

ASBESTOS AND LEAD-CONTAINING PAINT SURVEY

DOYLE DRIVE ACM AND LCM PROJECT SAN FRANCISCO, CALIFORNIA

PREPARED FOR:

CALIFORNIA DEPARTMENT OF TRANSPORTATION
DISTRICT 4
OFFICE OF ENVIRONMENTAL ENGINEERING
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GEOCON PROJECT NO. E8435-06-24
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EA 04-163771



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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.

GEOCON CONSULTANTS, INC



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EXECUTIVE SUMMARY

This asbestos and lead-containing paint (LCP) survey report for the Doyle Drive Project was prepared by Geocon Consultants, Inc., under California Department of Transportation (Caltrans) Contract No. 04A2912 and Task Order 28 (TO-28), under the following four EAs: 1) EA 04-163741, 2) EA 04-163751, 3) EA 04-163761, and 4) EA 04-163771. This work was conducted at Highway 101 (Doyle Drive) from Post Mile (PM) 8.0 to PM 9.8, associated exit and entrance connectors, and Highway 1 from PM 6.8 to PM 7.1 in San Francisco, California. We performed an asbestos and LCP survey on the following Doyle Drive and Highway 1 roadway segments and bridges:

- Marina Viaduct - Bridge No. 34-0014;
- Presidio Viaduct - Bridge No. 34-0019;
- Lincoln Boulevard Undercrossing (UC) - Bridge No. 34-0062;
- N101-S1 Connector UC - Bridge No. 34-0020;
- N1-N101 Connector Pedestrian Undercrossing (PUC) - Bridge No. 34-0023G;
- N101-S1 Connector PUC - Bridge No. 34-0025G;
- N1-S101 Connector Overcrossing (OC) - Bridge No. 34-0040G;
- Ruckman Avenue UC - Bridge No. 34-0018; and
- Richardson Avenue connectors to the northbound and southbound Marina Viaduct.

The project location is depicted on the Vicinity Map, Figure 1, and Site Plans, Figures 2a through 2f. 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 7, 9, and 15, 2009. The following field activities were performed during asbestos and LCP sampling efforts:

- Collected 50 bulk suspect asbestos samples at the project location;
- Collected 14 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 Plans (Figures 2a through 2f). Suspect asbestos and LCP sample identification numbers are presented in Tables 1 and 2, respectively. Materials represented by the samples collected are presented in the Site Photographs.

Bulk suspect asbestos samples were collected after first wetting friable material with a light mist of water. The samples were then cut from the substrate and transferred to labeled containers and sealed.

Twenty-four suspect materials were identified during the survey (see Table 1). When multiple samples of a material were collected, the 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 24-hour turn-around-time.

Bulk paint samples were collected using techniques presented in U.S. Department of Housing and Urban Development (HUD) guidelines. Fourteen 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 24-hour turn-around-time.

The laboratory analyses for asbestos indicated the following:

- Chrysotile asbestos at a concentration of 2% was detected in samples representing nonfriable black abutment joint material (surface coat) on the Marina Viaduct (Bridge No. 34-0014) in the northbound direction. We were unable to quantify the material due to safety constraints (i.e., traffic).
- Chrysotile asbestos at a concentration of less than (<) 0.1% was detected in a sample representing approximately 1,000 square feet of nonfriable silver paint applied to the pedestrian stairway at the Richardson Avenue merge with the Marina Viaduct (Bridge No. 34-0014). The material was analyzed using PLM point count analysis (1,000 points).
- Chrysotile asbestos at a concentration of 2% was detected in samples representing nonfriable black deck joint material at the Richardson Avenue merge with the Marina Viaduct (Bridge No. 34-0014). We were unable to quantify the material due to safety constraints (i.e., traffic).

- Chrysotile asbestos at a concentration of 3% was detected in samples representing nonfriable black bent joint fill material at the Marina Viaduct (Bridge No. 34-0014) southbound exit to Richardson Avenue. We were unable to quantify the material due to safety constraints (i.e., traffic).

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

The laboratory analyses for lead paint indicated the following:

- A bulk sample representing intact red paint used on the Marina Viaduct (Bridge No. 34-0014) bent footings at Halleck Street exhibited a total lead concentration of 19,000 milligrams per kilogram (mg/kg) and a soluble (TCLP) lead concentration of 100 milligrams per liter (mg/l).
- A bulk sample representing intact silver paint used on the pedestrian stairway at the Richardson Avenue merge with the northbound Marina Viaduct (Bridge No. 34-0014) exhibited a total lead concentration of 76 mg/kg and a soluble (WET) lead concentration of 7.2 mg/l.
- A bulk sample representing intact beige paint used on the Marina Viaduct (Bridge No. 34-0014) bents (seismic retrofit collars) exhibited a total lead concentration of 64 mg/kg and a soluble (WET) lead concentration of 0.86 mg/l.
- A bulk sample representing intact red paint used on the Presidio Viaduct (Bridge No. 34-0019) girder and truss systems exhibited a total lead concentration of 76 mg/kg and a soluble (WET) lead concentration of 5.2 mg/l.
- A bulk sample representing intact red paint used on the Presidio Viaduct (Bridge No. 34-0019) girder system exhibited a total lead concentration of 480 mg/kg, a soluble (WET) lead concentration of 3.4 mg/l, and a soluble (TCLP) lead concentration of 0.28 mg/l.
- A bulk sample representing intact white paint used on the Lincoln Boulevard UC (Bridge No. 34-0062) seismic retrofit collars exhibited a total lead concentration of <2.0 mg/kg.
- A bulk sample representing intact white graffiti abatement paint used on the Lincoln Boulevard UC (Bridge No. 34-0062) bent wall exhibited a total lead concentration of 23 mg/kg.
- A bulk sample representing deteriorated red paint used on the Marina Viaduct (Bridge No. 34-0014) light posts exhibited a total lead concentration of 32,000 mg/kg and a soluble (TCLP) lead concentration of 67 mg/l. We were unable to quantify the deteriorated paint due to safety constraints (i.e., traffic).
- A bulk sample representing intact white roadway striping used on the Marina Viaduct (Bridge No. 34-0014) exhibited a total lead concentration of 28 mg/kg.
- A bulk sample representing approximately 500 square feet of deteriorated green paint used on the pedestrian railing of the Lincoln Boulevard UC (Bridge No. 34-0062) exhibited a total lead concentration of 130,000 mg/kg and a soluble (TCLP) lead concentration of 9.5 mg/l.
- A bulk sample representing intact multi-layered graffiti abatement paint used in the N101-S1 Connector PUC (Bridge No. 34-0025G) exhibited a total lead concentration of 13 mg/kg.
- A bulk sample representing deteriorated red paint used on light posts on Doyle Drive exhibited a total lead concentration of 52,000 mg/kg and a soluble (TCLP) lead concentration of 54 mg/l. We were unable to quantify the deteriorated paint due to safety constraints (i.e., traffic).

- A bulk sample of deteriorated green paint used on the pedestrian sidewalk fence adjacent to westbound Doyle Drive approaching the Golden Gate Bridge toll plaza exhibited a total lead concentration of 220,000 mg/kg and a soluble (TCLP) lead concentration of 3.7 mg/l.
- A bulk sample representing intact white paint used on the Ruckman Avenue UC (Bridge No. 34-0018) bent exhibited a total lead concentration of 100 mg/kg and a soluble (WET) lead concentration of 1.9 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 joint material (a Category I nonfriable/nonhazardous material) or asbestos-containing paint identified during this survey be removed prior to demolition or be treated as hazardous waste. However, the disturbance of the materials 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 materials are 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) of the presence of asbestos in their work areas (i.e., provide the 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) 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 on the light posts, pedestrian railing, and fencing (a California and Federal [RCRA] 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 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.

ASBESTOS AND LEAD-CONTAINING PAINT SURVEY REPORT

1.0 INTRODUCTION

This asbestos and lead-containing paint (LCP) survey report for the Doyle Drive Project was prepared by Geocon Consultants, Inc., under California Department of Transportation (Caltrans) Contract No. 04A2912 and Task Order 28 (TO-28), under the following four EAs: 1) EA 04-163741, 2) EA 04-163751, 3) EA 04-163761, and 4) EA 04-163771. This work was conducted at Highway 101 (Doyle Drive) from Post Mile (PM) 8.0 to PM 9.8, associated exit and entrance connectors, and Highway 1 from PM 6.8 to PM 7.1 in San Francisco, California. This report documents the investigation sampling methods and laboratory analytical data.

1.1 Site Description and Proposed Improvements

We performed an asbestos and LCP survey on the following Doyle Drive and Highway 1 roadway segments and bridges:

- Marina Viaduct - Bridge No. 34-0014;
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The project location is depicted on the Vicinity Map, Figure 1, and Site Plans, Figures 2a through 2f. 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

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 nonfriable asbestos-containing material not included in Category I that when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

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

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

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

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

- Prepared a Health and Safety Plan, dated April 2009, to provide guidelines on personal safety during the field activities.
- Prepared a Workplan, dated April 8, 2009, to summarize the scope of services to be performed by Geocon.
- Retained the services of EMSL, Inc. (EMSL), a Caltrans-approved laboratory accredited by the National Voluntary Laboratory Accreditation Program (NVLAP), to perform the asbestos analyses.
- Retained the services of Advance Technology Laboratories, Inc. (ATL), a Caltrans-approved laboratory, to perform the lead paint analyses.

3.2 Field Activities

Mr. Chris Giuntoli, a California-certified Asbestos Consultant (CAC), Certification No. 02-3163 (expiration June 18, 2010), and Certified Lead Paint Inspector with the California Department of Public Health (DPH), Certification No. I-5502 (expiration June 14, 2010) performed the asbestos and LCP survey on April 7, 9, and 15, 2009. Fifty bulk samples of suspect ACM were collected. Fourteen bulk samples of suspect LCP were collected.

4.0 INVESTIGATIVE METHODS

4.1 Asbestos

Bulk suspect asbestos samples were collected after first wetting friable material with a light mist of water. The samples were then cut from the substrate and transferred to labeled containers and sealed. We observed 24 suspect materials during the survey (see Table 1). When multiple samples of a material were collected, the 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 24-hour 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. Fourteen 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 24-hour turn-around-time.

5.0 INVESTIGATIVE RESULTS

5.1 Asbestos

The laboratory analyses for asbestos indicated the following:

- Chrysotile asbestos at a concentration of 2% was detected in samples representing nonfriable black abutment joint material (surface coat) on the Marina Viaduct (Bridge No. 34-0014) in the northbound direction. We were unable to quantify the material due to safety constraints (i.e., traffic).
- Chrysotile asbestos at a concentration of less than (<) 0.1% was detected in a sample representing approximately 1,000 square feet of nonfriable silver paint applied to the pedestrian stairway at the Richardson Avenue merge with the Marina Viaduct (Bridge No. 34-0014). The material was analyzed using PLM point count analysis (1,000 points).
- Chrysotile asbestos at a concentration of 2% was detected in samples representing nonfriable black deck joint material at the Richardson Avenue merge with the Marina Viaduct (Bridge No. 34-0014). We were unable to quantify the material due to safety constraints (i.e., traffic).
- Chrysotile asbestos at a concentration of 3% was detected in samples representing nonfriable black bent joint fill material at the Marina Viaduct (Bridge No. 34-0014) southbound exit to Richardson Avenue. We were unable to quantify the material due to safety constraints (i.e., traffic).

