 Asbestos

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

We relinquished bulk samples for asbestos analysis using standard chain-of-custody documentation. Asbestos content was determined using EPA Test Method 600/R-93/116 for polarized light microscopy (PLM). We requested laboratory analyses to be within a 120-hour turnaround.

### 4.2 Paint

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

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

We relinquished bulk paint samples for lead analysis using standard chain-of-custody documentation. Total lead content was determined using EPA Test Method 6010B. We requested laboratory analyses to be within a 120-hour turnaround.

## 5.0 INVESTIGATIVE RESULTS

### 5.1 Asbestos

Chrysotile and crocidolite asbestos forms at concentrations totaling 25% were detected in samples representing approximately 1,000 square feet nonfriable cementitious panels used on the Spray Shed.

No asbestos was detected in samples of the remaining suspect materials collected during our survey. Laboratory results for the asbestos samples are summarized on Table 1. Reproductions of the laboratory report and chain-of-custody documentation are presented in the report appendix.

## 5.2 Paint

Representative total lead at concentrations ranging from 79,000 to 160,000 mg/kg were reported in deteriorated paint systems totaling approximately 100 square feet observed at both structures. A 4-part composite of the paint samples exhibited a representative TCLP lead concentration of 96 mg/l.

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

## 6.0 CONCLUSIONS

### 6.1 Asbestos

NESHAP regulations require that cementitious panels (a Category II nonfriable/nonhazardous material) be removed and disposed of prior to demolition or other activities that would disturb the material. We recommend that the removal of the material be performed by a licensed and certified asbestos abatement contractor. Contractors are responsible for informing the landfill of the contractor's intent to dispose of asbestos waste. Some landfills may require additional waste characterization. Contractors are responsible for segregating and characterizing waste streams prior to disposal.

In accordance with Bay Area Air Quality Management District (BAAQMD) Regulation 11, Rule 2, written notification is required ten working days prior to commencement of *any* demolition activity (whether asbestos is present or not).

### 6.2 Paint

Based on analysis of the samples collected during our survey, deteriorated paints at the structures would be classified as a California and Federal hazardous waste based on lead content. As such, the deteriorated paints must be removed and disposed of prior to renovation, demolition, or other activities that would disturb them.

Contractors removing deteriorated LCP should be required to use personnel who have lead-related construction certification as supervisors or workers, as appropriate, from the DPH for LCP removal work. Loose and peeling/flaking LCP require removal prior to demolition for waste segregation purposes: to separate potentially hazardous waste (Category III concentrated lead such as loose paint, paint sludge, vacuum debris, and vacuum filters) from non-hazardous demolition debris (Category II intact lead-painted architectural components such as doors, windows, framework, cladding, and trim). Category I waste is low lead waste (typically non-hazardous) such as construction materials, filtered wash water, and plastic sheeting. Contractors are responsible for informing the landfill of the contractor's intent to dispose of Federal waste, California hazardous waste, and/or architectural components containing intact LCP. Some landfills and recycling facilities may require additional waste characterization. Contractors are responsible for segregating and characterizing waste streams prior to disposal.

We recommend that all paints at the project location be treated as lead-containing for purposes of determining the applicability of the Cal/OSHA lead standard during demolition activities. This recommendation is based on sample results and the fact that lead was a common ingredient of paints manufactured before 1978 and is still an ingredient of some paints. 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.

**TABLE 1**  
**SUMMARY OF ANALYTICAL LABORATORY TEST RESULTS - ASBESTOS**  
**SFOBB SPRAY SHED AND PAINT-MIX BUILDING**  
**OAKLAND, CALIFORNIA**

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

<b>Sample ID</b>	<b>Description of Suspect Material</b>	<b>Approximate Quantity</b>	<b>Friable</b>	<b>Site Photo</b>	<b>Asbestos Content</b>
<b>Spray Shed</b>					
1	Concrete	NA	NA	1 and 2	ND
<b>2</b>	<b>Cementitious panels</b>	<b>1,000 square feet</b>	<b>No</b>	<b>1 through 3</b>	<b>25%</b>
3	Textured paint	NA	NA	3	ND
4	Window putty	NA	NA	1 through 3	ND
5	Door core insulation	NA	NA	1	ND
<b>Paint-Mix Building</b>					
6	Concrete	NA	NA	4 through 6	ND
7	Textured paint	NA	NA	6	ND

