

FOR CONTRACT NO.: 04-014064

INFORMATION HANDOUT

MATERIALS INFORMATION

FOUNDATION RECOMMENDATIONS

REVISED SEISMIC DESIGN RECOMMENDATIONS

ASBESTOS AND LEAD-CONTAINING PAINT SURVEY

ROUTE: 04-ALA-80-1.8

Memorandum

*Flex your power!
Be energy efficient!*

To: MR. JOE ESFANDIARY
Branch Chief
Structure Design Branch 1
Office of Transportation Architecture
Division of Engineering Services

Date: February 13, 2009

Attn: Edgardo A Isidro

File: 04-ALA-80-PM2.0/2.1
04-014001
SFOBB Tow Service Building
Bridge No. 33M5785

From: CAROLINE CHEN
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Division of Engineering Services

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Chief, Branch C
Office of Geotechnical Design – West
Geotechnical Services
Division of Engineering Services

Subject: Foundation Recommendations

INTRODUCTION

This memorandum provides foundation recommendations for a new Tow Service Building to be constructed in the median of Highway 80, adjacent to the existing San Francisco Oakland Bay Bridge (SFOBB) Toll Plaza. The SFOBB Maintenance Complex Project was proposed to upgrade the SFOBB maintenance facility in Oakland adjacent to the SFOBB. The project involves the construction of several new structures and retrofit of an existing building, including the new Tow Service Building.

The floor plan shows the Tow Service Building will have dimensions approximately 70 ft by 200 ft. The area under the footprint of the new building is asphalt paved. An existing 12-inch drainage pipe running through the site will be removed. The existing ground surface elevation is approximately at 10 ft. Information provided by the structure designer by email indicates the finish interior concrete slab is at the Elevation 8.0 ft, and building pad is at approximately Elevation 7.0 ft. Piles are proposed to support the building.

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SUBSURFACE CONDITIONS

Site investigation was conducted by Parikh Consultants, Inc. in April, 2007, consisting of two borings B-2 and B-3, and a CPT sounding CPT-1. Both Boring B-2 and CPT-1 reached depth of 120 ft and Boring B-3 to depth of 79 ft below ground surface. Field vane shear test was conducted from Elevation -25 ft, or depth 35 ft, in Boring B-3.

Based on these borings, the site consists of dense silty sand in the upper 10 ft, underlain by medium dense to loose sand to depth ranging from 19 to 32 ft. Beneath the sand layers soft to firm clay (Young Bay Mud) was encountered to depth approximately 100 ft. The Young Bay Mud was underlain by very stiff clay (Old Bay Mud) to the maximum exploration depth, or Elevation -112 ft.

Groundwater was encountered during the investigation and at the elevation measured in the range of 4.8 ft to 5.5 ft in April 2007, or approximately 4 ft below existing ground surface.

SCOUR

Scour is not anticipated to be an issue for this site since there is no watercourse running through the site.

CORROSIVITY

Corrosion tests were performed on selected soil samples by Sunland Analytical of Rancho Cordova, California. Test results shown on Table 1 indicate the site is considered corrosive based on the current Caltrans guidelines.

Table 1 Corrosivity Test Results

Boring No.	Depth (ft)	Soil Type	pH	Minimum Resistivity (ohm-cm)	Chloride (ppm)	Sulfate (ppm)
B-2	24	Young bay Mud	7.63	70	4516	1901

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SEISMICITY/LIQUEFACTION POTENTIAL

Hossain Salimi from Office of Geotechnical Design West provides seismic recommendations for this structure. Soils with liquefaction potential during a design seismic event are identified and are outlined in the following table.

Table 2 Liquefaction Potential

Boring ID	Depth from Top of Hole (ft)	Elevation (ft)	Material Encountered	Liquefaction Potential
B-2	15 to 19	-5 to -9	Medium dense sand	Moderate to High
B-3	25 to 32	-15 to -22	Medium dense to loose sand	High

FOUNDATION RECOMMENDATIONS

Driven piles are feasible based on the site conditions. Precast pre-stressed concrete driven piles Class 90 Alt "X" are recommended to support the proposed building. Pile recommendations are presented in Table 3. Undersized predrilling to Elevation 0 ft through dense sand layer is required to avoid hard driving and to minimize downdrag force caused by potential liquefaction. Downdrag force caused by liquefaction is thus ignored accordingly. The size of pre-drilled hole through dense sand layer shall have a diameter of not greater than the least dimension of the pile cross section. Jetting shall not be used. Any gap remaining between the sides of the piles and pre-drilled hole shall be back filled with loose sand. No downdrag caused by consolidation of soft bay mud is considered since there is no additional overburden due to new fill. Pile settlement under design load is estimated to be less than 0.5 in.

Lateral pile capacity analyses were performed using LPile 4.0. The lateral deflection at pile head under service load of 16 kips is about 0.56 in, and is acceptable according to the structure designer. The connection between pile and cap is assumed to be free-head.

Center-to-center pile spacing should not be less than 30.0 in. or 2.5 pile diameters. No reduction in pile vertical capacity is needed if center-to-center (CTC) spacing is 3D or greater. Reduction factors for pile lateral capacity are shown on Table 4.

Table 3 Pile Data Table

Pile Type	Design Loading (kips)	Nominal Resistance (kips)		Design Tip Elevation (ft)	Specified Tip Elevation (ft)
		Compression	Tension		
Class 90 Alt "X"	30	60	0	-92(1) -45 (3)	-92

Notes:

1. Pile tip elevations are controlled by the following demands: (1) Compression; (2) Tension; (3) Lateral.
2. For use of Gates formula, the ultimate geotechnical capacity should be 73 kips, to account for the friction contributed by liquefiable zone.
3. The cut-off elevation is assumed to be at Elevation 7.0 ft.
4. Predrilling to Elevation 0 ft through dense sand layer is required.

Table 4 Reduction Factors For Pile Lateral Capacity

Pile CTC spacing (in the direction of loading)	Reduction Factor
3D	0.6
4D	0.8
5D	1.0

Liquefaction-induced settlement is estimated to be on the order of 2 inches. Flexible utility connections are recommended and should be designed accordingly to accommodate the differential movement between the pile supported structures and the buried utilities.

The 4- inch gravel cushion under the slab shall be compacted to minimum 95% relative density and shall have direct connection to the drain around the perimeter of the building to provide drainage of the building area.

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CONSTRUCTION CONSIDERATIONS

- Piles may be unable to achieve the required capacity when driven to the specified tip elevation. If this happens during pile installation, piles should be allowed to set up for 24 to 48 hours or even longer and then restruck.
- Stockpiling of the imported fill in significant height should be avoided due to potential consolidation settlement of Young Bay Mud.
- Since significant length of piles is in soft clay, the vertical alignment of piles shall be well maintained during pile driving.
- Groundwater may be encountered during excavation for grade beam and slab construction. Dewater and shoring may be needed.

If you have any questions or need additional information, please contact Caroline Chen at 916-227-1066 or Mahmood Momenzadeh at 510-286-5732.

c: Tpokrywka (OGD-W)
Mmomenzadeh (OGD-W)
Mmacaranes (OGD-W)
Hsalimi (ODG-W)
Project File



Memorandum

*Flex your power!
Be energy efficient!*

To: MR. JOE ESFANDIARY
Branch Chief
Structure Design Branch 1
Office of Transportation Architecture
Structure Design Services &
Earthquake Engineering
Division of Engineering Services

Date: February 27, 2009
File: 04-SF-ALA-80
04-014001
SFOBB Tow Service
Building

Attention: Mr. Gang Hong

From: HOSSAIN SALIMI
Senior Materials and Research Engineer
Division of Engineering Services
Geotechnical Services – MS-5
Office of Geotechnical Design-West

Subject: Revised Seismic Design Recommendations

This memorandum is in response to your request dated February 26, 2009 and presents the revised Seismic Design Recommendations for the proposed SFOBB Tow Services Building and Fuel Island Station located just south of the Westbound Highway 80 Bay Bridge toll plaza in Alameda County.