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

5.2 Lead Paint

The laboratory analyses for lead paint indicated the following:

- A bulk sample representing intact red paint used on the Marina Viaduct (Bridge No. 34-0014) bent footings at Halleck Street exhibited a total lead concentration of 19,000 mg/kg and a soluble (TCLP) lead concentration of 100 mg/l.
- A bulk sample representing intact silver paint used on the pedestrian stairway at the Richardson Avenue merge with the northbound Marina Viaduct (Bridge No. 34-0014) exhibited a total lead concentration of 76 mg/kg and a soluble (WET) lead concentration of 7.2 mg/l.
- A bulk sample representing intact beige paint used on the Marina Viaduct (Bridge No. 34-0014) bents (seismic retrofit collars) exhibited a total lead concentration of 64 mg/kg and a soluble (WET) lead concentration of 0.86 mg/l.
- A bulk sample representing intact red paint used on the Presidio Viaduct (Bridge No. 34-0019) girder and truss systems exhibited a total lead concentration of 76 mg/kg and a soluble (WET) lead concentration of 5.2 mg/l.
- A bulk sample representing intact red paint used on the Presidio Viaduct (Bridge No. 34-0019) girder system exhibited a total lead concentration of 480 mg/kg, a soluble (WET) lead concentration of 3.4 mg/l, and a soluble (TCLP) lead concentration of 0.28 mg/l.
- A bulk sample representing intact white paint used on the Lincoln Boulevard UC (Bridge No. 34-0062) seismic retrofit collars exhibited a total lead concentration of <2.0 mg/kg.
- A bulk sample representing intact white graffiti abatement paint used on the Lincoln Boulevard UC (Bridge No. 34-0062) bent wall exhibited a total lead concentration of 23 mg/kg.
- A bulk sample representing deteriorated red paint used on the Marina Viaduct (Bridge No. 34-0014) light posts exhibited a total lead concentration of 32,000 mg/kg and a soluble (TCLP) lead concentration of 67 mg/l. We were unable to quantify the deteriorated paint due to safety constraints (i.e., traffic).
- A bulk sample representing intact white roadway striping used on the Marina Viaduct (Bridge No. 34-0014) exhibited a total lead concentration of 28 mg/kg.
- A bulk sample representing approximately 500 square feet of deteriorated green paint used on the pedestrian railing of the Lincoln Boulevard UC (Bridge No. 34-0062) exhibited a total lead concentration of 130,000 mg/kg and a soluble (TCLP) lead concentration of 9.5 mg/l.
- A bulk sample representing intact multi-layered graffiti abatement paint used in the N101-S1 Connector PUC (Bridge No. 34-0025G) exhibited a total lead concentration of 13 mg/kg.
- A bulk sample representing deteriorated red paint used on light posts on Doyle Drive exhibited a total lead concentration of 52,000 mg/kg and a soluble (TCLP) lead concentration of 54 mg/l. We were unable to quantify the deteriorated paint due to safety constraints (i.e., traffic).
- A bulk sample of deteriorated green paint used on the pedestrian sidewalk fence adjacent to westbound Doyle Drive approaching the Golden Gate Bridge toll plaza exhibited a total lead concentration of 220,000 mg/kg and a soluble (TCLP) lead concentration of 3.7 mg/l.
- A bulk sample representing intact white paint used on the Ruckman Avenue UC (Bridge No. 34-0018) bent exhibited a total lead concentration of 100 mg/kg and a soluble (WET) lead concentration of 1.9 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 joint material (a Category I nonfriable/nonhazardous material) or asbestos-containing paint identified during this survey be removed prior to demolition or be treated as hazardous waste. However, the disturbance of the materials 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 materials are 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) of the presence of asbestos in their work areas (i.e., provide the 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) 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 light posts, pedestrian railing, and fencing along Doyle Drive (California and Federal [RCRA] 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.

TABLE 1
SUMMARY OF ANALYTICAL LABORATORY TEST RESULTS - ASBESTOS
DOYLE DRIVE ACM AND LCM PROJECT
SAN FRANCISCO, CALIFORNIA

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

Sample Group ID¹	Description of Suspect Material	Location	Approximate Quantity	Friable	Site Photo	Asbestos Content
DD-1	Bent joint fill material (styrene)	Marina Viaduct (Bridge No. 34-0014) exit to Richardson Avenue	NA	NA	11	ND
DD-2	Brown fiber board	Marina Viaduct (Bridge No. 34-0014) exit to Richardson Avenue	NA	NA	12	ND
DD-3	Brown fiber board (seismic anchor covers)	Marina Viaduct (Bridge No. 34-0014) exit to Richardson Avenue	NA	NA	13	ND
DD-4	Bent joint fill material (styrene)	Marina Viaduct (Bridge No. 34-0014)	NA	NA	14	ND
DD-5	Elastomeric deck joint material	Marina Viaduct (Bridge No. 34-0014)	NA	NA	14	ND
DD-6	Black abutment joint fill material	Marina Viaduct (Bridge No. 34-0014)	Unable to safely quantify	No	15	2% - Surface coat ND - Felt
DD-7	Brown fiber board (seismic anchor covers)	Marina Viaduct (Bridge No. 34-0014)	NA	NA	13	ND
DD-8	Silver paint	Pedestrian stairway at Richardson Avenue merge with Marina Viaduct (Bridge No. 34-0014)	1,000 square feet	No	16	<0.1%*
DD-9	Elastomeric deck joint material	Marina Viaduct (Bridge No. 34-0014)	NA	NA	17	ND
DD-10	Elastomeric deck joint material	Marina Viaduct (Bridge No. 34-0014)	NA	NA	18	ND

TABLE 1
SUMMARY OF ANALYTICAL LABORATORY TEST RESULTS - ASBESTOS
DOYLE DRIVE ACM AND LCM PROJECT
SAN FRANCISCO, CALIFORNIA

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

Sample Group ID ¹	Description of Suspect Material	Location	Approximate Quantity	Friable	Site Photo	Asbestos Content
DD-11	Elastomeric deck joint material	Richardson Avenue merge with Marina Viaduct (Bridge No. 34-0014)	NA	NA	19	ND
DD-12	Black deck joint fill material	Richardson Avenue merge with Marina Viaduct (Bridge No. 34-0014)	Unable to safely quantify	No	20	2%
DD-13	Sidewalk joint fill material	Presidio Viaduct (Bridge No. 34-0019)	NA	NA	21	ND
DD-14	Retaining wall joint fill material	N101-S1 Connector Pedestrian Undercrossing (Bridge No. 34-0025G)	NA	NA	22	ND
DD-15	Retaining wall joint fill material	N1-N101 Connector Pedestrian Undercrossing (Bridge No. 34-0023G)	NA	NA	23	ND
DD-16	Retaining wall joint fill material	N101-S1 Connector Undercrossing (Bridge No. 34-0020)	NA	NA	24	ND
DD-17	Bent joint fill material (styrene)	Marina Viaduct (Bridge No. 34-0014)	NA	NA	25	ND
DD-18	Elastomeric bent joint material	Marina Viaduct (Bridge No. 34-0014)	NA	NA	26	ND
DD-19	Bent joint fill material (styrene)	Richardson Avenue	NA	NA	27	ND
DD-20	Brown fiber board	Richardson Avenue	NA	NA	27	ND

TABLE 1
SUMMARY OF ANALYTICAL LABORATORY TEST RESULTS - ASBESTOS
DOYLE DRIVE ACM AND LCM PROJECT
SAN FRANCISCO, CALIFORNIA

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

Sample Group ID¹	Description of Suspect Material	Location	Approximate Quantity	Friable	Site Photo	Asbestos Content
DD-21	Drain pipe packing (foam sheeting)	Richardson Avenue	NA	NA	28	ND
DD-22	Bent joint fill material (styrene)	Marina Viaduct exit to Richardson Avenue	NA	NA	29	ND
DD-23	Black bent joint fill material	Marina Viaduct exit to Richardson Avenue	Unable to safely quantify	No	30	3%
DD-24	Black joint fill material	Ruckman Aveune Undercrossing (Bridge No. 34-0018)	NA	NA	31	ND

Notes:

¹ Each sample group represents one or more samples of similar material. When multiple samples of a material were collected, the sampling locations were distributed throughout the homogeneous area (spaces where the material was observed).

NA = Not applicable

ND = No Asbestos fibers detected

* = Material analyzed using PLM Point Count (1,000 points)

Identified asbestos is of the chrysotile variety unless otherwise indicated

TABLE 2
SUMMARY OF ANALYTICAL LABORATORY TEST RESULTS - PAINT
DOYLE DRIVE ACM AND LCM PROJECT
SAN FRANCISCO, CALIFORNIA

Total and Soluble Lead

Sample No.	Paint Description	Approximate Quantity Peeling/Flaking	Site Photo	Total Lead (mg/kg)	WET Lead (mg/l)	TCLP Lead (mg/l)
DD-P1A	Red paint - Marina Viaduct (Bridge No. 34-0014) bent at Halleck Street	Intact	32	19,000	---	100
DD-P2A	Silver paint - Pedestrian stairway at Richardson Avenue merge with Marina Viaduct (Bridge No. 34-0014)	Intact	16	76	7.2	---
DD-P3A	Beige paint - Marina Viaduct (Bridge No. 34-0014) seismic retrofit collars on bents	Intact	33	64	0.86	---
DD-P4A	Red paint - Presidio Viaduct (Bridge No. 34-0019) girders and trusses	Intact	34	76	5.2	---
DD-P5A	Red paint - Presidio Viaduct (Bridge No. 34-0019) girders	Intact	35	480	3.4	0.28
DD-P6A	White paint - Lincoln Boulevard Undercrossing (Bridge No. 34-0062) seismic retrofit collars on bents	Intact	36	<2.0	---	---
DD-P7A	White graffiti abatement paint - Lincoln Boulevard Undercrossing (Bridge No. 34-0062) bent wall	Intact	37	23	---	---
DD-P8A	Red paint - Marina Viaduct (Bridge No. 34-0014) light post	Unable to safely quantify	38	32,000	---	67

TABLE 2
SUMMARY OF ANALYTICAL LABORATORY TEST RESULTS - PAINT
DOYLE DRIVE ACM AND LCM PROJECT
SAN FRANCISCO, CALIFORNIA

Total and Soluble Lead

Sample No.	Paint Description	Approximate Quantity Peeling/Flaking	Site Photo	Total Lead (mg/kg)	WET Lead (mg/l)	TCLP Lead (mg/l)
DD-P9A	White paint - Marina Viaduct (Bridge No. 34-0014) roadway striping	Intact	39	28	---	---
DD-P10A	Green paint - Lincoln Boulevard Undercrossing (Bridge No. 34-0062) sidewalk railing	500 square feet	40	130,000	---	9.5
DD-P11A	Multi-layer graffiti abatement paint - N101-S1 Connector Pedestrian Undercrossing (Bridge No. 34-0025G)	Intact	41	13	---	---
DD-P12A	Red paint - Doyle Drive light post	Unable to safely quantify	42	52,000	---	54
DD-P13A	Green paint - pedestrian sidewalk fence adjacent to westbound Doyle Drive (approaching the Golden Gate Bridge toll plaza)	Unable to safely quantify	43	220,000	---	3.7
DD-P14A	White paint - Ruckman Avenue Undercrossing (Bridge No. 34-0018)	Intact	44	100	1.9	---

Notes:

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

mg/l = milligrams per liter

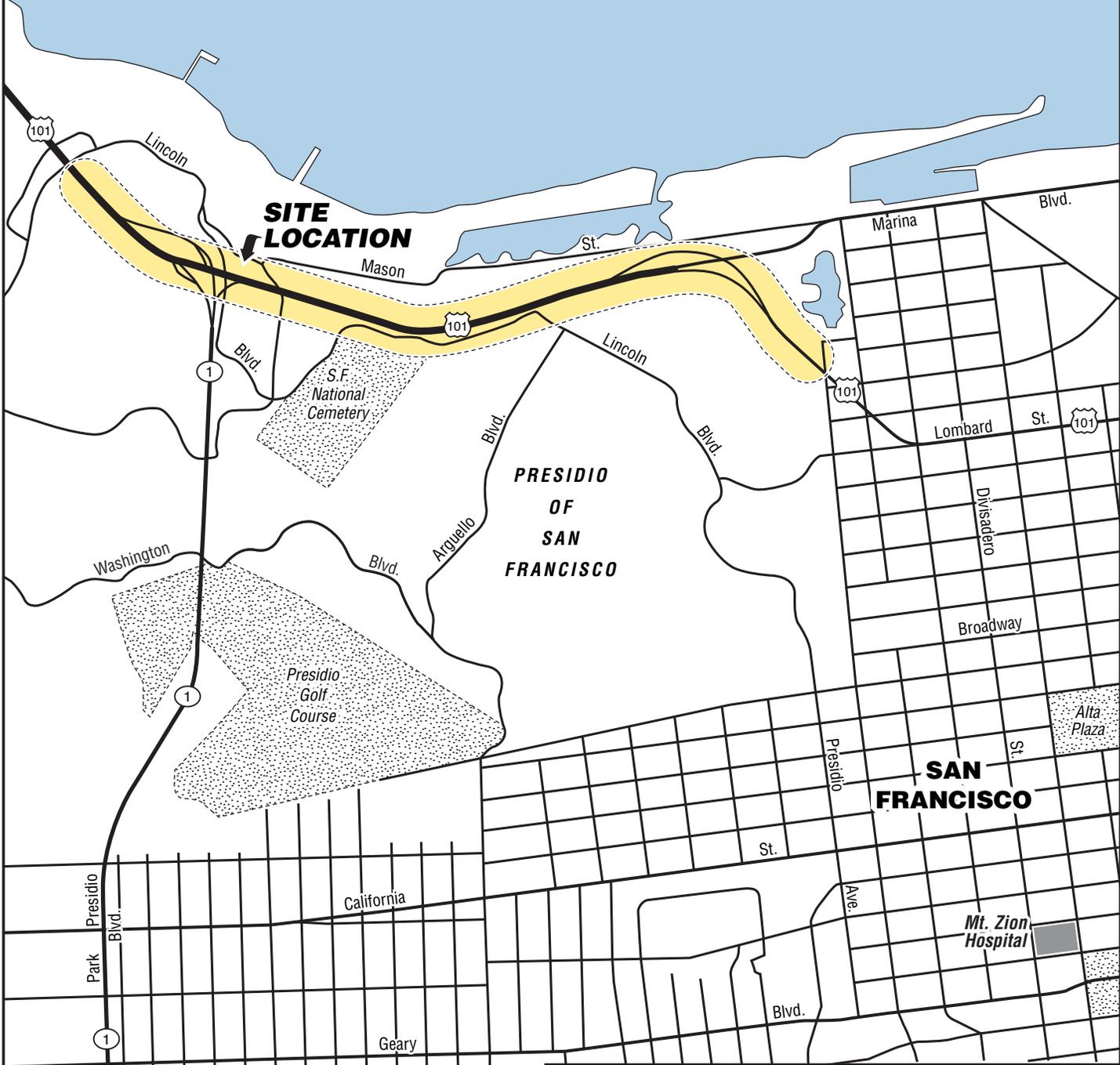
WET = Waste Extraction Test (EPA Test Method 7420)

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

--- = Not Analyzed



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California

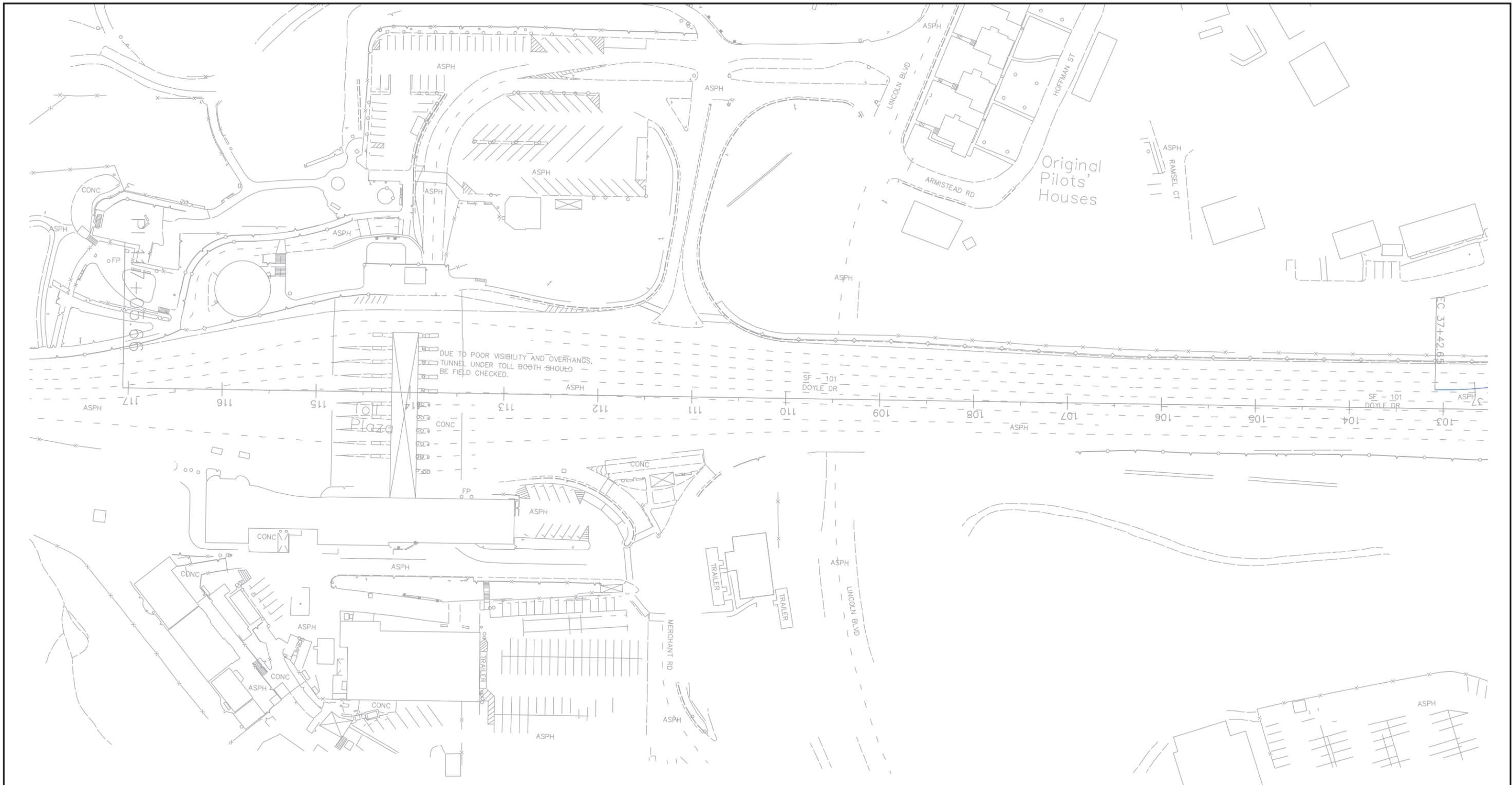
GEOCON Proj. No. E8435-06-24

Task Order No. 24

VICINITY MAP

August 2009

Figure 1

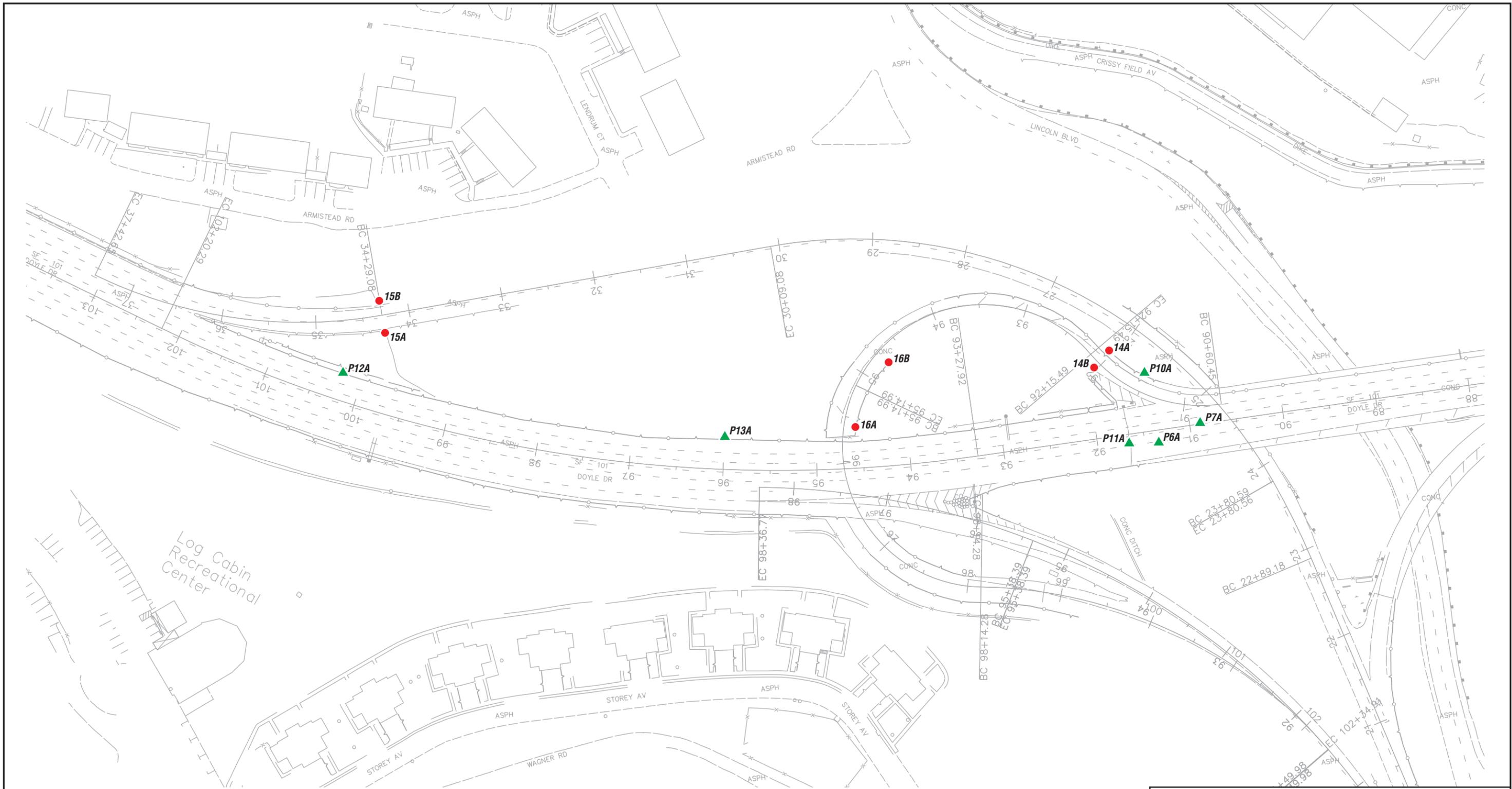


LEGEND:

- Approximate Asbestos Sample Location
- ▲ Approximate Paint Sample Location



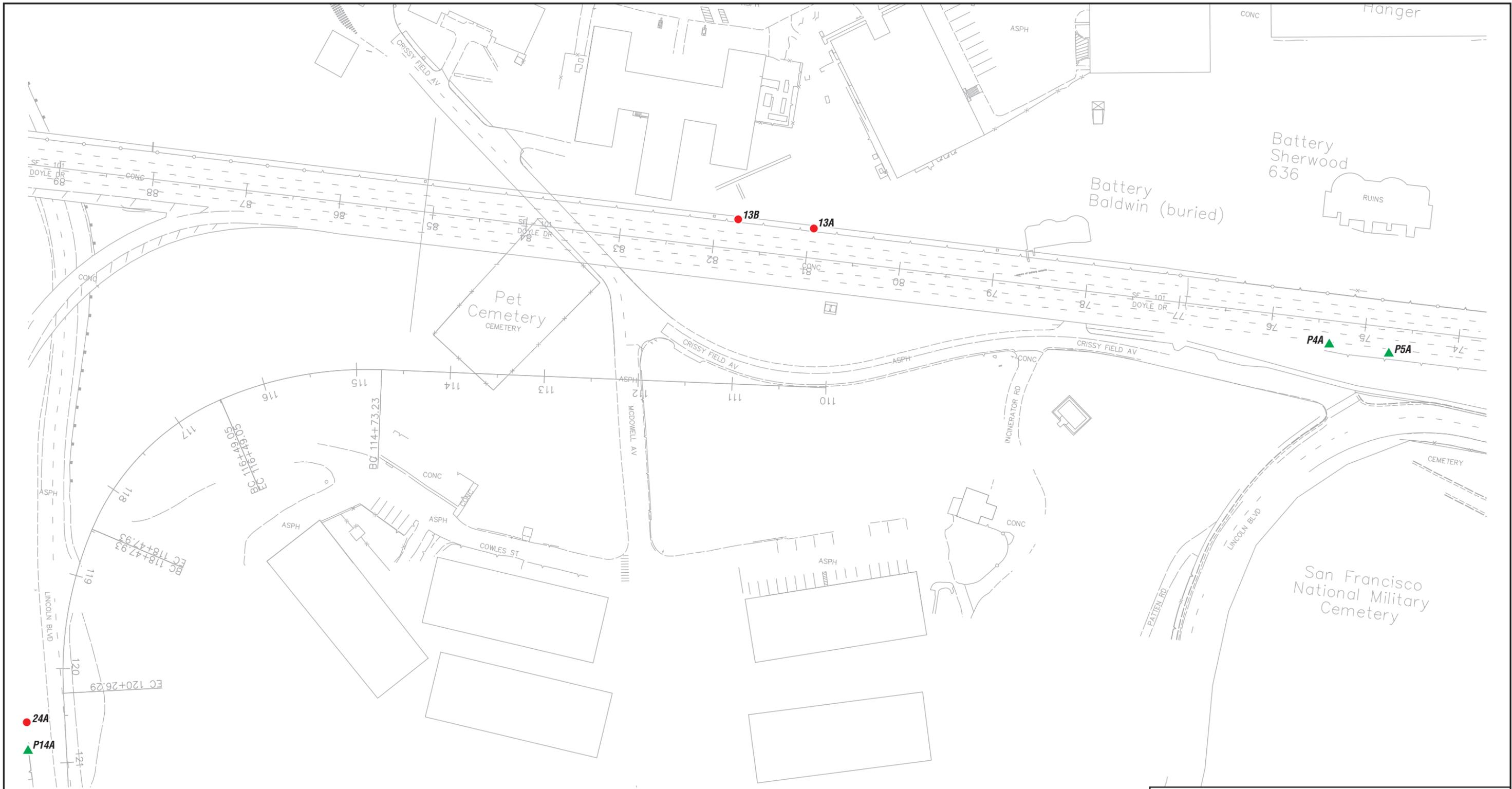
 GEOCON CONSULTANTS, INC. 6671 BRISA STREET - LIVERMORE, CA 94550 PHONE 925.371.5900 - FAX 925.371.5915		
Doyle Drive ACM and LCM Project		
San Francisco, California		SITE PLAN
GEOCON Proj. No. E8435-06-24		
Task Order No. 24	August 2009	Figure 2a



- LEGEND:
- Approximate Asbestos Sample Location
 - ▲ Approximate Paint Sample Location



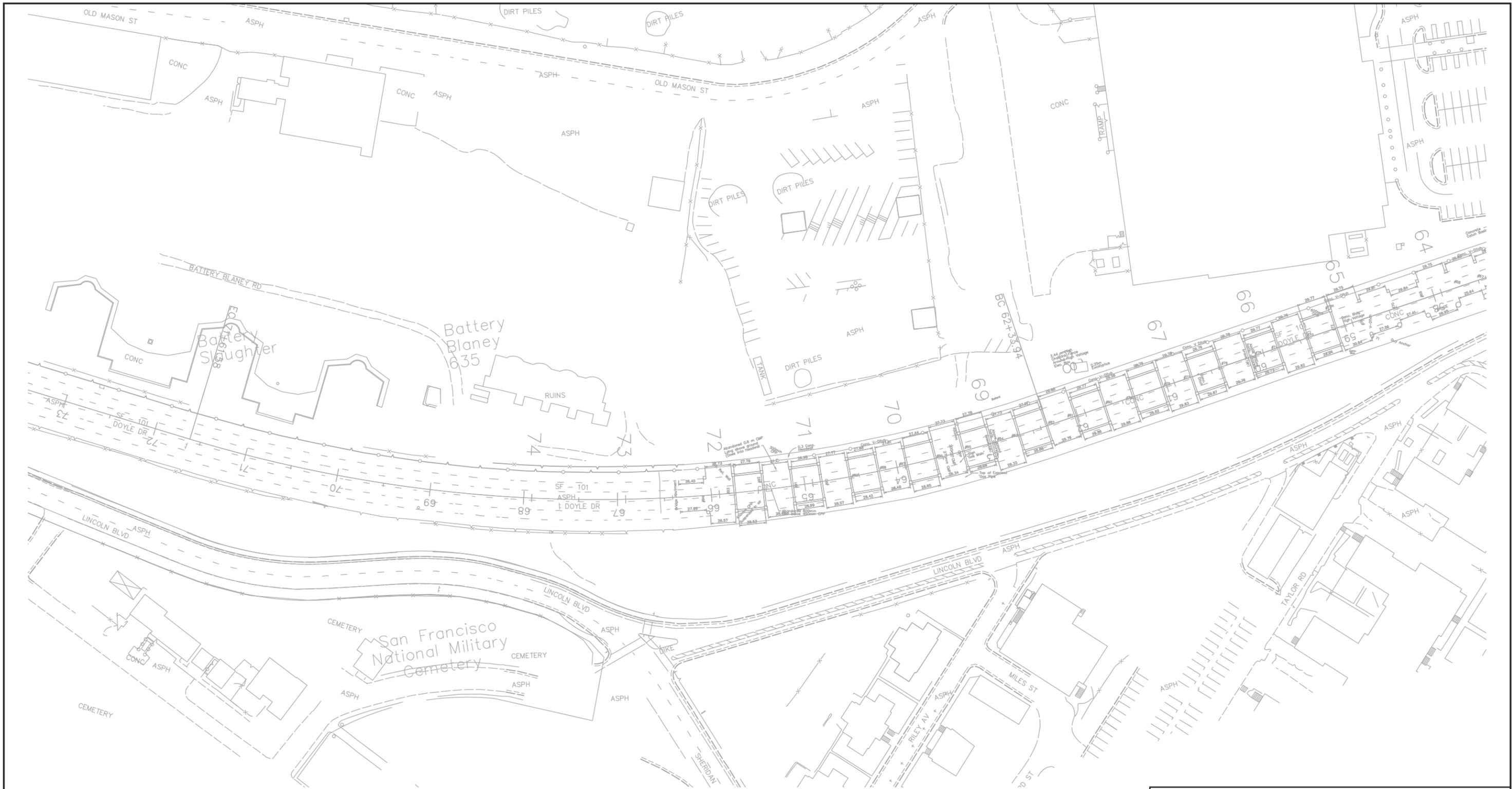
 GEOCON CONSULTANTS, INC. 6671 BRISA STREET - LIVERMORE, CA 94550 PHONE 925.371.5900 - FAX 925.371.5915		
Doyle Drive ACM and LCM Project		
San Francisco, California		SITE PLAN
GEOCON Proj. No. E8435-06-24		August 2009
Task Order No. 24		Figure 2b



- LEGEND:
- Approximate Asbestos Sample Location
 - ▲ Approximate Paint Sample Location



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Doyle Drive ACM and LCM Project		
San Francisco, California		SITE PLAN
GEOCON Proj. No. E8435-06-24		
Task Order No. 24	August 2009	Figure 2c



LEGEND:

- Approximate Asbestos Sample Location
- ▲ Approximate Paint Sample Location



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Doyle Drive ACM and LCM Project	
San Francisco, California	SITE PLAN
GEOCON Proj. No. E8435-06-24	August 2009
Task Order No. 24	Figure 2d



LEGEND:

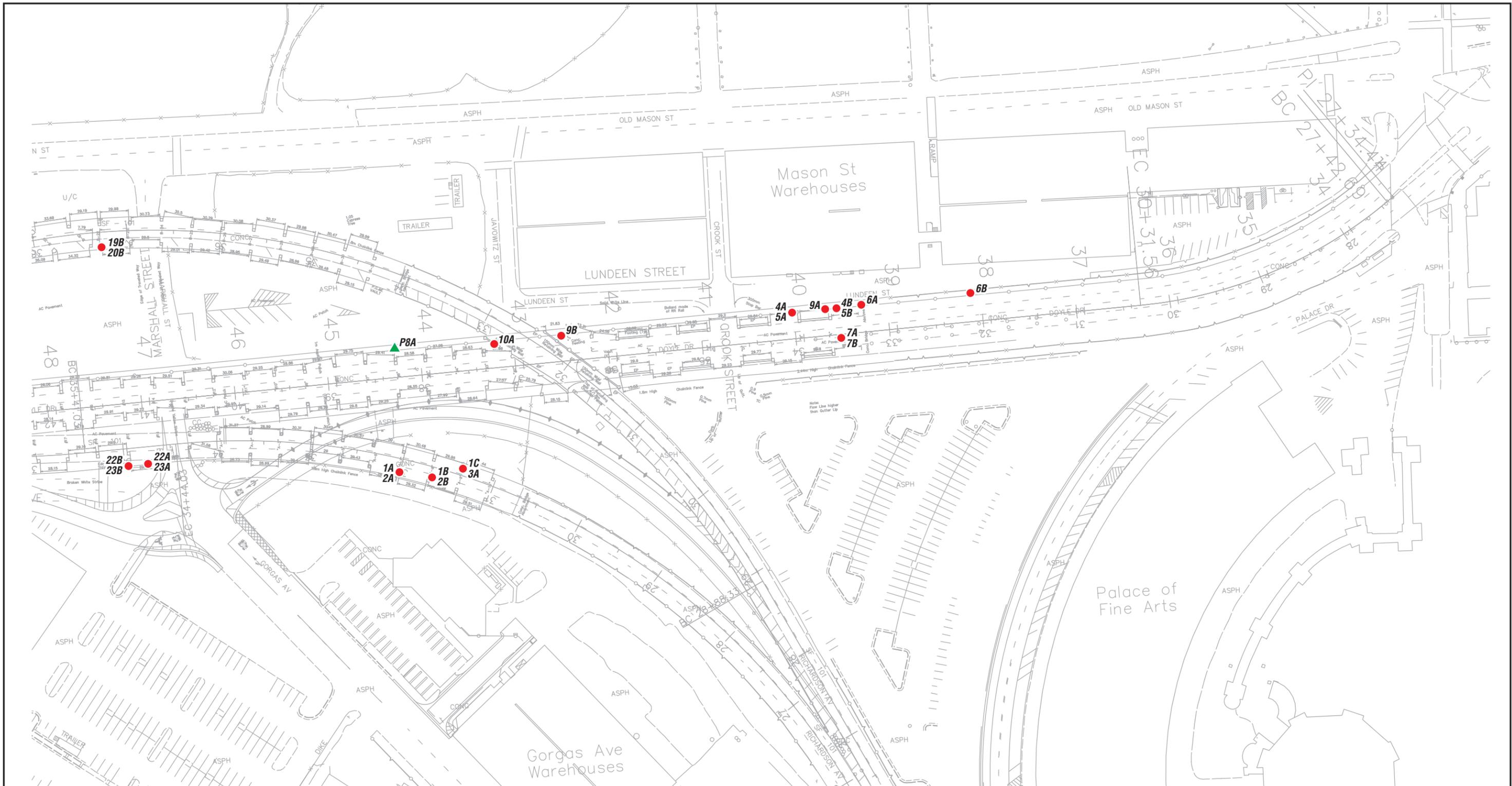
- Approximate Asbestos Sample Location
- ▲ Approximate Paint Sample Location