**Notes:**

NA = Not applicable

ND = No asbestos fibers detected

**TABLE 2**  
**SUMMARY OF ANALYTICAL LABORATORY TEST RESULTS - PAINT**  
**SFOBB SPRAY SHED AND PAINT-MIX BUILDING**  
**OAKLAND, CALIFORNIA**

**Total and Soluble Lead (EPA Test Method 6010B)**

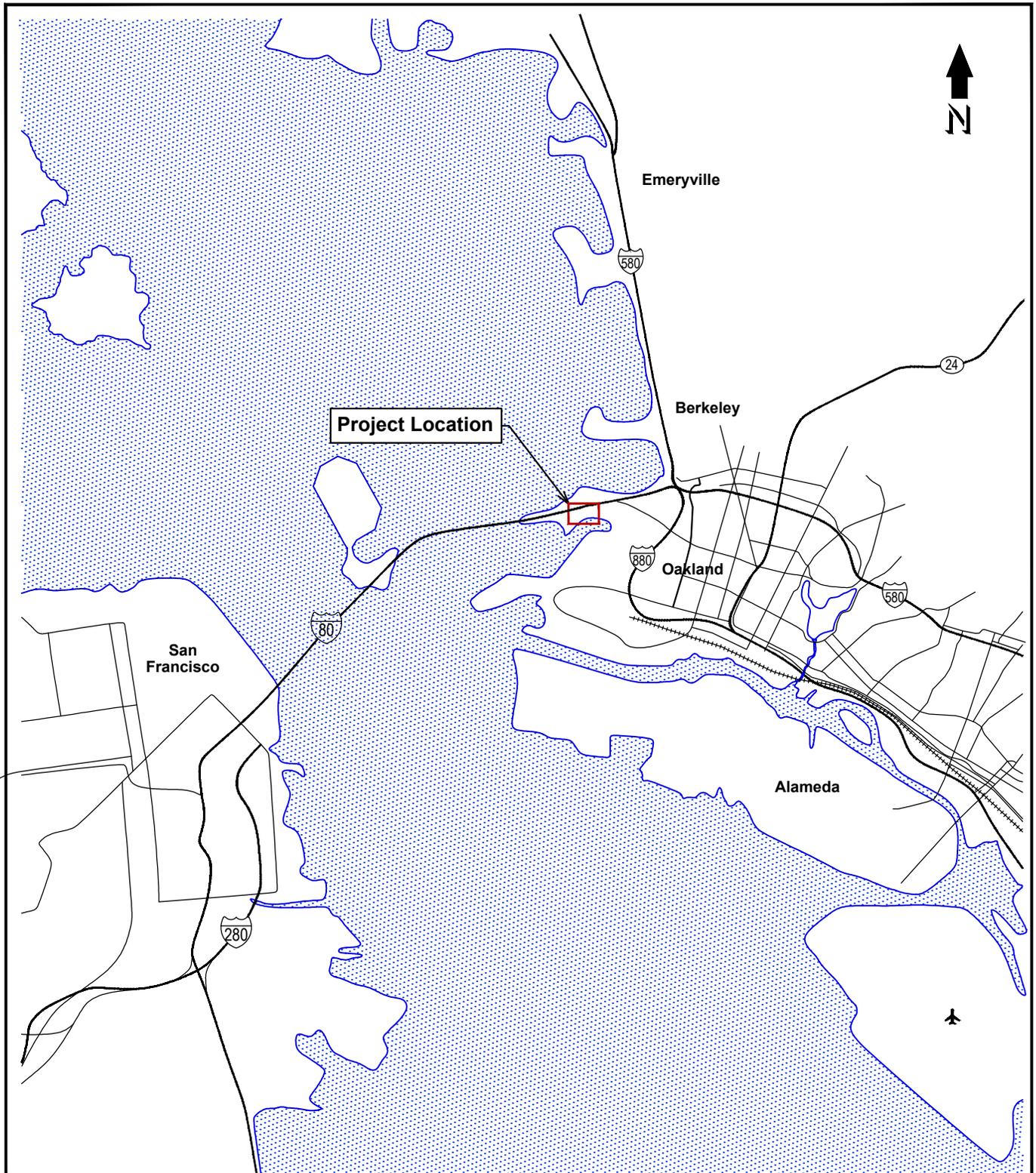
<b>Sample No.</b>	<b>Paint Description</b>	<b>Approximate Quantity Peeling/Flaking</b>	<b>Site Photos</b>	<b>Lead (mg/kg)</b>	<b>TCLP Lead (mg/l)</b>
P1A/B	White exterior paint (spray shed)	5 square feet	1 and 2	150,000	
P2A/B	Multi-color interior paint (spray shed)	20 square feet	3	160,000	96
P3A/B	Red paint (fire suppression systems)	2 square feet	2 and 5	79,000	
P4A/B	Gray paint (paint-mix building)	75 square feet	6	99,000	