It should be noted that the 2001 California Building Codes (CBC) were updated effective January 2008 to the 2007 CBC, which are based on the 2006 International Building Code. The following recommendations are based on the newest codes and supersede any previous recommendations including the report submitted to you on December 23, 2008.

Parikh Consultants conducted a recent field investigation for this site, which included a CPT hole and two wet rotary sample borings (B-2 drilled to a depth of 120 feet below ground and completed on 4/20/2007, and B-3 drilled to a depth of 80 feet below ground and completed on 4/23/2007). Based on these borings, the geology at this site consists of 20 to 35 feet of medium dense poorly graded sand and silty sand, underlain by soft to stiff/very stiff fat clay corresponding to a Site Class **E** soil profile. The water table was encountered at both boring to be 4 to 5 feet below ground.

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According to the 2007 edition of the CBC, the Maximum Considered Earthquake Ground Motion for 0.2 Second and 1.0 second Spectral Response Acceleration, is 1.5 and 0.6, respectively (Figure 1613.5(3) and Figure 1613.5(4)), and the available geological data characterize the soil as type E (Table 1613.5.2). Based on the aforementioned data, the Site Coefficient for short and long period, S_{MS} and S_{M1} is 1.35 and 1.44, respectively. The Design Earthquake Spectral Acceleration for short period S_{DS} and long period S_{D1} is calculated to be 0.9 and 0.965, respectively, with T_s and T_0 calculated to be 1.07 and 0.21 seconds, respectively. The Acceleration Response Spectrum for the site, based on these values and as specified in Figure 11.4-1 (page 115) is shown on the attached Figure 1.

It should also be noted that the review of the LOTBs revealed two locations where layers of loose to medium dense poorly graded sand/silty sand was encountered below the water table, posing a moderate to high liquefaction potential during a strong seismic event. Caroline Chen was informed and has taken the liquefaction potential into consideration for her analysis.

If there are any questions, please contact Hossain Salimi at (916) 227-7147.

Attachment

c: TPokrywka (OGD-W)
MMacaranes (OGD-W)
CChen (OGD-W)
Project file

Acceleration Response Spectrum for the SFOBB Tow Service Building

2007 CALIFORNIA BUILDING CODE CRITERIA

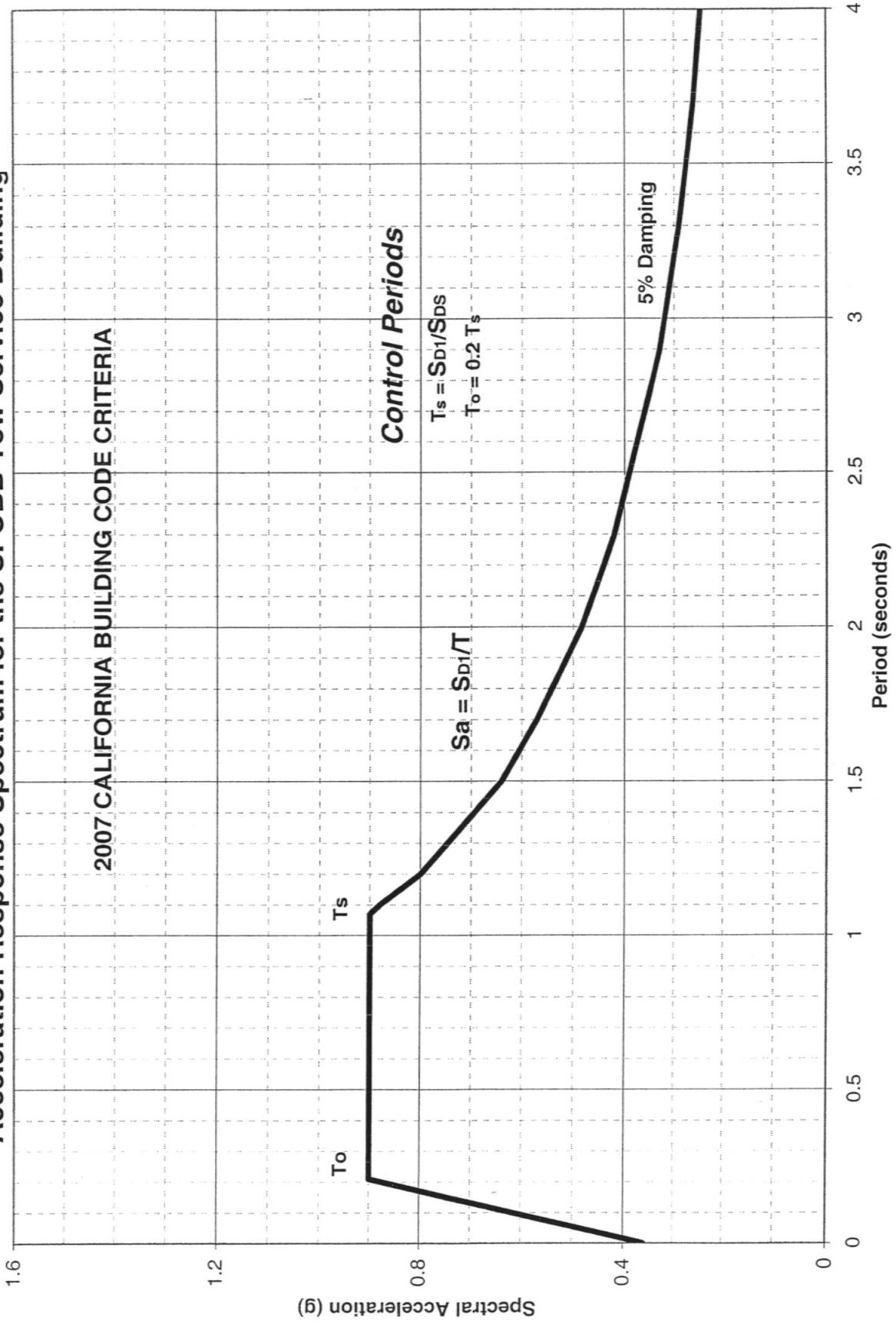


Figure 1

ASBESTOS AND LEAD-CONTAINING PAINT SURVEY



PREPARED FOR:
CALIFORNIA DEPARTMENT OF TRANSPORTATION
DISTRICT 4
OFFICE OF ENVIRONMENTAL ENGINEERING
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PREPARED BY:
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GEOCON PROJECT NO. E8435-06-23
CALTRANS EA 04-014001



APRIL 2009

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FIGURES

1. Vicinity Map
2. Site Plan

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APPENDIX

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

REPORT LIMITATIONS

This asbestos and lead-containing paint (LCP) survey was conducted in conformance with generally accepted standards of practice for identifying and evaluating asbestos and LCP in structures. Due to the nature of structure surveys, asbestos and LCP use, and laboratory analytical limitations, some asbestos or LCP in the 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.

GEOCON CONSULTANTS, INC


David Watts, CAC
Senior Project Scientist


Chris Giuntoli, CAC
Senior Project Scientist

CALIFORNIA DEPARTMENT OF TRANSPORTATION – DISTRICT 4
OFFICE OF ENVIRONMENTAL ENGINEERING

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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) Tow Service Building Project on Highway 80 in Oakland, California. We performed an asbestos and LCP survey on the SFOBB Tow Service Building fuel island canopy and fuel/oil storage building. 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 activities.