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Doyle Drive ACM and LCM Project

San Francisco, California		SITE PLAN
GEOCON Proj. No. E8435-06-24		
Task Order No. 24	August 2009	Figure 2e



- LEGEND:**
- Approximate Asbestos Sample Location
 - ▲ Approximate Paint Sample Location



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Doyle Drive ACM and LCM Project		
San Francisco, California		SITE PLAN
GEOCON Proj. No. E8435-06-24		August 2009
Task Order No. 24		Figure 2f



Photo 1 – Richardson Avenue at the eastern end of the project limits, looking west



Photo 2 – Marina Viaduct (Bridge No. 34-0014) near the eastern end of the project limits, looking east



Photo 3 – Marina Viaduct (Bridge No. 34-0014) near the eastern end of the project limits, looking west



Photo 4 – Richardson Avenue at the eastern portion of the project area, looking west



Photo 5 – Richardson Avenue and the Marina Viaduct merge at the eastern portion of the project area, looking west



Photo 6 – Marina Viaduct (Bridge No. 34-0014) at the central portion of the project area, looking west



Photo 7 – Marina Viaduct (Bridge No. 34-0014) at the central portion of the project area, looking west



Photo 8 – Presidio Viaduct (Bridge No. 34-0019) at the western portion of the project area, looking west



Photo 9 – Doyle Drive near the western project limits, looking east



Photo 10 – Doyle Drive at the western end of the project limits, looking north towards the toll plaza



Photo 11 – Bridge bent fill material (styrene) on the underside of the Marina Viaduct (Bridge No. 34-0014) deck at the central and eastern portions of the project area (representative of Sample Group 1 material)



Photo 12 – Bridge bent fill material (brown fiberboard) on the underside of the Marina Viaduct deck at the central and eastern portions of the project area (representative of Sample Group 2 material)



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PHOTOGRAPHS 10, 11, & 12

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San Francisco County, California

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Photo 13 – Brown fiberboard behind seismic retrofit cable covers on the underside of Marina Viaduct deck at the central and eastern portions of the project area (representative of Sample Group 3 and 7 materials)



Photo 14 – Bent joint material (styrene) and underlying black elastomeric material at the sides of Marina Viaduct at the central and eastern portions of the project area (representative of Sample Group 4 and 5 materials)



Photo 15 – Asbestos-containing black joint fill material on the Marina Viaduct abutment Drive near the eastern end of the project limits (representative of Sample Group 6 material)



Photo 16 – Asbestos-containing silver paint on the pedestrian stairway at the merge of Richardson Ave. and the Marina Viaduct (representative of Sample Group 8 material and paint sample 2A)



Photo 17 – Elastomeric deck joint material on the Marina Viaduct at the eastern portion of the project area (representative of Sample Group 9 material)



Photo 18 – Elastomeric deck joint material on Marina Viaduct at the eastern portion of the project area (representative of Sample Group 10 material)



Photo 19 – Elastomeric deck joint material on Richardson Avenue at the merge with the Marina Viaduct (representative of Sample Group 11 material)



Photo 20 – Asbestos-containing black (brittle) deck joint fill material at the Richardson Avenue merge with the Marina Viaduct (representative of Sample Group 12 material)



Photo 21 – Black sidewalk joint material on northbound Presidio Viaduct (Bridge No. 34-0019) (representative of Sample Group 13 material)



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PHOTOGRAPHS 19, 20, & 21

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Photo 22 – Retaining wall joint fill material on the N101-S1 Connector PUC (Bridge No. 34-0025G) [pedestrian tunnel] (representative of Sample Group 14 material)



Photo 23 – Retaining wall joint fill material on the N1-N101 Connector PUC (Bridge No. 34-0023) [pedestrian tunnel] (representative of Sample Group 15 material)



Photo 24 – Black abutment joint fill material on the N101-S1 Connector (Bridge No. 34-0020) (representative of Sample Group 16 material)



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PHOTOGRAPHS 22, 23, & 24

Doyle Drive ACM and LCM Project
San Francisco County, California

E8435-06-24

August 2009



Photo 25 – Bridge bent joint fill material (styrene) on underside of the Marina Viaduct deck at the eastern portion of the project area (representative of Sample Group 17 material)



Photo 26 – Elastomeric bent joint material on underside of southbound Marina Viaduct connector to Richardson Avenue at the eastern portion of the project area (representative of Sample Group 18 material)



Photo 27 – Bridge bent joint fill material (styrene and brown fiberboard) on Richardson Avenue connector to northbound Marina Viaduct (representative of Sample Group 19 and 20 materials)



Photo 28 – Drain pipe packing (foam sheeting) on Richardson Avenue connector to northbound Marina Viaduct (representative of Sample Group 21 material)



Photo 29 – Bridge bent joint fill material (styrene) on southbound Marina Viaduct connector to Richardson Avenue (representative of Sample Group 22 material)



Photo 30 – Asbestos-containing black deck joint material on southbound Marina Viaduct connector to Richardson Avenue (representative of Sample Group 23 material)



**Photo 31 – Black joint fill material on Ruckman Avenue UC (Bridge No. 34-0018)
(representative of Sample Group 24 material)**



Photo 32 – Intact red paint on bent footings at Halleck Street beneath the Marina Viaduct



Photo 33 – Intact beige paint on seismic retrofit collar on the Marina Viaduct bridge bents



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PHOTOGRAPHS 31, 32, & 33		
Doyle Drive ACM and LCM Project San Francisco County, California		
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Photo 34 – Intact red paint on the Presidio Viaduct (Bridge No. 34-0019) girders and trusses



Photo 35 – Intact red paint on the Presidio Viaduct (Bridge No. 34-0019) girders



Photo 36 – Intact white paint on seismic retrofit collar on the Lincoln Boulevard UC (Bridge No. 34-0062) bents



Photo 37 – Intact off-white graffiti abatement paint on the Lincoln Boulevard UC (Bridge No. 34-0062) bent wall



Photo 38 – Deteriorated red paint on the Marina Viaduct (Bridge No. 34-0014) light posts



Photo 39 – Intact white roadway striping paint on the Marina Viaduct (Bridge No. 34-0014)



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PHOTOGRAPHS 37, 38, & 39

Doyle Drive ACM and LCM Project
San Francisco County, California

E8435-06-24

August 2009



Photo 40 – Deteriorated green paint on pedestrian walkway railing at the Lincoln Boulevard UC (Bridge No. 34-0062)



Photo 41 – Intact multi-layered graffiti abatement paint on N101-S1 Connector PUC (Bridge No. 34-0025)



Photo 42 – Deteriorated red paint on Doyle Drive light posts (approach to Golden Gate Bridge toll plaza)



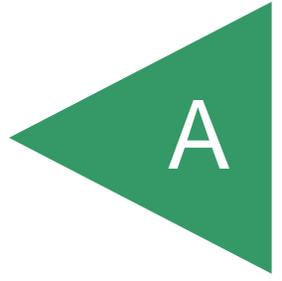
Photo 43 – Deteriorated green paint on pedestrian walkway fence adjacent to westbound Doyle Drive (approaching the Golden Gate Bridge toll plaza)



Photo 44 – Intact white paint on Ruckman Avenue UC (Bridge No. 34-0018) bents

APPENDIX

A





EMSL Analytical, Inc

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Customer ID: GECN21
Customer PO: E8435-06-24
Received: 04/09/09 2:50 PM
EMSL Order: 090902610

Fax: (925) 371-5915 Phone: (925) 371-5900
Project: **E8435-06-24**

EMSL Proj: E8435-06-**
Analysis Date: 4/9/2009
Report Date: 4/17/2009

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
DD-1A, Bent joint fill material <i>090902610-0001</i>		White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
DD-1B, Bent joint fill material <i>090902610-0002</i>		White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
DD-1B, Mortar <i>090902610-0002A</i>		Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
DD-1C, Bent joint fill material <i>090902610-0003</i>		White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
DD-1D, Bent joint fill material <i>090902610-0004</i>		White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
DD-2A, Brown fiber board <i>090902610-0005</i>		Brown Fibrous Homogeneous	80% Cellulose	20% Non-fibrous (other)	None Detected
DD-2B, Brown fiber board <i>090902610-0006</i>		Brown Fibrous Homogeneous	80% Cellulose	20% Non-fibrous (other)	None Detected

Analyst(s)

Adam C. Fink (23)
Nonette Patron (11)



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



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Analysis Date: 4/9/2009
Report Date: 4/17/2009

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
DD-3A, Brown fiber board <i>090902610-0007</i>		Brown Fibrous Homogeneous	80% Cellulose	20% Non-fibrous (other)	None Detected
DD-4A, Bent joint fill material <i>090902610-0008</i>		White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
DD-4B, Bent joint fill material <i>090902610-0009</i>		White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
DD-5A, Elastomeric deck joint material <i>090902610-0010</i>		Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
DD-5B, Elastomeric deck joint material <i>090902610-0011</i>		Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
DD-6A, Black abutment joint fill material <i>090902610-0012</i>		Black Non-Fibrous Homogeneous	20% Cellulose	80% Non-fibrous (other)	None Detected

Analyst(s)

Adam C. Fink (23)
Nonette Patron (11)



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



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Project: **E8435-06-24**

EMSL Proj: E8435-06-**
Analysis Date: 4/9/2009
Report Date: 4/17/2009

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
DD-6A-A, Black Surfacing <i>090902610-0012A</i>		Black Non-Fibrous Homogeneous	5% Cellulose	93% Non-fibrous (other)	2% Chrysotile
DD-6A-B, Felt <i>090902610-0012B</i>		Black Non-Fibrous Homogeneous	80% Cellulose	20% Non-fibrous (other)	None Detected
DD-6B-A, Black abutment joint fill material <i>090902610-0013</i>		Black Non-Fibrous Homogeneous	20% Cellulose	80% Non-fibrous (other)	None Detected
DD-6B-A, Black Surfacing <i>090902610-0013A</i>		Black Non-Fibrous Homogeneous	5% Cellulose	93% Non-fibrous (other)	2% Chrysotile
DD-7A, Brown fiberboard <i>090902610-0014</i>		Brown Fibrous Homogeneous	80% Cellulose	20% Non-fibrous (other)	None Detected
DD-7B, Brown fiberboard <i>090902610-0015</i>		Brown Fibrous Homogeneous	80% Cellulose	20% Non-fibrous (other)	None Detected
DD-8A, Silver paint <i>090902610-0016</i>		Silver Non-Fibrous Homogeneous		100% Non-fibrous (other)	<1% Chrysotile

Analyst(s)

Adam C. Fink (23)
Nonette Patron (11)