**Notes:**

mg/kg = milligrams per kilogram

TCLP = Toxicity Characteristic Leaching Procedure

mg/l = milligrams per liter



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<b>SFOBB Spray Shed and Paint-Mix Building</b>	
Oakland, California	<b>VICINITY MAP</b>
<small>GEOCON Proj. No. E8721-02-33</small>	
<small>EA No. 04-014131</small>	<small>June 2015</small>
<small>Figure 1</small>	



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SFOBB Spray Shed and Paint-Mix Building

Oakland,  
California

**SITE PLAN**

GEOCON Proj. No. E8721-02-33

EA No. 04-014131

June 2015

Figure 2



**Photo 1 – SFOBB Spray Shed**



**Photo 2 – SFOBB Spray Shed**



**Photo 3 – SFOBB Spray Shed (interior)**



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**PHOTOGRAPHS 1, 2, & 3**

SFOBB Spray Shed and Paint-Mix Building  
Oakland, California

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**Photo 4 – SFOBB Paint-Mix Building**



**Photo 5 – SFOBB Paint-Mix Building**



**Photo 6 – SFOBB Paint-Mix Building (interior)**



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**PHOTOGRAPHS 4, 5, & 6**

SFOBB Spray Shed and Paint-Mix Building  
Oakland, California

E8721-02-33

Task Order No. 33

June 2015



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CustomerPO:	
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 Received: 05/20/15 12:30 PM  
 Analysis Date: 5/27/2015  
 Collected: 5/20/2015

Project: **E8721-02-33**

## 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
1A-Concrete <i>091507389-0001</i>		Gray Non-Fibrous Homogeneous		30% Quartz 20% Ca Carbonate 50% Non-fibrous (other)	None Detected
1B-Concrete <i>091507389-0002</i>		Gray Non-Fibrous Homogeneous		30% Quartz 20% Ca Carbonate 50% Non-fibrous (other)	None Detected
2A-Paneling <i>091507389-0003</i>		Gray Fibrous Homogeneous		30% Ca Carbonate 45% Non-fibrous (other)	15% <b>Chrysotile</b> 10% <b>Crocidolite</b>
2B-Paneling <i>091507389-0004</i>		Gray Fibrous Homogeneous		30% Ca Carbonate 45% Non-fibrous (other)	15% <b>Chrysotile</b> 10% <b>Crocidolite</b>
3A-Textured Paint <i>091507389-0005</i>		Red/Silver Non-Fibrous Homogeneous		80% Matrix 20% Non-fibrous (other)	None Detected
3B-Textured Paint <i>091507389-0006</i>		Red/Silver Non-Fibrous Homogeneous		80% Matrix 20% Non-fibrous (other)	None Detected
4A-Window Putty <i>091507389-0007</i>		Tan Non-Fibrous Homogeneous		70% Ca Carbonate 30% Non-fibrous (other)	None Detected
4B-Window Putty <i>091507389-0008</i>		Tan Non-Fibrous Homogeneous		70% Ca Carbonate 30% Non-fibrous (other)	None Detected

Analyst(s)  
 Matthew Batongbacal (14)