This report documents the investigation sampling methods and laboratory analytical data. The primary objective of our survey was to determine and quantify asbestos and deteriorated 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 improvements.

The field investigation was performed on April 9, 2009. The following field activities were performed during asbestos and LCP sampling efforts:

- Collected eight bulk suspect asbestos samples at the project location;
- Collected four suspect LCP sample at the project location; and
- Transported samples to Caltrans-approved, California-certified environmental laboratories.

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

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

We relinquished bulk samples for asbestos analysis using standard chain-of-custody documentation. Asbestos content was determined using EPA Test Method 600/R-93/116 for polarized light microscopy (PLM). We requested laboratory analyses to be within a 1-week turn-around-time.

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. HUD protocol generally requires a very extensive sampling strategy that includes sampling of paint on each surface type.

We relinquished the bulk paint samples for lead analysis using standard chain-of-custody documentation. Total lead content was determined using EPA Test Method 6010B. Soluble (Waste Extraction Test [WET]) lead content was determined following EPA Test Method 7420. Soluble (Toxicity Characteristic Leaching Procedure [TCLP]) lead content was determined following EPA Test Method 1311. We requested laboratory analyses to be within a 1-week turn-around-time.

The laboratory analyses indicated that chrysotile asbestos at a concentration of 3% was present in samples representing approximately 20 square feet of nonfriable caulking used to seal the exterior panels of the fuel/oil storage building. No asbestos was detected in samples of the remaining suspect materials collected during our survey. Laboratory results for the asbestos samples are summarized on Table 1. Reproductions of the laboratory report and chain-of-custody documentation are presented in Appendix A.

The laboratory analyses for lead paint indicated the following:

- A bulk sample representing approximately 100 square feet of deteriorated white paint used on the fuel island columns and framework exhibited a total lead concentration of 1,500 mg/kg and a soluble (TCLP) lead concentration of less than (<) 0.25 milligrams per liter (mg/l).
- A bulk sample representing approximately 20 square feet of deteriorated yellow paint used on the fuel island bollards exhibited a total lead concentration of 300 mg/kg, a soluble (WET) lead concentration of 12 mg/l, and a soluble (TCLP) lead concentration of 1.9 mg/l.
- A bulk sample representing intact beige paint used on the fuel/oil storage building exterior exhibited a total lead concentration of 180 mg/kg, a soluble (WET) lead concentration of 8.5 mg/l, and a soluble (TCLP) lead concentration of 0.57 mg/l.
- A bulk sample representing intact yellow paint used on the fuel/oil storage building bollards exhibited a total lead concentration of 120,000 mg/kg and a soluble (TCLP) lead concentration of 69 mg/l.

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

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

NESHAP regulations do not require that asbestos-containing caulking (a Category I nonfriable/nonhazardous material) identified during this 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 demolition activities be performed by a licensed contractor registered with Cal/OSHA for asbestos-related work (or by a certified asbestos abatement contractor) following Cal/OSHA asbestos work requirements if the asbestos-containing caulking is left in place during demolition. 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.

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

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

Based on the analytical test results, we recommend that deteriorated LCP applied to the fuel island columns, framework, and bollards (a California hazardous waste) be removed and disposed of prior to renovation, demolition, or other activities that would disturb the paint. We recommend that the contractor 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 RCRA waste, California hazardous waste, and/or architectural components containing intact LCP. Some landfills 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 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 industrial 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.

The California Integrated Waste Management Board would consider sodium lighting fixtures on the fuel island canopy to be a hazardous waste if discarded. As such, they must be removed prior to demolition and managed for reuse, recycling, or proper disposal. Fuel, oil, and other potentially hazardous materials located in the fuel/oil storage building must be removed prior to demolition. Removal of universal waste or suspect hazardous materials should be conducted by contractors licensed to handle, transport, and/or dispose of universal waste and hazardous waste.

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) Tow Service Building Project on Highway 80 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 Tow Service Building fuel island canopy and fuel/oil storage building. 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 activities.

1.2 Purpose

This report documents the investigation sampling methods and laboratory analytical data. The primary objective of our survey was to determine and quantify asbestos and deteriorated 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 improvements.

2.0 BACKGROUND

2.1 Asbestos

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

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

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

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

Activities that disturb materials containing *any* amount of asbestos are subject to certain requirements of the 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 landfill facilities and recyclers currently accept intact LCP on a component; however, contractors are responsible for segregating and characterizing waste streams prior to disposal.

For a solid waste containing lead, the waste is classified as California hazardous when: 1) the total lead content equals or exceeds the respective Total Threshold Limit Concentration (TTLC) of 1,000 milligrams per kilogram (mg/kg); or 2) the soluble lead content equals or exceeds the respective

Soluble Threshold Limit Concentration (STLC) of 5 milligrams per liter (mg/l) based on the standard Waste Extraction Test (WET). A waste has the potential for exceeding the lead STLC when the waste's total lead content is greater than or equal to ten times the respective STLC value since the WET uses a 1:10 dilution ratio. Hence, when total lead is detected at a concentration greater than or equal to 50 mg/kg, and assuming that 100 percent of the total lead is soluble, soluble lead analysis is required. Lead-containing waste is classified as "Resource, Conservation, and Recovery Act" (RCRA) hazardous, or Federal hazardous, when the soluble lead content equals or exceeds the Federal regulatory level of 5 mg/l based on the Toxicity Characteristic Leaching Procedure (TCLP).

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

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

2.3 Architectural Drawings and Previous Survey Activities

Architectural drawings and previous survey reports for the project were not available for our review.

3.0 SCOPE OF SERVICES

The following scope of services was performed:

3.1 Pre-Field Activities

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

3.2 Field Activities

Mr. David Watts, a California-Certified Asbestos Consultant (CAC), certification No. 98-2404 (expiration September 16, 2009), 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, 2009) performed the asbestos and LCP survey on April 9, 2009. Eight bulk samples of suspect ACM were collected. Four bulk samples of suspect LCP were collected.

4.0 INVESTIGATIVE METHODS

4.1 Asbestos

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

We relinquished bulk samples for asbestos analysis using standard chain-of-custody documentation. Asbestos content was determined using EPA Test Method 600/R-93/116 for polarized light microscopy (PLM). We requested laboratory analyses to be within a 1-week turn-around-time.

4.2 Lead Paint

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. HUD protocol generally requires a very extensive sampling strategy that includes sampling of paint on each surface type.

We relinquished the bulk paint sample for lead analysis using standard chain-of-custody documentation. Total lead content was determined using EPA Test Method 6010B. Soluble (WET and TCLP) lead content was determined following EPA Test Methods 7420 and 1311, respectively. We requested laboratory analyses to be within a 1-week turn-around-time.

5.0 INVESTIGATIVE RESULTS

5.1 Asbestos

The laboratory analyses indicated that chrysotile asbestos at a concentration of 3% was present in samples representing approximately 20 square feet of nonfriable caulking used to seal the exterior panels of the fuel/oil storage building. No asbestos was detected in samples of the remaining suspect materials collected during our survey. Laboratory results for the asbestos samples are summarized on Table 1. Reproductions of the laboratory report and chain-of-custody documentation are presented in Appendix A.

5.2 Lead Paint

The laboratory analyses for lead paint indicated the following:

- A bulk sample representing approximately 100 square feet of deteriorated white paint used on the fuel island columns and framework exhibited a total lead concentration of 1,500 mg/kg and a soluble (TCLP) lead concentration of less than (<) 0.25 mg/l.
- A bulk sample representing approximately 20 square feet of deteriorated yellow paint used on the fuel island bollards exhibited a total lead concentration of 300 mg/kg, a soluble (WET) lead concentration of 12 mg/l, and a soluble (TCLP) lead concentration of 1.9 mg/l.
- A bulk sample representing intact beige paint used on the fuel/oil storage building exterior exhibited a total lead concentration of 180 mg/kg, a soluble (WET) lead concentration of 8.5 mg/l, and a soluble (TCLP) lead concentration of 0.57 mg/l.
- A bulk sample representing intact yellow paint used on the fuel/oil storage building bollards exhibited a total lead concentration of 120,000 mg/kg and a soluble (TCLP) lead concentration of 69 mg/l.