  
 Chris Dojlidko, 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. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%  
 Samples analyzed by EMSL Analytical, Inc San Leandro, CA NVLAP Lab Code 101048-3, WA C884

Initial report from 05/27/2015 12:36:04



# EMSL Analytical, Inc

464 McCormick Street, San Leandro, CA 94577

Phone/Fax: (510) 895-3675 / (510) 895-3680

<http://www.EMSL.com>

[sanleandrolab@emsl.com](mailto:sanleandrolab@emsl.com)

EMSL Order:	091507389
CustomerID:	GECN21
CustomerPO:	
ProjectID:	E8721-02-xx

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

Phone: (925) 371-5900  
Fax: (925) 371-5915  
Received: 05/20/15 12:30 PM  
Analysis Date: 5/27/2015  
Collected: 5/20/2015

Project: **E8721-02-33**

## 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
5A-Core Insulation <i>091507389-0009</i>		Brown Fibrous Homogeneous	90% Cellulose	10% Non-fibrous (other)	None Detected
5B-Core Insulation <i>091507389-0010</i>		Brown Fibrous Homogeneous	90% Cellulose	10% Non-fibrous (other)	None Detected
6A-Concrete <i>091507389-0011</i>		Gray Non-Fibrous Homogeneous		15% Quartz 30% Ca Carbonate 55% Non-fibrous (other)	None Detected
6B-Concrete <i>091507389-0012</i>		Gray Non-Fibrous Homogeneous		15% Quartz 30% Ca Carbonate 55% Non-fibrous (other)	None Detected
7A-Paint <i>091507389-0013</i>		Gray Non-Fibrous Homogeneous		80% Matrix 20% Non-fibrous (other)	None Detected
7B-Paint <i>091507389-0014</i>		Gray Non-Fibrous Homogeneous		80% Matrix 20% Non-fibrous (other)	None Detected

Analyst(s)  


---

Matthew Batongbacal (14)


---

Chris Dojlidko, 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. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%  
Samples analyzed by EMSL Analytical, Inc San Leandro, CA NVLAP Lab Code 101048-3, WA C884

Initial report from 05/27/2015 12:36:04



EMSL ANALYTICAL, INC.  
LABORATORY PRODUCTS TRAINING

# Asbestos Chain of Custody

EMSL Order Number (Lab Use Only):

091507389

04A4336

EMSL ANALYTICAL, INC.  
464 MCCORMICK STREET  
SAN LEANDRO, CA 94577

PHONE: (510) 895-3675  
FAX: (510) 230-3537

Company: <u>GEDCON</u>		EMSL-Bill to: <input checked="" type="checkbox"/> Same <input type="checkbox"/> Different If Bill to is Different note instructions in Comments**	
Street: <u>6671 BRISA ST</u>		Third Party Billing requires written authorization from third party	
City: <u>LIVERMORE</u>	State/Province: <u>CA</u>	Zip/Postal Code: <u>94550</u>	Country: <u>USA</u>
Report To (Name): <u>D. WATTS</u>		Fax #: <u>925-371-5915</u>	
Telephone #: <u>925-371-5900</u>		Email Address: <u>WATTS@GEDCONINC.COM</u>	
Project Name/Number: <u>E8721-02-33</u>		<u>E8721-02-33</u>	
Please Provide Results: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email		Purchase Order: <u>CT 04A4336</u> U.S. State Samples Taken: <u>CA</u>	

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 hr through 6 hr, 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>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 - 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>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 - 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>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)
<input type="checkbox"/> TEM - Water: EPA 100.2 Fibers >10µm <input type="checkbox"/> Waste <input type="checkbox"/> Drinking All Fiber Sizes <input type="checkbox"/> Waste <input type="checkbox"/> Drinking		<b>Other:</b> <input type="checkbox"/>

Check For Positive Stop - Clearly Identify Homogenous Group >1% Any Layer

Samplers Name: D. WATTS      Samplers Signature: [Signature]

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
1 A/B	CONCRETE	NA	20 MAY 2015
2	CORRUGATED PANELS (CEMENT)	↓	↓
3	TEXTURED PAINT		
4	WINDOW PUTTY		
5	DOOR CASE INSULATION		
6	CONCRETE		
7	TEXTURED PAINT		

Client Sample # (s): 14      Total # of Samples: 14

Relinquished (Client): [Signature]      Date: 20 May 2015      Time: 1230

Received (Lab): EA      Date: 5/20/15      Time: 12:30pm

Comments/Special Instructions: (W.I)



May 28, 2015

Dave Watts  
Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550  
Tel: (925) 961-5273  
Fax: (925) 371-5915

ELAP No.: 1838  
CSDLAC No.: 10196  
ORELAP No.: CA300003  
TCEQ No. : T104704502

Re: ATL Work Order Number : 1501860  
Client Reference : BURMA RD, E8721-02-33

Enclosed are the results for sample(s) received on May 23, 2015 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

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

Sincerely,

A handwritten signature in black ink, appearing to read 'Eddie Rodriguez', with a small 'Er' monogram below it.

Eddie Rodriguez  
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.



## Certificate of Analysis

Geocon Consultants, Inc.

6671 Brisa Street

Livermore, CA 94550

Project Number : BURMA RD, E8721-02-33

Report To : Dave Watts

Reported : 05/28/2015

### SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
P1A/B	1501860-01	Paint	5/20/15 0:00	5/23/15 10:20
P2A/B	1501860-02	Paint	5/20/15 0:00	5/23/15 10:20
P3A/B	1501860-03	Paint	5/20/15 0:00	5/23/15 10:20
P4A/B	1501860-04	Paint	5/20/15 0:00	5/23/15 10:20



## Certificate of Analysis

Geocon Consultants, Inc.

6671 Brisa Street

Livermore, CA 94550

Project Number : BURMA RD, E8721-02-33

Report To : Dave Watts

Reported : 05/28/2015

### Total Metals by ICP-AES EPA 6010B

Analyte: Lead

Analyst: RR

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1501860-01	P1A/B	<b>150000</b>	mg/kg	140	50	B5E0708	05/27/2015	05/27/15 17:09	D6
1501860-02	P2A/B	<b>160000</b>	mg/kg	200	100	B5E0708	05/27/2015	05/28/15 09:02	D6
1501860-03	P3A/B	<b>79000</b>	mg/kg	170	50	B5E0708	05/27/2015	05/27/15 17:13	D6
1501860-04	P4A/B	<b>99000</b>	mg/kg	100	50	B5E0708	05/27/2015	05/27/15 17:19	D6



## Certificate of Analysis

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

Project Number : BURMA RD, E8721-02-33  
 Report To : Dave Watts  
 Reported : 05/28/2015

### QUALITY CONTROL SECTION

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

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
<b>Batch B5E0708 - EPA 3050B_S</b>									
<b>Blank (B5E0708-BLK1)</b>					Prepared: 5/27/2015 Analyzed: 5/27/2015				
Lead	ND	1.0							NR
<b>LCS (B5E0708-BS1)</b>					Prepared: 5/27/2015 Analyzed: 5/27/2015				
Lead	41.6589	1.0	50.0000		83.3	80 - 120			
<b>LCS Dup (B5E0708-BSD1)</b>					Prepared: 5/27/2015 Analyzed: 5/27/2015				
Lead	44.1867	1.0	50.0000		88.4	80 - 120	5.89	20	
<b>Duplicate (B5E0708-DUP1)</b>					Prepared: 5/27/2015 Analyzed: 5/27/2015				
Lead	4853.18	200		4994.08	NR		2.86	20	D6



## Certificate of Analysis

Geocon Consultants, Inc.

6671 Brisa Street

Livermore, CA 94550

Project Number : BURMA RD, E8721-02-33

Report To : Dave Watts

Reported : 05/28/2015

### Notes and Definitions

D6	Sample required dilution due to high concentration of target analyte.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

#### Notes:

- (1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
- (2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
- (3) Results are wet unless otherwise specified.