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

6.0 CONCLUSIONS

6.1 Asbestos

NESHAP regulations do not require that asbestos-containing caulking (a Category I nonfriable/nonhazardous material) identified during this 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 demolition activities be performed by a licensed contractor registered with Cal/OSHA for asbestos-related work (or by a certified asbestos abatement contractor) following Cal/OSHA asbestos work requirements if the asbestos-containing caulking is left in place during demolition. 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.

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

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

6.2 Lead Paint

Based on the analytical test results, we recommend that deteriorated LCP applied to the fuel island columns, framework, and bollards (a California hazardous waste) be removed and disposed of prior to renovation, demolition, or other activities that would disturb the paint. We recommend that the contractor be required to use personnel who have lead-related construction certification as supervisors or workers, as appropriate, from the California 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 RCRA waste, California hazardous waste, and/or architectural components containing intact LCP.

Some landfills 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 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 industrial 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.

6.3 Universal and Potential Hazardous Wastes

The California Integrated Waste Management Board would consider sodium lighting fixtures on the fuel island canopy to be a hazardous waste if discarded. As such, they must be removed prior to demolition and managed for reuse, recycling, or proper disposal. Fuel, oil, and other potentially hazardous materials located in the fuel/oil storage building must be removed prior to demolition. Removal of universal waste or suspect hazardous materials should be conducted by contractors licensed to handle, transport, and/or dispose of universal waste and hazardous waste.

TABLE 1
SUMMARY OF ANALYTICAL LABORATORY TEST RESULTS - ASBESTOS
SAN FRANCISCO - OAKLAND BAY BRIDGE TOW SERVICE BUILDING PROJECT
OAKLAND, CALIFORNIA

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

Sample ID	Description of Suspect Material	Approximate Quantity	Friable	Site Photos	Asbestos Content
1A 1B	Fuel/oil storage building door core insulation	NA	NA	9	ND ND
2A 2B	Fuel/oil storage building caulking (exterior panels)	20 square feet	No	10 and 11	3% 3%
3A 3B	Fuel/oil storage building textured paint (exterior panels)	NA	NA	10 and 11	ND ND
4A 4B	Fuel/oil storage building asphalt and gravel roofing	NA	NA	12	ND ND

Notes:

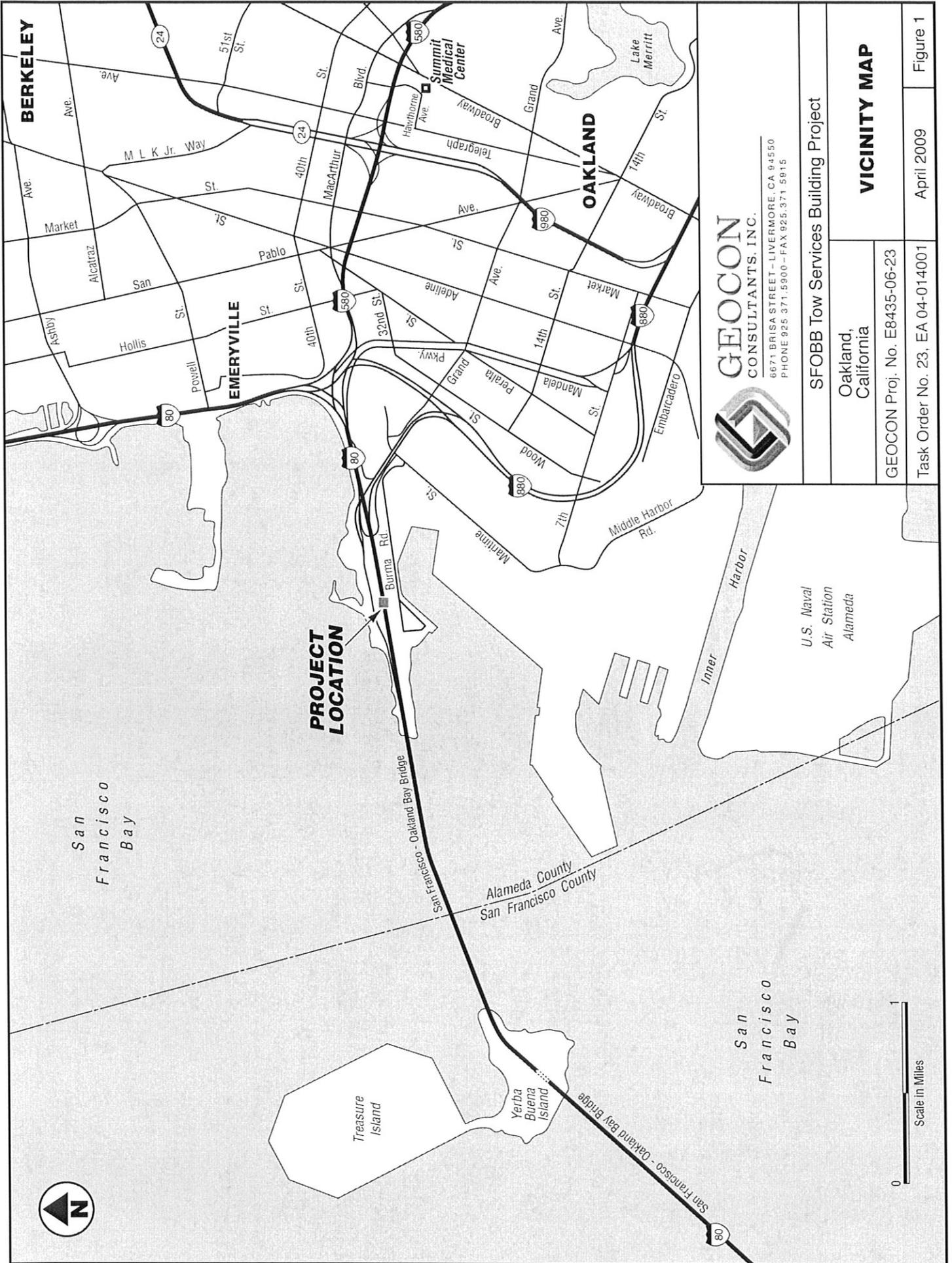
NA = Not applicable

ND = No asbestos fibers detected

TABLE 2
SUMMARY OF ANALYTICAL LABORATORY TEST RESULTS - PAINT
SAN FRANCISCO - OAKLAND BAY BRIDGE TOW SERVICE BUILDING PROJECT
OAKLAND, CALIFORNIA

Sample No.	Paint Description	Approximate Quantity	Peeling/Flaking	Site Photos	Total & Soluble Lead		
					Total Lead (mg/kg)	WET Lead (mg/l)	TCLP Lead (mg/l)
P1	White paint - fuel island canopy	100 square feet		4 & 6	1,500	---	<0.25
P2	Yellow paint - fuel island canopy bollards	20 square feet		4	300	12	1.9
P3	Beige paint - fuel/oil storage building exterior	Intact		7 and 10	180	8.5	0.57
P4	Yellow paint - Fuel/oil storage building bollards	Intact		7, 10, and 11	120,000	---	69

Notes:
mg/kg = milligrams per kilogram (EPA 6010)
WET = Waste Extraction Test
mg/l = milligrams per liter
TCLP = Toxicity Characteristic Leaching Procedure (EPA Test Method 1311)



GEOCON
CONSULTANTS, INC.

6671 BRISA STREET - LIVERMORE, CA 94550
PHONE 925.371.5900 - FAX 925.371.5815

SFOBB Tow Services Building Project

Oakland,
California

VICINITY MAP

GEOCON Proj. No. E8435-06-23

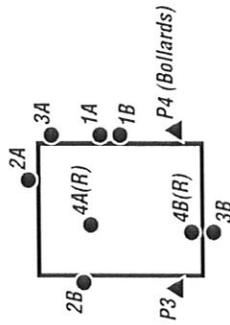
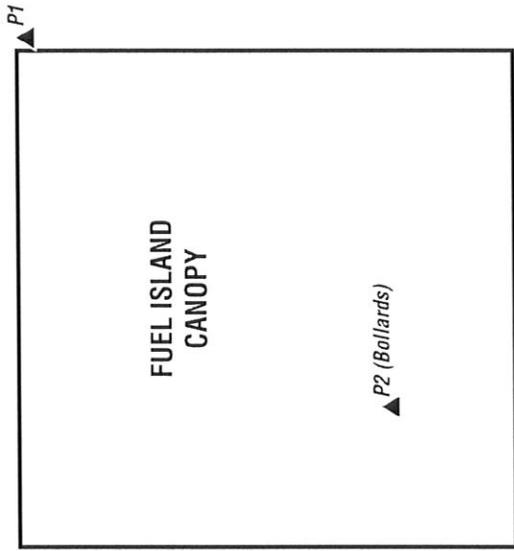
Task Order No. 23, EA 04-014001

April 2009

Figure 1



Scale in Miles



STORAGE BUILDING

SCALE APPROXIMATE



GEOCON
CONSULTANTS, INC.

6671 BRISA STREET - LIVERMORE, CA 94550
PHONE 925.371.5900 - FAX 925.371.5915

LEGEND:

- Approximate Asbestos Sample Location
- ▲ Approximate Paint Sample Location
- (R) Roof

SFOBB Tow Services Building Project

Oakland,
California

SITE PLAN

GEOCON Proj. No. E8435-06-23

Task Order No. 23, EA 04-014001

April 2009

Figure 2



Photo 1 – SFOBB fuel island canopy (background) and fuel/oil storage building (foreground)



Photo 2 – Fuel island canopy



Photo 3 – Sheet metal roofing used on fuel island canopy (non-suspect)



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PHOTOGRAPHS 1, 2, & 3

SFOBB Tow Services Building Project
Oakland, California

E8435-06-23

Task Order No. 23

April 2009



Photo 4 – Deteriorated paint systems on the fuel island columns, framework, and bollards



Photo 5 – Fuel island canopy sodium lamps



Photo 6 – Fuel island canopy framework



Photo 7 – Fuel/oil storage building

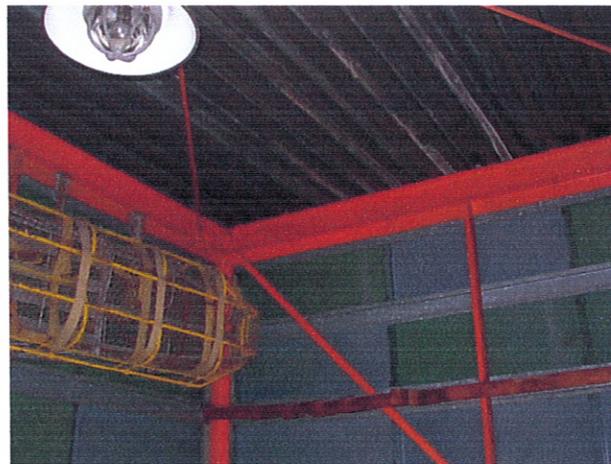


Photo 8 – Fuel/oil storage building incandescent lamp



Photo 9 – Fuel/oil storage building door insulation



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PHOTOGRAPHS 7, 8, & 9

SFOBB Tow Services Building Project
Oakland, California

E8435-06-23

Task Order No. 23

April 2009



Photo 10 – Intact paint on fuel/oil storage building exterior bollards

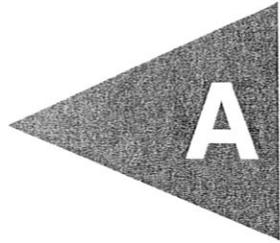


Photo 11 – Fuel/oil storage building caulking



Photo 12 – Fuel/oil storage building roofing

APPENDIX





EMSL Analytical, Inc

2235 Polvorosa Ave , Suite 230, San Leandro, CA 94577

Phone: (510) 895-3675 Fax: (510) 895-3680 Email: milpitasiab@emsl.com

Attn: David Watts
Geocon Consultants
6671 Brisa Street
Livermore, CA 94550

Fax: (925) 371-5915 Phone: (925) 371-5900
Project: E8435-06-23, SFOBB, Oakland

Customer ID: GECN21
Customer PO: E8435-06-23,
Received: 04/09/09 2:50 PM
EMSL Order: 090902608
EMSL Proj: E8435-06-**
Analysis Date: 4/9/2009
Report Date: 4/9/2009

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

Table with 7 columns: Sample, Location, Appearance, % Fibrous, % Non-Fibrous, % Type. Rows include samples 1A, 1B, 2A, 2B, 3A, 3B, 4A with details on appearance and composition.

Analyst(s)
Alan Tahrn (8)

Baojia Ke, Laboratory Manager
or other approved signatory

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. Samples reported as < 1% or none detected may require additional testing by TEM to confirm asbestos quantities. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted.
NVLAP Lab Code 101048-3



EMSL Analytical, Inc

2235 Polvorosa Ave , Suite 230, San Leandro, CA 94577

Phone: (510) 895-3675 Fax: (510) 895-3680 Email: milpitaslab@emsl.com

Attn: **David Watts**
Geocon Consultants
6671 Brisa Street
Livermore, CA 94550

Fax: (925) 371-5915 Phone: (925) 371-5900
Project: **E8435-06-23, SFOBB, Oakland**

Customer ID: GECN21
Customer PO: E8435-06-23,
Received: 04/09/09 2:50 PM
EMSL Order: 090902608

EMSL Proj: E8435-06-**
Analysis Date: 4/9/2009
Report Date: 4/9/2009

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

Sample	Location	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
4B, Asphalt gravel roofing <i>090902608-0008</i>	SFOBB, Oakland	Brown/Black Fibrous Heterogeneous	70% Cellulose	30% Non-fibrous (other)	None Detected

Analyst(s)

Alan Tahrn (8)



Baojia Ke, Laboratory Manager
or other approved signatory

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected may require additional testing by TEM to confirm asbestos quantities. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted.
NVLAP Lab Code 101048-3

April 17, 2009



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
NEVADA.: CA-401
CSDLAC No.: 10196

Workorder No.: 105001

RE: SFOBB, E8435-06-23

Attention: Dave Watts

Enclosed are the results for sample(s) received on April 13, 2009 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,

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.



CLIENT: Geocon Consultants, Inc.
Project: SFOBB, E8435-06-23
Lab Order: 105001

CASE NARRATIVE

Analytical Comments for Method 6010

Dilution was necessary for sample 105001-004A, due to sample matrix.

RPD for Duplicate (DUP) is outside criteria for sample 105018-003ADUP; however, the Laboratory Control Sample (LCS) validated the analytical batch.



Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: 17-Apr-09

CLIENT: Geocon Consultants, Inc.
Project: SFOBB, E8435-06-23

Lab Order: 105001

Lab ID: 105001-001 **Collection Date:** 4/9/2009 11:22:00 AM
Client Sample ID: P1 **Matrix:** PAINT

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP METALS

EPA 3050B

EPA 6010B

RunID: ICP8_090415B QC Batch: 54700 PrepDate: 4/15/2009 Analyst: CL
 Lead 1500 2.0 mg/Kg 1 4/15/2009 02:37 PM

Lab ID: 105001-002 **Collection Date:** 4/9/2009 11:46:00 AM
Client Sample ID: P2 **Matrix:** PAINT

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP METALS

EPA 3050B

EPA 6010B

RunID: ICP8_090415B QC Batch: 54700 PrepDate: 4/15/2009 Analyst: CL
 Lead 300 2.0 mg/Kg 1 4/15/2009 02:42 PM

Lab ID: 105001-003 **Collection Date:** 4/9/2009 12:11:00 PM
Client Sample ID: P3 **Matrix:** PAINT

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP METALS

EPA 3050B

EPA 6010B

RunID: ICP8_090415B QC Batch: 54700 PrepDate: 4/15/2009 Analyst: CL
 Lead 180 4.8 mg/Kg 1 4/15/2009 02:46 PM

Lab ID: 105001-004 **Collection Date:** 4/9/2009 12:41:00 PM
Client Sample ID: P4 **Matrix:** PAINT

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

ICP METALS

EPA 3050B

EPA 6010B

RunID: ICP8_090415B QC Batch: 54700 PrepDate: 4/15/2009 Analyst: CL
 Lead 120000 200 mg/Kg 100 4/15/2009 02:23 PM

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
 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

Advanced Technology Laboratories

Date: 17-Apr-09

ANALYTICAL QC SUMMARY REPORT

CLIENT: Gecon Consultants, Inc.

Work Order: 105001

Project: SFOBB, E8435-06-23

TestCode: 6010_S

Sample ID: MB-54700	SampType: MBLK	TestCode: 6010_S	Units: mg/Kg	Prep Date: 4/15/2009	RunNo: 108109
Client ID: PBS	Batch ID: 54700	TestNo: EPA 6010B	EPA 3050B	Analysis Date: 4/15/2009	SeqNo: 1695778
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC
Lead	ND	1.0			

Sample ID: 105018-003ADUP	SampType: DUP	TestCode: 6010_S	Units: mg/Kg	Prep Date: 4/15/2009	RunNo: 108109
Client ID: ZZZZZZ	Batch ID: 54700	TestNo: EPA 6010B	EPA 3050B	Analysis Date: 4/15/2009	SeqNo: 1695783
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC
Lead	1.858	1.0		1.482	22.5

Sample ID: 105018-003AMS	SampType: MS	TestCode: 6010_S	Units: mg/Kg	Prep Date: 4/15/2009	RunNo: 108109
Client ID: ZZZZZZ	Batch ID: 54700	TestNo: EPA 6010B	EPA 3050B	Analysis Date: 4/15/2009	SeqNo: 1695784
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC
Lead	83.231	1.0	125.0	1.482	65.4

Sample ID: 105018-003AMSD	SampType: MSD	TestCode: 6010_S	Units: mg/Kg	Prep Date: 4/15/2009	RunNo: 108109
Client ID: ZZZZZZ	Batch ID: 54700	TestNo: EPA 6010B	EPA 3050B	Analysis Date: 4/15/2009	SeqNo: 1695800
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC
Lead	83.390	1.0	125.0	1.482	65.5

Sample ID: LCS-54700	SampType: LCS	TestCode: 6010_S	Units: mg/Kg	Prep Date: 4/15/2009	RunNo: 108109
Client ID: LCSS	Batch ID: 54700	TestNo: EPA 6010B	EPA 3050B	Analysis Date: 4/15/2009	SeqNo: 1695846
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC
Lead	48.950	1.0	50.00	0	97.9

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
 H Holding times for preparation or analysis exceeded
 S Spike/Surrogate outside of limits due to matrix interference
 Calculations are based on raw values

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: *[Signature]*

Date: 4/13/09

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

Client: **Grecon** Address: **6671 BRUSA ST** State: **CA** Zip Code: **94550** TEL: (925) 371-5900 FAX: (") " -5915
 Attn: **D. WATTS** City: **LIVERMORE** State: **CA** Zip Code: **94550** (Signature) *[Signature]*
 Project Name: **SFOBB WILDS** Project #: **E8435-06-23** Sampler: **D. WATTS** Date: **4/9/09** Time: **1430** Time: **4:30**
 Relinquished by: (Signature and Printed Name) *[Signature]* Received by: (Signature and Printed Name) *[Signature]* Date: **4/9/09** Time: **1300**
 Relinquished by: (Signature and Printed Name) *[Signature]* Received by: (Signature and Printed Name) *[Signature]* Date: **4/9/09** Time: **1300**
 Relinquished by: (Signature and Printed Name) *[Signature]* Received by: (Signature and Printed Name) *[Signature]* Date: **4/9/09** Time: **1300**

Special Instructions/Comments:
PAINT CHIPS - Pb
(anticipate SOLUBLE REQUIRES!)

Send Report To:
 Attn: **SEE "CLIENT"**
 Co: *[Signature]*
 Address: _____
 City: _____ State: _____ Zip: _____

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

LAB USE ONLY:
 Batch #: **105201 - 001**
 Lab No. **1**
105201 - 001
1
2
3
4

Sample Description
 Sample I.D. / Location
R1
R2
R3
R4

Date Time
4/9/09 1122
1146
1211
1241

Circle or Add Analysis(es) Requested	801A (Pesticides)	802 (PCB)	8270C (NMA)	801B (Total Mer)	8015B (GRO) / 8020 (BTEX)	8015B (PRO)	8021 (BTEX)	TTLE 22 / CAM 17 (6010 / 7000)
WATER								
GROUND WATER								
WASTEWATER								
SOIL								
SPECIFY APPROPRIATE MATRIX								
Container(s)								
Type								
TAT								
PRESERVATION								
RTNE <input type="checkbox"/>								
CT <input checked="" type="checkbox"/>								
SWRCB Logcode <input type="checkbox"/>								
OTHER								
REMARKS								

Preservatives:
 H=Hcl N=HNO₃ S=H₂SO₄ C=4°C
 Z=Zn(AC)₂ O=NaOH T=Na₂S₂O₈

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass D=3 Workdays E=7 Workdays
 TAT: A= Overnight ≤ 24 hr B= Next workday
 • TAT starts 8 a.m. following day if samples received after 3 p.m.

April 24, 2009



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
NEVADA.: CA-401
CSDLAC No.: 10196

Workorder No.: 105001

RE: SFOBB, E8435-06-23

Attention: Dave Watts

Enclosed are the results for sample(s) received on April 13, 2009 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.

This is an addendum report. Please incorporate with documentation previously submitted.

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,


Eddie F. Rodriguez
Laboratory Director

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



CLIENT: Geocon Consultants, Inc.
Project: SFOBB, E8435-06-23
Lab Order: 105001

CASE NARRATIVE

Analytical Comments for Method 7420

Dilution was necessary for samples 105001-002A and 105001-004A, due to sample matrix.

RPD for Duplicate (DUP) is outside criteria for sample 104528-004ADUP; however, the Laboratory Control Sample (LCS) validated the analytical batch.



Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: 24-Apr-09

CLIENT: Geocon Consultants, Inc.
Project: SFOBB, E8435-06-23

Lab Order: 105001

Lab ID: 105001-001

Collection Date: 4/9/2009 11:22:00 AM

Client Sample ID: P1

Matrix: PAINT

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

LEAD BY ATOMIC ABSORPTION (TCLP)

EPA3010A

EPA 1311/ 7420

RunID: AA2_090423A	QC Batch: 54937				PrepDate: 4/23/2009	Analyst: VV
Lead	ND	0.25		mg/L	1	4/23/2009 02:15 PM

Lab ID: 105001-002

Collection Date: 4/9/2009 11:46:00 AM

Client Sample ID: P2

Matrix: PAINT

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

LEAD BY ATOMIC ABSORPTION (STLC)

WET

WET/ EPA 7420

RunID: AA2_090423B	QC Batch: 54893				PrepDate: 4/21/2009	Analyst: VV
Lead	12	0.50		mg/L	2	4/23/2009 03:13 PM

Lab ID: 105001-003

Collection Date: 4/9/2009 12:11:00 PM

Client Sample ID: P3

Matrix: PAINT

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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LEAD BY ATOMIC ABSORPTION (STLC)

WET

WET/ EPA 7420

RunID: AA2_090423B	QC Batch: 54893				PrepDate: 4/21/2009	Analyst: VV
Lead	8.5	0.25		mg/L	1	4/23/2009 03:15 PM

Lab ID: 105001-004

Collection Date: 4/9/2009 12:41:00 PM

Client Sample ID: P4

Matrix: PAINT

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

LEAD BY ATOMIC ABSORPTION (TCLP)

EPA3010A

EPA 1311/ 7420

RunID: AA2_090423A	QC Batch: 54937				PrepDate: 4/23/2009	Analyst: VV
Lead	69	2.5		mg/L	10	4/23/2009 02:17 PM

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
	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

Advanced Technology Laboratories

Date: 24-Apr-09

ANALYTICAL QC SUMMARY REPORT

CLIENT: Gecon Consultants, Inc.

Work Order: 105001

Project: SFOBB, E8435-06-23

TestCode: 7420_ST

Sample ID: MB-54893	SampType: MBLK	TestCode: 7420_ST	Units: mg/L	Prep Date: 4/21/2009	RunNo: 108428
Client ID: PBS	Batch ID: 54893	TestNo: WET/EPA 74	WET	Analysis Date: 4/23/2009	SeqNo: 1701271
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC
	ND	0.25			
			LowLimit	HighLimit	RPD Ref Val
					%RPD
					RPDLimit
					Qual

Sample ID: LCS-54893	SampType: LCS	TestCode: 7420_ST	Units: mg/L	Prep Date: 4/21/2009	RunNo: 108428
Client ID: LCSS	Batch ID: 54893	TestNo: WET/EPA 74	WET	Analysis Date: 4/23/2009	SeqNo: 1701272
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC
	4.955	0.25	5.000	0	99.1
			LowLimit	HighLimit	RPD Ref Val
					%RPD
					RPDLimit
					Qual

Sample ID: 105001-002A-DUP	SampType: DUP	TestCode: 7420_ST	Units: mg/L	Prep Date: 4/21/2009	RunNo: 108428
Client ID: P2	Batch ID: 54893	TestNo: WET/EPA 74	WET	Analysis Date: 4/23/2009	SeqNo: 1701274
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC
	11.888	0.50			
			LowLimit	HighLimit	RPD Ref Val
					%RPD
					RPDLimit
					Qual

Sample ID: 105001-002A-MS	SampType: MS	TestCode: 7420_ST	Units: mg/L	Prep Date: 4/21/2009	RunNo: 108428
Client ID: P2	Batch ID: 54893	TestNo: WET/EPA 74	WET	Analysis Date: 4/23/2009	SeqNo: 1701275
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC
	16.887	0.50	5.000	12.17	94.4
			LowLimit	HighLimit	RPD Ref Val
					%RPD
					RPDLimit
					Qual

Sample ID: 105001-002A-MSD	SampType: MSD	TestCode: 7420_ST	Units: mg/L	Prep Date: 4/21/2009	RunNo: 108428
Client ID: P2	Batch ID: 54893	TestNo: WET/EPA 74	WET	Analysis Date: 4/23/2009	SeqNo: 1701276
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC
	16.207	0.50	5.000	12.17	80.8
			LowLimit	HighLimit	RPD Ref Val
					%RPD
					RPDLimit
					Qual

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
- I Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference



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

ANALYTICAL QC SUMMARY REPORT

CLIENT: Geocon Consultants, Inc.
Work Order: 105001
Project: SFOBB, E8435-06-23

TestCode: 7420_TC

Sample ID: MB-54937A	SampType: MBLK	TestCode: 7420_TC	Units: mg/L	Prep Date: 4/23/2009	RunNo: 108425
Client ID: PBS	Batch ID: 54937	TestNo: EPA 1311/74	EPA3010A	Analysis Date: 4/23/2009	SeqNo: 1701209
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC
	ND	0.25			
			LowLimit	HighLimit	RPD Ref Val
					%RPD
					RPDLimit
					Qual

Sample ID: MB-54948A	TCLP	SampType: MBLK	TestCode: 7420_TC	Units: mg/L	Prep Date: 4/23/2009	RunNo: 108425
Client ID: PBS	Batch ID: 54937	TestNo: EPA 1311/74	EPA3010A	Analysis Date: 4/23/2009	SeqNo: 1701210	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	
	ND	0.25				
			LowLimit	HighLimit	RPD Ref Val	
					%RPD	
					RPDLimit	
					Qual	

Sample ID: LCS-54937	LCS	SampType: LCS	TestCode: 7420_TC	Units: mg/L	Prep Date: 4/23/2009	RunNo: 108425
Client ID: LCSS	Batch ID: 54937	TestNo: EPA 1311/74	EPA3010A	Analysis Date: 4/23/2009	SeqNo: 1701211	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	
	1.178	0.25	1.000	0	118	120
			LowLimit	HighLimit	RPD Ref Val	
					%RPD	
					RPDLimit	
					Qual	

Sample ID: 104528-004A-DUP	DUP	SampType: DUP	TestCode: 7420_TC	Units: mg/L	Prep Date: 4/23/2009	RunNo: 108425
Client ID: ZZZZZZ	Batch ID: 54937	TestNo: EPA 1311/74	EPA3010A	Analysis Date: 4/23/2009	SeqNo: 1701213	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	
	0.321	0.25				
			LowLimit	HighLimit	RPD Ref Val	
					%RPD	
					RPDLimit	
					Qual	

Sample ID: 104528-004A-MS	MS	SampType: MS	TestCode: 7420_TC	Units: mg/L	Prep Date: 4/23/2009	RunNo: 108425
Client ID: ZZZZZZ	Batch ID: 54937	TestNo: EPA 1311/74	EPA3010A	Analysis Date: 4/23/2009	SeqNo: 1701214	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	
	3.229	0.25	2.500	0	129	130
			LowLimit	HighLimit	RPD Ref Val	
					%RPD	
					RPDLimit	
					Qual	

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

ANALYTICAL QC SUMMARY REPORT

CLIENT: Geocon Consultants, Inc.
Work Order: 105001
Project: SFOBB, E8435-06-23

TestCode: 7420_TC

Sample ID: MB-54937B	SampType: MBLK	TestCode: 7420_TC	Units: mg/L	Prep Date: 4/23/2009	RunNo: 108425
Client ID: PBS	Batch ID: 54937	TestNo: EPA 1311/74 EPA3010A		Analysis Date: 4/23/2009	SeqNo: 1701224
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC
Lead	ND	0.25			

Sample ID: MB-54948B TCLP	SampType: MBLK	TestCode: 7420_TC	Units: mg/L	Prep Date: 4/23/2009	RunNo: 108425
Client ID: PBS	Batch ID: 54937	TestNo: EPA 1311/74 EPA3010A		Analysis Date: 4/23/2009	SeqNo: 1701225
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC
Lead	ND	0.25			