# CHAIN OF CUSTODY RECORD

## FOR LABORATORY USE ONLY:

**Advanced Technology Laboratories**  
 3275 Walnut Avenue  
 Signal Hill, CA 90755  
 (562) 989-4045 • Fax (562) 989-4040

P.O.#: \_\_\_\_\_  
 Logged By: \_\_\_\_\_ Date: \_\_\_\_\_

Method of Transport  
 Client  ATL  CA OverN  FEDEX  Other: \_\_\_\_\_

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

Address: 6671 Brisa Street  
 City: Livemore State: CA Zip Code: 94550  
 TEL: (925) 371-5900 FAX: (925) 371-5915

Client: GEOCON CONSULTANTS, INC.  
 Attn: **D. WATTS**

Project Name: **BURMA RD** Project #: **E8721-02-33** Sampler: **D. WATTS**  
 Relinquished by: (Signature and Printed Name) **[Signature]** Date: **5/20/15** Time: **1800**  
 Relinquished by: (Signature and Printed Name) **[Signature]** Date: **5/21/15** Time: **1020**  
 Relinquished by: (Signature and Printed Name) \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Special Instructions/Comments:  
**Anticiliate Soluble Reservoirs**

Bill To: \_\_\_\_\_  
 Attn: \_\_\_\_\_  
 Co: **SAME AS ABOVE**  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Send Report To:  
 Attn: \_\_\_\_\_  
 Co: **SAME AS ABOVE**  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

I hereby authorize ATL to perform the work indicated below:  
 Project Mgr / Submitter: **D. WATTS** Date: **5/20/15**  
 Print Name: **[Signature]** Signature: **[Signature]**

LAB USE ONLY: Batch #:	Lab No.	Sample Description	Date		Time	Circle or Add Analysis(es) Requested	SPECIFY APPROPRIATE MATRIX		PRESERVATION		Q.A./Q.C. RTNE <input type="checkbox"/> CT <input checked="" type="checkbox"/> SWRCB <input type="checkbox"/> Logcode _____ OTHER _____	REMARKS
			Sample I.D. / Location	Date			Time	Container(s)	Type	Container(s)		
1501860-1		P1A/B		5/20/15	VAR	801A (Particulates)						
		P2A/B				802 (PCB)						
		P3A/B				803 (Total Metal)						
		P4A/B				801B (RO)						
						801C (GRO) / RTX						
						801D (GRO) / RTX						
						801E (GRO) / RTX						
						801F (GRO) / RTX						
						801G (GRO) / RTX						
						801H (GRO) / RTX						
						801I (GRO) / RTX						
						801J (GRO) / RTX						
						801K (GRO) / RTX						
						801L (GRO) / RTX						
						801M (GRO) / RTX						
						801N (GRO) / RTX						
						801O (GRO) / RTX						
						801P (GRO) / RTX						
						801Q (GRO) / RTX						
						801R (GRO) / RTX						
						801S (GRO) / RTX						
						801T (GRO) / RTX						
						801U (GRO) / RTX						
						801V (GRO) / RTX						
						801W (GRO) / RTX						
						801X (GRO) / RTX						
						801Y (GRO) / RTX						
						801Z (GRO) / RTX						
						801AA (GRO) / RTX						
						801AB (GRO) / RTX						
						801AC (GRO) / RTX						
						801AD (GRO) / RTX						
						801AE (GRO) / RTX						
						801AF (GRO) / RTX						
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						801BP (GRO) / RTX						
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						801CB (GRO) / RTX						
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						801CE (GRO) / RTX						
						801CF (GRO) / RTX						
						801CG (GRO) / RTX						
						801CH (GRO) / RTX						
						801CI (GRO) / RTX						
						801CJ (GRO) / RTX						
						801CK (GRO) / RTX						
						801CL (GRO) / RTX						
						801CM (GRO) / RTX						
						801CN (GRO) / RTX						
						801CO (GRO) / RTX						
						801CP (GRO) / RTX						
						801CQ (GRO) / RTX						
						801CR (GRO) / RTX						
						801CS (GRO) / RTX						
						801CT (GRO) / RTX						
						801CU (GRO) / RTX						
						801CV (GRO) / RTX						
						801CW (GRO) / RTX						
						801CX (GRO) / RTX						
						801CY (GRO) / RTX						
						801CZ (GRO) / RTX						
						801DA (GRO) / RTX						
						801DB (GRO) / RTX						
						801DC (GRO) / RTX						
						801DD (GRO) / RTX						
						801DE (GRO) / RTX						
						801DE (GRO) / RTX						

TAT: A= Overnight ≤ 24 hr B= Emergency Next workday C= Critical 2 Workdays D= Urgent 3 Workdays E= Routine 7 Workdays  
 Container Types: T=Tube V=VOA L=Liter P=Pin J=Jar B=Tedlar G=Glass P=Plastic M=Metal  
 Preservatives: H=Hcl N=HNO<sub>3</sub> S=H<sub>2</sub>SO<sub>4</sub> C=4°C Z=Zn(AC)<sub>2</sub> O=NaOH T=Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>



June 08, 2015

Dave Watts  
Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550  
Tel: (925) 961-5273  
Fax:(925) 371-5915

ELAP No.: 1838  
CSDLAC No.: 10196  
ORELAP No.: CA300003  
TCEQ No. : T104704502

Re: ATL Work Order Number : 1501860  
Client Reference : BURMA RD, E8721-02-33

Enclosed are the results for sample(s) received on May 23, 2015 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

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

Sincerely,

A handwritten signature in black ink, appearing to read 'E. Rodriguez', is written over a light gray rectangular background.

Eddie Rodriguez  
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.

*3275 Walnut Avenue, Signal Hill, CA 90755 • Tel: 562-989-4045 • Fax: 562-989-4040*  
*www.atlglobal.com*



## Certificate of Analysis

Geocon Consultants, Inc.

6671 Brisa Street

Livermore, CA 94550

Project Number : BURMA RD, E8721-02-33

Report To : Dave Watts

Reported : 06/08/2015

### SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Composite P1A/B, P2A/B, P3A/B, P4A/B	1501860-05	Soil	5/20/15 0:00	5/23/15 10:20



## Certificate of Analysis

Geocon Consultants, Inc.

6671 Brisa Street

Livermore, CA 94550

Project Number : BURMA RD, E8721-02-33

Report To : Dave Watts

Reported : 06/08/2015

### TCLP Metals by ICP-AES EPA 6010B

**Analyte: Lead**

**Analyst: RR**

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1501860-05	Composite P1A/B, P2A/B, P3A/B, P4A/B	96	mg/L	0.62	5	B5F0085	06/04/2015	06/04/15 13:27	D6



## Certificate of Analysis

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

Project Number : BURMA RD, E8721-02-33  
 Report To : Dave Watts  
 Reported : 06/08/2015

### QUALITY CONTROL SECTION

#### TCLP Metals by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
<b>Batch B5F0085 - EPA 3010A_S</b>									
<b>Blank (B5F0085-BLK1)</b>					Prepared: 6/4/2015 Analyzed: 6/4/2015				
Lead	ND	0.050							NR
<b>LCS (B5F0085-BS1)</b>					Prepared: 6/4/2015 Analyzed: 6/4/2015				
Lead	0.957670	0.050	1.00000		95.8	80 - 120			
<b>LCS Dup (B5F0085-BSD1)</b>					Prepared: 6/4/2015 Analyzed: 6/4/2015				
Lead	0.987329	0.050	1.00000		98.7	80 - 120	3.05	20	
<b>Duplicate (B5F0085-DUP1)</b>					Prepared: 6/4/2015 Analyzed: 6/4/2015				
Lead	102.447	0.62		96.1217	NR		6.37	20	D6



## Certificate of Analysis

Geocon Consultants, Inc.

6671 Brisa Street

Livermore, CA 94550

Project Number : BURMA RD, E8721-02-33

Report To : Dave Watts

Reported : 06/08/2015

### Notes and Definitions

D6	Sample required dilution due to high concentration of target analyte.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

Notes:

- (1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
- (2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
- (3) Results are wet unless otherwise specified.

Diane Galvan

---

**From:** Dave Watts, CAC [watts@geoconinc.com]  
**Sent:** Saturday, May 30, 2015 12:06 PM  
**To:** Rachelle Arada  
**Cc:** Diane Galvan  
**Subject:** Re: Results/EDD/Invoice - BURMA RD (1501860)  
**Attachments:** image001.jpg

Please composite all 4 & run tclp.  
Same tat. Thanks.

David Watts, Geocon  
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