Sample ID: 105058-127A-DUP	SampType: DUP	TestCode: 7420_TC	Units: mg/L	Prep Date: 4/23/2009	RunNo: 108425
Client ID: ZZZZZZ	Batch ID: 54937	TestNo: EPA 1311/74 EPA3010A		Analysis Date: 4/23/2009	SeqNo: 1701232
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC
Lead	0.340	0.25		0.3138	7.90

Sample ID: 105058-127A-MS	SampType: MS	TestCode: 7420_TC	Units: mg/L	Prep Date: 4/23/2009	RunNo: 108425
Client ID: ZZZZZZ	Batch ID: 54937	TestNo: EPA 1311/74 EPA3010A		Analysis Date: 4/23/2009	SeqNo: 1701233
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC
Lead	2.743	0.25	2.500	0.3138	97.2

Sample ID: 105058-127A-MSD	SampType: MSD	TestCode: 7420_TC	Units: mg/L	Prep Date: 4/23/2009	RunNo: 108425
Client ID: ZZZZZZ	Batch ID: 54937	TestNo: EPA 1311/74 EPA3010A		Analysis Date: 4/23/2009	SeqNo: 1701234
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC
Lead	2.670	0.25	2.500	0.3138	94.2

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
 I Holding times for preparation or analysis exceeded
 S Spike/Surrogate outside of limits due to matrix interference

Diane Galvan

From: David Watts [watts@geoconinc.com]
Sent: Monday, April 20, 2009 5:01 PM
To: Diane Galvan
Subject: RE: Results/EDD - SFOBB (105001)

Please run WETs and TCLPs...same TAT as CofC. Thanks.



April 30, 2009



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
NEVADA.: CA-401
CSDLAC No.: 10196

Workorder No.: 105001

RE: SFOBB, E8435-06-23

Attention: Dave Watts

Enclosed are the results for sample(s) received on April 13, 2009 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,


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.



LEAD BY ATOMIC ABSORPTION (TCLP)
EPA 1311/ 7420

ANALYTICAL RESULTS

CLIENT:	Geocon Consultants, Inc.	Lab Order:	105001
Project:	SFOBB, E8435-06-23	Date Received	4/13/2009 12:00:00 PM
Project No:		Matrix:	Paint
Analyte:	Lead	Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
105001-002A	P2	1.9	mg/L	55028	0.25	1	4/9/2009	4/28/2009
105001-003A	P3	0.57	mg/L	55028	0.25	1	4/9/2009	4/28/2009

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
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		



ANALYTICAL QC SUMMARY REPORT

CLIENT: Geokon Consultants, Inc.
Work Order: 105001
Project: SFOBB, E8435-06-23

TestCode: 7420_TC

Sample ID: MB-55028A	SampType: MBLK	TestCode: 7420_TC	Units: mg/L	Prep Date: 4/28/2009	RunNo: 108555
Client ID: PBS	Batch ID: 55028	TestNo: EPA 1311/74	EPA3010A	Analysis Date: 4/28/2009	SeqNo: 1703567
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC
	ND	0.25			
			LowLimit	HighLimit	RPD Ref Val
					%RPD
					RPDLimit
					Qual

Sample ID: MB-55007A	TCLP	TestCode: 7420_TC	Units: mg/L	Prep Date: 4/28/2009	RunNo: 108555
Client ID: PBS	Batch ID: 55028	TestNo: EPA 1311/74	EPA3010A	Analysis Date: 4/28/2009	SeqNo: 1703568
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC
	ND	0.25			
			LowLimit	HighLimit	RPD Ref Val
					%RPD
					RPDLimit
					Qual

Sample ID: LCS-55028	LCS	TestCode: 7420_TC	Units: mg/L	Prep Date: 4/28/2009	RunNo: 108555
Client ID: LCSS	Batch ID: 55028	TestNo: EPA 1311/74	EPA3010A	Analysis Date: 4/28/2009	SeqNo: 1703569
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC
	1.079	0.25	1.000	0	108
			LowLimit	HighLimit	RPD Ref Val
					%RPD
					RPDLimit
					Qual

Sample ID: 105017-434A-DUP	DUP	TestCode: 7420_TC	Units: mg/L	Prep Date: 4/28/2009	RunNo: 108555
Client ID: ZZZZZZ	Batch ID: 55028	TestNo: EPA 1311/74	EPA3010A	Analysis Date: 4/28/2009	SeqNo: 1703579
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC
	0.420	0.25	2.500	0.4245	105
			LowLimit	HighLimit	RPD Ref Val
					%RPD
					RPDLimit
					Qual

Sample ID: 105017-434A-MS	MS	TestCode: 7420_TC	Units: mg/L	Prep Date: 4/28/2009	RunNo: 108555
Client ID: ZZZZZZ	Batch ID: 55028	TestNo: EPA 1311/74	EPA3010A	Analysis Date: 4/28/2009	SeqNo: 1703580
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC
	3.051	0.25	2.500	0.4245	105
			LowLimit	HighLimit	RPD Ref Val
					%RPD
					RPDLimit
					Qual

Lead					
					20

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

ANALYTICAL QC SUMMARY REPORT

CLIENT: Geocon Consultants, Inc.
Work Order: 105001
Project: SFOBB, E8435-06-23

TestCode: 7420_TC

Sample ID: MB-55028B	SampType: MBLK	TestCode: 7420_TC	Units: mg/L	Prep Date: 4/28/2009	RunNo: 108555
Client ID: PBS	Batch ID: 55028	TestNo: EPA 1311/74 EPA3010A		Analysis Date: 4/28/2009	SeqNo: 1703581
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC
	ND	0.25			

Sample ID: MB-55007B TCLP	SampType: MBLK	TestCode: 7420_TC	Units: mg/L	Prep Date: 4/28/2009	RunNo: 108555
Client ID: PBS	Batch ID: 55028	TestNo: EPA 1311/74 EPA3010A		Analysis Date: 4/28/2009	SeqNo: 1703582
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC
	ND	0.25			

Sample ID: 105193-001A-DUP	SampType: DUP	TestCode: 7420_TC	Units: mg/L	Prep Date: 4/28/2009	RunNo: 108555
Client ID: ZZZZZZ	Batch ID: 55028	TestNo: EPA 1311/74 EPA3010A		Analysis Date: 4/28/2009	SeqNo: 1703588
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC
	7.636	0.25			

Sample ID: 105193-001A-MS	SampType: MS	TestCode: 7420_TC	Units: mg/L	Prep Date: 4/28/2009	RunNo: 108555
Client ID: ZZZZZZ	Batch ID: 55028	TestNo: EPA 1311/74 EPA3010A		Analysis Date: 4/28/2009	SeqNo: 1703589
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC
	6.918	0.50	2.500	7.599	-27.2
Lead				70	130

Sample ID: 105193-001A-MSD	SampType: MSD	TestCode: 7420_TC	Units: mg/L	Prep Date: 4/28/2009	RunNo: 108555
Client ID: ZZZZZZ	Batch ID: 55028	TestNo: EPA 1311/74 EPA3010A		Analysis Date: 4/28/2009	SeqNo: 1703590
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC
	6.734	0.50	2.500	7.599	-34.6
Lead				70	130

Sample ID: MB-55028B	SampType: MBLK	TestCode: 7420_TC	Units: mg/L	Prep Date: 4/28/2009	RunNo: 108555
Client ID: PBS	Batch ID: 55028	TestNo: EPA 1311/74 EPA3010A		Analysis Date: 4/28/2009	SeqNo: 1703581
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC
	7.636	0.25			

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

Diane Galvan

From: David Watts [watts@geoconinc.com]
Sent: Friday, April 24, 2009 4:28 PM
To: Diane Galvan
Subject: RE: Additional Results/EDD - SFOBB (105001)

Thanks. Do you have enough material left to run for TCLPs on the last two? If so, please do so (same TAT as CofC).