Baojia Ke, Laboratory Manager
or other approved signatory

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NVLAP Lab Code 101048-3



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Attn: **Chris Giuntoli**
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Customer ID: GECN21
Customer PO: E8435-06-24
Received: 04/09/09 2:50 PM
EMSL Order: 090902610

Fax: (925) 371-5915 Phone: (925) 371-5900

EMSL Proj: E8435-06-**
Analysis Date: 4/9/2009
Report Date: 4/17/2009

Project: **E8435-06-24**

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
DD-9A, Elastomeric deck joint material <i>090902610-0017</i>		Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
DD-9B, Elastomeric deck joint material <i>090902610-0018</i>		Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
DD-10A, Elastomeric deck joint material <i>090902610-0019</i>		Black Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
DD-11A, Elastomeric deck joint material <i>090902610-0020</i>		Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
DD-11B, Elastomeric deck joint material <i>090902610-0021</i>		Black Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
DD-12A, Black joint fill material <i>090902610-0022</i>		Non-Fibrous Heterogeneous	10% Cellulose	88% Non-fibrous (other)	2% Chrysotile

Analyst(s)

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Nonette Patron (11)


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Project: **E8435-06-24**

EMSL Proj: E8435-06-**
Analysis Date: 4/9/2009
Report Date: 4/17/2009

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
DD-12B, Black abutment joint fill material <i>090902610-0023</i>		Black Non-Fibrous Heterogeneous	10% Cellulose	88% Non-fibrous (other)	2% Chrysotile
DD-13A, Sidewalk joint fill material <i>090902610-0024</i>		Black Non-Fibrous Heterogeneous	10% Cellulose	90% Non-fibrous (other)	None Detected
DD-13B, Sidewalk joint fill material <i>090902610-0025</i>		Black Non-Fibrous Heterogeneous	10% Cellulose	90% Non-fibrous (other)	None Detected
DD-14A, Retaining wall joint fill material <i>090902610-0026</i>		Black Non-Fibrous Heterogeneous	20% Cellulose	80% Non-fibrous (other)	None Detected
DD-14B, Retaining wall joint fill material <i>090902610-0027</i>		Black Non-Fibrous Heterogeneous	20% Cellulose	80% Non-fibrous (other)	None Detected
DD-15A, Retaining wall joint fill material <i>090902610-0028</i>		Black Non-Fibrous Heterogeneous	20% Cellulose	80% Non-fibrous (other)	None Detected

Analyst(s)

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Report Date: 4/17/2009

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
DD-15B, Retaining wall joint fill material <i>090902610-0029</i>		Black Non-Fibrous Heterogeneous	20% Cellulose	80% Non-fibrous (other)	None Detected
DD-16A, Abutment joint fill material <i>090902610-0030</i>		Black Non-Fibrous Heterogeneous	5% Cellulose	95% Non-fibrous (other)	None Detected

Analyst(s)

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Nonette Patron (11)



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Project: **E8435-06-24**

EMSL Proj: E8435-06-**
Analysis Date: 4/16/2009
Report Date: 4/17/2009

Asbestos Analysis of Bulk Material via EPA 600/R-93/116. Quantitation using the 1,000 Point Count Procedure

Sample	Location	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
DD-8A, Silver paint <i>090902610-0016</i>		Silver Non-Fibrous Homogeneous		100.00% Non-fibrous (other)	<0.1% Chrysotile

Analyst(s) _____
Alan Tahrn (1)



Baojia Ke, Laboratory Manager
or other approved signatory

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(888) 455-3675 ♦ Phone (510) 895-3675 ♦ Fax (510) 895-3680 ♦ sanleandrolab@emsl.com

EMSL Rep: <u>DAN KOCHER</u>	Third Party Billing <i>*requires written authorization from third party</i>
Company: <u>GEOCON</u>	EMSL-Bill to: _____
Contact: <u>CHRIS GIUNTOLI</u>	Contact: _____
Address: <u>6671 BRISA ST</u>	Address: _____
City & State: <u>LIVERMORE, CA Zip 94530</u>	City & State: _____ Zip _____
Phone: <u>925-371-5900</u>	Fax: _____
<input checked="" type="checkbox"/> Email Results <u>GIUNTOLI@GEOCON.INC.COM</u>	<input type="checkbox"/> Fax results _____
Project Name or Number: <u>EB435-06-24</u>	Purchase Order Number: _____

TURNAROUND TIME

<input type="checkbox"/> 3 Hours	<input type="checkbox"/> 6 Hours	<input checked="" type="checkbox"/> 24 Hours	<input type="checkbox"/> 48 Hours	<input type="checkbox"/> 72 Hours	<input type="checkbox"/> 5 Days	<input type="checkbox"/> 10 Days
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SAMPLE MATRIX

<input type="checkbox"/> Air	<input checked="" type="checkbox"/> Bulk	<input type="checkbox"/> Soil	<input type="checkbox"/> Wipe	<input type="checkbox"/> Micro-Vac	<input type="checkbox"/> Drinking Water	<input type="checkbox"/> Wastewater	<input type="checkbox"/> Chips	<input type="checkbox"/> Other
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ASBESTOS ANALYSIS

PCM - Air

- NIOSH 7400 (A) Issue 2: August 1994
- OSHA w/ Time Weighted Average

TEM AIR

- AHERA 40 CFR, Part 763 Subpart E
- NIOSH 7402 Issue 2
- EPA Level II

PLM - Bulk

- EPA 600/R-93/116
- + Add Gravimetric Reduction (EPA NOB)
- PLM CARB 435 Level: A (0.25%) B (0.1%)
- NIOSH 9002
- EPA Point Count (400 Points)
- + Add Gravimetric Reduction (EPA NOB)
- EPA Point Count (1,000 Points)
- + Add Gravimetric Reduction (EPA NOB)
- Standard Addition Point Count

SOILS

- PLM CARB 435 Level: A (0.25%) B (0.1%)
- TEM CARB 435 Level: B (0.1%) C (0.01%)
- D (0.001%) E (0.0005%) F (0.0001%)
- EMSL MSD 9000 Method fibers/gram
- Superfund EPA 540-R097-028 (dust generation)
- EPA Protocol Qualitative Quantitative

TEM BULK

- TEM EPA NOB, EPA 600/R-93/116 Section 2.5.5.1 (TEM % by VAE)
- Chatfield SOP-1988-02
- TEM EPA 600/R-93/116 Section 2.5.5.2 (TEM % by Mass)

TEM MICROVAC

- ASTM D 5755 (Quantitative)

TEM WIPE

- ASTM D-6480 (Quantitative)

TEM WATER

- EPA 100.2 (≥ 10 microns)
- Modified EPA 100.2 (≥ 0.5 microns)

OTHER: _____

LEAD ANALYSIS

Flame Atomic Absorption

- Wipe, SW846-7420 ASTM non ASTM
- Soil, SW846-7420
- Air, NIOSH 7082
- Chips, SW846-7420 or AOAC 5.009 (974.02)
- Wastewater, SW 846-7420

- TCLP LEAD SW846-1311/7420

Graphite Furnace Atomic Absorption

- Air, NIOSH: 7105
- Wastewater, SW846-7421
- Soil, SW846-7421
- Drinking Water, EPA 239.2

ICP – Inductively Coupled Plasma

- Wipe, SW846-6010 ASTM non ASTM
- Soil, SW846-6010
- Air, NIOSH 7300

MATERIALS ANALYSIS

- Particle Identification
- Full Particle Identification
- Dust Mites and Insect Fragments
- Particle Size & Distribution
- Product Comparison
- Paint Characterization
- Failure Analysis
- Corrosion Analysis
- Glove Box Containment Study
- Petrographic Examination of Concrete
- Portland Cement in Workplace Atmospheres (OSHA ID-143)
- Man Made Vitrous Fibers – MMVF's
- Synthetic Fiber Identification
- Other: _____

MICROBIAL ANALYSIS

Air Samples

- Mold & Fungi by Air O,Cell
- Mold & Fungi by Agar Plate count & id
- Bacterial Count and Gram Stain
- Bacterial Count and Identification

Water Samples

- Total Coliforms, Fecal Coliforms
- Escheriehia Coli, Fecal Streptococcus
- Legionella
- Salmonella
- Giardia and Cryptosporidium

Wipe and Bulk Samples

- Mold & Fungi – Direct Examination
- Mold & Fungi – (Culture follow up to direct examination if necessary)
- Mold & Fungi – Culture (Count & ID)
- Mold & Fungi – Culture (Count only)
- Bacterial Count & Gram Stain
- Bacterial Count & Identification (3 most prominent types)
- Other: _____

IAQ ANALYSIS

- Nuisance Dust (NIOSH 0500 & 0600)
- Airborne Dust (PM10, TSP)
- Silica Analysis by XRD NIOSH 7500
- HVAC Efficiency
- Carbon Black
- Airborne Oil Mist
- Other: _____

Relinquished: _____
 Received: _____
 Relinquished: _____
 Received: _____

Chris Giuntoli
Todd Aron

Date: 4/15/09 Time: 1730
 Date: 4/16/09 Time: 9 AM Fed Ex
 Date: _____ Time: _____
 Date: _____ Time: _____



EMSL ANALYTICAL, INC.

EMSL – San Leandro ♦ 2235 Polvorosa Ave, Suite 230, San Leandro, CA 94577

	SAMPLE NUMBER	SAMPLE DESCRIPTION	LOCATION	VOLUME Air (L) Area (Inches sq.)
1	DD-17A	STYRENE BENT JOINT FILL MATERIAL		
2	DD-17B	↓		
3	DD-18A	ELASTOMERIC BENT JOINT MATERIAL		
4	DD-18B	↓		
5	DD-19A	STYRENE BENT JOINT FILL MATERIAL		
6	DD-19B	↓		
7	DD-19C	↓		
8	DD-19D	↓		
9	DD-20A	BROWN FIBER BOARD		
10	DD-20B	↓		
11	DD-20C	↓		
12	DD-20D	↓		
13	DD-21A	FOAM DRAIN PIPE PACKING		
14	DD-22A	BENT STYRENE JOINT FILL MATERIAL		
15	DD-22B	↓		
16	DD-22C	↓		
17	DD-23A	BLACK BENT JOINT FILL MATERIAL		
18	DD-23B	↓		
19	DD-23C	↓		
20	DD-24A	ELASTOMERIC BENT JOINT MATERIAL		
21				
22				
23				
24				
25				

Client Sample # (S)

TOTAL SAMPLE #

20

Relinquished:

Received:

Relinquished:

Received:

Date:

Date:

Date:

Date:

Time:

Time:

Time:

Time:

4/16/09

9 AM Fed Ex



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Attn: **Chris Giuntoli**
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6671 Brisa Street
Livermore, CA 94550

Customer ID: GECN21
Customer PO: E8435-06-24
Received: 04/16/09 9:00 AM
EMSL Order: 090902789

Fax: (925) 371-5915 Phone: (925) 371-5900

EMSL Proj: E8435-06-**
Analysis Date: 4/16/2009
Report Date: 4/16/2009

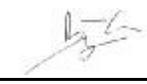
Project: **E8435-06-24**

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
DD-17A-Styrene Bent Joint Fill Material <i>090902789-0001</i>		Gray/White Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
DD-17B-Styrene Bent Joint Material <i>090902789-0002</i>		Gray/White Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
DD-18A-Styrene Bent Joint Material <i>090902789-0003</i>		Gray/White Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
DD-18B-Elastomeric Bent Joint Material <i>090902789-0004</i>		Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
DD-19A-Elastomeric Bent Joint Material <i>090902789-0005</i>		Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
DD-19B-Styrene Bent Joint Fill Material <i>090902789-0006</i>		Gray/White Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected

Analyst(s) _____

Alan Tahrán (20)



Baojia Ke, Laboratory Manager
or other approved signatory

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Project: **E8435-06-24**

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
DD-19C-Styrene Bent Joint Fill Material <i>090902789-0007</i>		Gray/White Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
DD-19D-Styrene Bent Joint Fill Material <i>090902789-0008</i>		Gray/White Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
DD-20A-Fiber Board <i>090902789-0009</i>		White Fibrous Homogeneous	80% Cellulose	20% Non-fibrous (other)	None Detected
DD-20B-Fiber Board <i>090902789-0010</i>		Brown Fibrous Homogeneous	80% Cellulose	20% Non-fibrous (other)	None Detected
DD-20C-Fiber Board <i>090902789-0011</i>		Brown Fibrous Homogeneous	80% Cellulose	20% Non-fibrous (other)	None Detected
DD-20D-Fiber Board <i>090902789-0012</i>		Fibrous Homogeneous	80% Cellulose	20% Non-fibrous (other)	None Detected
DD-21A-Foam Drain Pipe Packing <i>090902789-0013</i>		White Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected

Analyst(s) _____

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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
DD-22A-Styrene Bent Joint Fill Material 090902789-0014		Gray/White Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
DD-22B-Styrene Bent Joint Fill Material 090902789-0015		Gray/White Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
DD-22C-Styrene Bent Joint Fill Material 090902789-0016		Gray/White Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
DD-23A-Bent Joint Fill Material 090902789-0017		Black Fibrous Homogeneous	30% Cellulose	67% Non-fibrous (other)	3% Chrysotile
DD-23B-Bent Joint Fill Material 090902789-0018		Black Non-Fibrous Homogeneous	30% Cellulose	67% Non-fibrous (other)	3% Chrysotile
DD-23C-Bent Joint Fill Material 090902789-0019		Black Non-Fibrous Heterogeneous	30% Cellulose	67% Non-fibrous (other)	3% Chrysotile

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EMSL Proj: E8435-06-**
Analysis Date: 4/16/2009
Report Date: 4/16/2009

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
DD-24A- Elastomeric Bent Joint Material <i>090902789-0020</i>		Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected

Analyst(s) _____

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(888) 455-3675 ♦ Phone (510) 895-3675 ♦ Fax (510) 895-3680 ♦ sanleandrolab@emsl.com

EMSL Rep: <u>DAN KOCHER</u>	Third Party Billing <i>*requires written authorization from third party</i>
Company: <u>GEOCON</u>	EMSL-Bill to: _____
Contact: <u>CHRIS GIUNTOLI</u>	Contact: _____
Address: <u>6671 BRISA ST</u>	Address: _____
City & State: <u>LIVERMORE, CA Zip 94530</u>	City & State: _____ Zip _____
Phone: <u>925-371-5900</u>	Fax: _____
<input checked="" type="checkbox"/> Email Results <u>GIUNTOLI@GEOCON.INC.COM</u>	<input type="checkbox"/> Fax results _____
Project Name or Number: <u>EB435-06-24</u>	Purchase Order Number: _____

TURNAROUND TIME

<input type="checkbox"/> 3 Hours	<input type="checkbox"/> 6 Hours	<input checked="" type="checkbox"/> 24 Hours	<input type="checkbox"/> 48 Hours	<input type="checkbox"/> 72 Hours	<input type="checkbox"/> 5 Days	<input type="checkbox"/> 10 Days
----------------------------------	----------------------------------	--	-----------------------------------	-----------------------------------	---------------------------------	----------------------------------

SAMPLE MATRIX

<input type="checkbox"/> Air	<input checked="" type="checkbox"/> Bulk	<input type="checkbox"/> Soil	<input type="checkbox"/> Wipe	<input type="checkbox"/> Micro-Vac	<input type="checkbox"/> Drinking Water	<input type="checkbox"/> Wastewater	<input type="checkbox"/> Chips	<input type="checkbox"/> Other
------------------------------	--	-------------------------------	-------------------------------	------------------------------------	---	-------------------------------------	--------------------------------	--------------------------------

ASBESTOS ANALYSIS

PCM - Air

- NIOSH 7400 (A) Issue 2: August 1994
- OSHA w/ Time Weighted Average

TEM AIR

- AHERA 40 CFR, Part 763 Subpart E
- NIOSH 7402 Issue 2
- EPA Level II

PLM - Bulk

- EPA 600/R-93/116
- + Add Gravimetric Reduction (EPA NOB)
- PLM CARB 435 Level: A (0.25%) B (0.1%)
- NIOSH 9002
- EPA Point Count (400 Points)
- + Add Gravimetric Reduction (EPA NOB)
- EPA Point Count (1,000 Points)
- + Add Gravimetric Reduction (EPA NOB)
- Standard Addition Point Count

SOILS

- PLM CARB 435 Level: A (0.25%) B (0.1%)
- TEM CARB 435 Level: B (0.1%) C (0.01%)
- D (0.001%) E (0.0005%) F (0.0001%)
- EMSL MSD 9000 Method fibers/gram
- Superfund EPA 540-R097-028 (dust generation)
- EPA Protocol Qualitative Quantitative

TEM BULK

- TEM EPA NOB, EPA 600/R-93/116 Section 2.5.5.1 (TEM % by VAE)
- Chatfield SOP-1988-02
- TEM EPA 600/R-93/116 Section 2.5.5.2 (TEM % by Mass)

TEM MICROVAC

- ASTM D 5755 (Quantitative)

TEM WIPE

- ASTM D-6480 (Quantitative)

TEM WATER

- EPA 100.2 (≥ 10 microns)
- Modified EPA 100.2 (≥ 0.5 microns)

OTHER: _____

LEAD ANALYSIS

Flame Atomic Absorption

- Wipe, SW846-7420 ASTM non ASTM
- Soil, SW846-7420
- Air, NIOSH 7082
- Chips, SW846-7420 or AOAC 5.009 (974.02)
- Wastewater, SW 846-7420

- TCLP LEAD SW846-1311/7420

Graphite Furnace Atomic Absorption

- Air, NIOSH: 7105
- Wastewater, SW846-7421
- Soil, SW846-7421
- Drinking Water, EPA 239.2

ICP – Inductively Coupled Plasma

- Wipe, SW846-6010 ASTM non ASTM
- Soil, SW846-6010
- Air, NIOSH 7300

MATERIALS ANALYSIS

- Particle Identification
- Full Particle Identification
- Dust Mites and Insect Fragments
- Particle Size & Distribution
- Product Comparison
- Paint Characterization
- Failure Analysis
- Corrosion Analysis
- Glove Box Containment Study
- Petrographic Examination of Concrete
- Portland Cement in Workplace Atmospheres (OSHA ID-143)
- Man Made Vitrous Fibers – MMVF's
- Synthetic Fiber Identification
- Other: _____

MICROBIAL ANALYSIS

Air Samples

- Mold & Fungi by Air O,Cell
- Mold & Fungi by Agar Plate count & id
- Bacterial Count and Gram Stain
- Bacterial Count and Identification

Water Samples

- Total Coliforms, Fecal Coliforms
- Escheriehia Coli, Fecal Streptococcus
- Legionella
- Salmonella
- Giardia and Cryptosporidium

Wipe and Bulk Samples

- Mold & Fungi – Direct Examination
- Mold & Fungi – (Culture follow up to direct examination if necessary)
- Mold & Fungi – Culture (Count & ID)
- Mold & Fungi – Culture (Count only)
- Bacterial Count & Gram Stain
- Bacterial Count & Identification (3 most prominent types)
- Other: _____

IAQ ANALYSIS

- Nuisance Dust (NIOSH 0500 & 0600)
- Airborne Dust (PM10, TSP)
- Silica Analysis by XRD NIOSH 7500
- HVAC Efficiency
- Carbon Black
- Airborne Oil Mist
- Other: _____

Relinquished: _____
 Received: _____
 Relinquished: _____
 Received: _____

Chris Giuntoli
Todd Aron

Date: 4/15/09 Time: 1730
 Date: 4/16/09 Time: 9 AM Fed Ex
 Date: _____ Time: _____
 Date: _____ Time: _____



EMSL ANALYTICAL, INC.

EMSL – San Leandro ♦ 2235 Polvorosa Ave, Suite 230, San Leandro, CA 94577

	SAMPLE NUMBER	SAMPLE DESCRIPTION	LOCATION	VOLUME Air (L) Area (Inches sq.)
1	DD-17A	STYRENE BENT JOINT FILL MATERIAL		
2	DD-17B	↓		
3	DD-18A	ELASTOMERIC BENT JOINT MATERIAL		
4	DD-18B	↓		
5	DD-19A	STYRENE BENT JOINT FILL MATERIAL		
6	DD-19B	↓		
7	DD-19C	↓		
8	DD-19D	↓		
9	DD-20A	BROWN FIBER BOARD		
10	DD-20B	↓		
11	DD-20C	↓		
12	DD-20D	↓		
13	DD-21A	FOAM DRAIN PIPE PACKING		
14	DD-22A	BENT STYRENE JOINT FILL MATERIAL		
15	DD-22B	↓		
16	DD-22C	↓		
17	DD-23A	BLACK BENT JOINT FILL MATERIAL		
18	DD-23B	↓		
19	DD-23C	↓		
20	DD-24A	ELASTOMERIC BENT JOINT MATERIAL		
21				
22				
23				
24				
25				

Client Sample # (S)

TOTAL SAMPLE #

20

Relinquished:

Received:

Relinquished:

Received:

Date:

Date:

Date:

Date:

Time:

Time:

Time:

Time:

4/16/09

9 AM Fed Ex

April 13, 2009



Chris Giuntoli
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.: 104965

RE: CALTRANS-DOYLE DRIVE, E8435-06-24

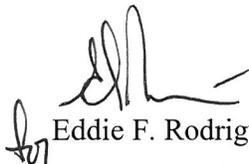
Attention: Chris Giuntoli

Enclosed are the results for sample(s) received on April 10, 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: CALTRANS-DOYLE DRIVE, E8435-06-24
Lab Order: 104965

CASE NARRATIVE

Analytical Comments for Method 6010

Dilution was necessary for sample 104965-001A, due to sample matrix.



Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: 13-Apr-09

CLIENT: Geocon Consultants, Inc.
Project: CALTRANS-DOYLE DRIVE, E8435-06-24

Lab Order: 104965

Lab ID: 104965-001 **Collection Date:** 4/7/2009
Client Sample ID: DD-P1A **Matrix:** PAINT CHIP

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

ICP METALS

EPA 3050B

EPA 6010B

RunID: ICP8_090413B QC Batch: 54640 PrepDate: 4/13/2009 Analyst: CL
Lead 19000 10 mg/Kg 5 4/13/2009 02:53 PM

Lab ID: 104965-002 **Collection Date:** 4/7/2009
Client Sample ID: DD-P2A **Matrix:** PAINT CHIP

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

ICP METALS

EPA 3050B

EPA 6010B

RunID: ICP8_090413B QC Batch: 54640 PrepDate: 4/13/2009 Analyst: CL
Lead 76 2.0 mg/Kg 1 4/13/2009 02:57 PM

Lab ID: 104965-003 **Collection Date:** 4/7/2009
Client Sample ID: DD-P3A **Matrix:** PAINT CHIP

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

ICP METALS

EPA 3050B

EPA 6010B

RunID: ICP8_090413B QC Batch: 54640 PrepDate: 4/13/2009 Analyst: CL
Lead 64 3.4 mg/Kg 1 4/13/2009 03:02 PM

Lab ID: 104965-004 **Collection Date:** 4/7/2009
Client Sample ID: DD-P4A **Matrix:** PAINT CHIP

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

ICP METALS

EPA 3050B

EPA 6010B

RunID: ICP8_090413B QC Batch: 54640 PrepDate: 4/13/2009 Analyst: CL
Lead 76 2.0 mg/Kg 1 4/13/2009 03:16 PM

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



*Advanced Technology
Laboratories*

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

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: 13-Apr-09

CLIENT: Geocon Consultants, Inc.
Project: CALTRANS-DOYLE DRIVE, E8435-06-24

Lab Order: 104965

Lab ID: 104965-005 **Collection Date:** 4/7/2009
Client Sample ID: DD-P5A **Matrix:** PAINT CHIP

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

ICP METALS

EPA 3050B

EPA 6010B

RunID: ICP8_090413B QC Batch: 54640 PrepDate: 4/13/2009 Analyst: CL
Lead 480 2.0 mg/Kg 1 4/13/2009 03:20 PM

Lab ID: 104965-006 **Collection Date:** 4/7/2009
Client Sample ID: DD-P6A **Matrix:** PAINT CHIP

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

ICP METALS

EPA 3050B

EPA 6010B

RunID: ICP8_090413B QC Batch: 54640 PrepDate: 4/13/2009 Analyst: CL
Lead ND 2.0 mg/Kg 1 4/13/2009 03:24 PM

Lab ID: 104965-007 **Collection Date:** 4/7/2009
Client Sample ID: DD-P7A **Matrix:** PAINT CHIP

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

ICP METALS

EPA 3050B

EPA 6010B

RunID: ICP8_090413B QC Batch: 54640 PrepDate: 4/13/2009 Analyst: CL
Lead 23 2.0 mg/Kg 1 4/13/2009 03:30 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

CLIENT: Geocon Consultants, Inc.
Work Order: 104965
Project: CALTRANS-DOYLE DRIVE, E8435-06-24

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID: LCS-54640	SampType: LCS	TestCode: 6010_S	Units: mg/Kg	Prep Date: 4/13/2009	RunNo: 108041						
Client ID: LCSS	Batch ID: 54640	TestNo: EPA 6010B EPA 3050B		Analysis Date: 4/13/2009	SeqNo: 1694432						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 49.511 1.0 50.00 0 99.0 80 120

Sample ID: LCSD-54640	SampType: LCSD	TestCode: 6010_S	Units: mg/Kg	Prep Date: 4/13/2009	RunNo: 108041						
Client ID: LCSS02	Batch ID: 54640	TestNo: EPA 6010B EPA 3050B		Analysis Date: 4/13/2009	SeqNo: 1694433						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 45.058 1.0 50.00 0 90.1 80 120 49.51 9.42 20

Sample ID: MB-54640MS	SampType: MS	TestCode: 6010_S	Units: mg/Kg	Prep Date: 4/13/2009	RunNo: 108041						
Client ID: ZZZZZ	Batch ID: 54640	TestNo: EPA 6010B EPA 3050B		Analysis Date: 4/13/2009	SeqNo: 1694444						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 109.881 1.0 125.0 0 87.9 33 120

Sample ID: MB-54640MSD	SampType: MSD	TestCode: 6010_S	Units: mg/Kg	Prep Date: 4/13/2009	RunNo: 108041						
Client ID: ZZZZZ	Batch ID: 54640	TestNo: EPA 6010B EPA 3050B		Analysis Date: 4/13/2009	SeqNo: 1694445						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

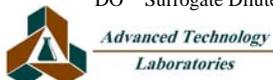
Lead 115.121 1.0 125.0 0 92.1 33 120 109.9 4.66 20

Sample ID: MB-54640	SampType: MBLK	TestCode: 6010_S	Units: mg/Kg	Prep Date: 4/13/2009	RunNo: 108041						
Client ID: PBS	Batch ID: 54640	TestNo: EPA 6010B EPA 3050B		Analysis Date: 4/13/2009	SeqNo: 1694493						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 1.0

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



April 29, 2009



Chris Giuntoli
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.: 104965

RE: CALTRANS-DOYLE DRIVE, E8435-06-24

Attention: Chris Giuntoli

Enclosed are the results for sample(s) received on April 10, 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,

A handwritten signature in black ink, appearing to read "E. Rodriguez", is written over a light blue horizontal line.

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: CALTRANS-DOYLE DRIVE, E8435-06-24
Lab Order: 104965

CASE NARRATIVE

Analytical Comments for Method 7420

Dilution was necessary for samples 104965-001A, 104965-002A and 104965-004A, due to sample matrix.

Matrix Spike (MS) and /or Matrix Spike Duplicate (MSD) are/is outside recovery criteria for samples 105193-001AMS and 105193-001AMSD; however, the analytical batch was validated by the Laboratory Control Sample (LCS).



LEAD BY ATOMIC ABSORPTION (STLC)
WET/ EPA 7420

ANALYTICAL RESULTS

CLIENT:	Geocon Consultants, Inc.	Lab Order:	104965
Project:	CALTRANS-DOYLE DRIVE, E8435-06-24	Date Received	4/10/2009 9:10:00 AM
Project No:		Matrix:	Paint Chip
Analyte:	Lead	Analyst:	VV

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
104965-002A	DD-P2A	7.2	mg/L	55009	2.5	10	4/7/2009	4/29/2009
104965-003A	DD-P3A	0.86	mg/L	55009	0.25	1	4/7/2009	4/29/2009
104965-004A	DD-P4A	5.2	mg/L	55009	2.5	10	4/7/2009	4/29/2009
104965-005A	DD-P5A	3.4	mg/L	55009	0.25	1	4/7/2009	4/29/2009

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		



**LEAD BY ATOMIC ABSORPTION (TCLP)
EPA 1311/ 7420**

ANALYTICAL RESULTS

CLIENT:	Geocon Consultants, Inc.	Lab Order:	104965
Project:	CALTRANS-DOYLE DRIVE, E8435-06-24	Date Received	4/10/2009 9:10:00 AM
Project No:		Matrix:	Paint Chip
Analyte:	Lead	Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
104965-001A	DD-P1A	100	mg/L	55028	5.0	20	4/7/2009	4/28/2009
104965-005A	DD-P5A	0.28	mg/L	55028	0.25	1	4/7/2009	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		



CLIENT: Geocon Consultants, Inc.
Work Order: 104965
Project: CALTRANS-DOYLE DRIVE, E8435-06-24

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID: LCS-54640	SampType: LCS	TestCode: 6010_S	Units: mg/Kg	Prep Date: 4/13/2009	RunNo: 108041						
Client ID: LCSS	Batch ID: 54640	TestNo: EPA 6010B EPA 3050B		Analysis Date: 4/13/2009	SeqNo: 1694432						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 49.511 1.0 50.00 0 99.0 80 120

Sample ID: LCSD-54640	SampType: LCSD	TestCode: 6010_S	Units: mg/Kg	Prep Date: 4/13/2009	RunNo: 108041						
Client ID: LCSS02	Batch ID: 54640	TestNo: EPA 6010B EPA 3050B		Analysis Date: 4/13/2009	SeqNo: 1694433						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 45.058 1.0 50.00 0 90.1 80 120 49.51 9.42 20

Sample ID: MB-54640MS	SampType: MS	TestCode: 6010_S	Units: mg/Kg	Prep Date: 4/13/2009	RunNo: 108041						
Client ID: ZZZZZ	Batch ID: 54640	TestNo: EPA 6010B EPA 3050B		Analysis Date: 4/13/2009	SeqNo: 1694444						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 109.881 1.0 125.0 0 87.9 33 120

Sample ID: MB-54640MSD	SampType: MSD	TestCode: 6010_S	Units: mg/Kg	Prep Date: 4/13/2009	RunNo: 108041						
Client ID: ZZZZZ	Batch ID: 54640	TestNo: EPA 6010B EPA 3050B		Analysis Date: 4/13/2009	SeqNo: 1694445						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

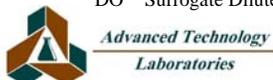
Lead 115.121 1.0 125.0 0 92.1 33 120 109.9 4.66 20

Sample ID: MB-54640	SampType: MBLK	TestCode: 6010_S	Units: mg/Kg	Prep Date: 4/13/2009	RunNo: 108041						
Client ID: PBS	Batch ID: 54640	TestNo: EPA 6010B EPA 3050B		Analysis Date: 4/13/2009	SeqNo: 1694493						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 1.0

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: Chris Giuntoli [giuntoli@geoconinc.com]
Sent: Friday, April 24, 2009 3:50 PM
To: Diane Galvan
Subject: RE: Results/EDD - CALTRANS-DOYLE DRIVE (104965)

Hi Diane,

For workorder 104965, please run WETs for lead on a 72-hour TAT for the following samples:

DD-P2A
DD-P3A
DD-P4A
DD-P5A

And run TCLPs for lead on a 72-hour TAT for samples DD-P1A and DD-P5A.

Thanks,
Chris



April 13, 2009



Chris Giuntoli
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.: 104966

RE: CALTRANS-DOYLE DRIVE, E8435-06-24

Attention: Chris Giuntoli

Enclosed are the results for sample(s) received on April 10, 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: CALTRANS-DOYLE DRIVE, E8435-06-24
Lab Order: 104966

CASE NARRATIVE

Analytical Comments for Method 6010

Dilution was necessary for sample 104966-001A, 104966-003A, 104966-005A and 104966-006A, due to sample matrix.



Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: 13-Apr-09

CLIENT: Geocon Consultants, Inc.
Project: CALTRANS-DOYLE DRIVE, E8435-06-24

Lab Order: 104966

Lab ID: 104966-001 **Collection Date:** 4/9/2009
Client Sample ID: DD-P8A **Matrix:** PAINT CHIP

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

ICP METALS

EPA 3050B

EPA 6010B

RunID: ICP8_090413B	QC Batch: 54640				PrepDate: 4/13/2009	Analyst: CL
Lead	32000	20		mg/Kg	10	4/13/2009 03:43 PM

Lab ID: 104966-002 **Collection Date:** 4/9/2009
Client Sample ID: DD-P9A **Matrix:** PAINT CHIP

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

ICP METALS

EPA 3050B

EPA 6010B

RunID: ICP8_090413B	QC Batch: 54640				PrepDate: 4/13/2009	Analyst: CL
Lead	28	1.0		mg/Kg	1	4/13/2009 03:47 PM

Lab ID: 104966-003 **Collection Date:** 4/9/2009
Client Sample ID: DD-P10A **Matrix:** PAINT CHIP

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

ICP METALS

EPA 3050B

EPA 6010B

RunID: ICP8_090413B	QC Batch: 54640				PrepDate: 4/13/2009	Analyst: CL
Lead	130000	100		mg/Kg	100	4/13/2009 01:28 PM

Lab ID: 104966-004 **Collection Date:** 4/9/2009
Client Sample ID: DD-P11A **Matrix:** PAINT CHIP

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

ICP METALS

EPA 3050B

EPA 6010B

RunID: ICP8_090413C	QC Batch: 54641				PrepDate: 4/13/2009	Analyst: CL
Lead	13	2.0		mg/Kg	1	4/13/2009 03:56 PM

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



*Advanced Technology
Laboratories*

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

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: 13-Apr-09

CLIENT: Geocon Consultants, Inc.
Project: CALTRANS-DOYLE DRIVE, E8435-06-24

Lab Order: 104966

Lab ID: 104966-005 **Collection Date:** 4/9/2009
Client Sample ID: DD-P12A **Matrix:** PAINT CHIP

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

ICP METALS

EPA 3050B

EPA 6010B

RunID: ICP8_090413C QC Batch: 54641 PrepDate: 4/13/2009 Analyst: CL
Lead 52000 100 mg/Kg 100 4/13/2009 02:17 PM

Lab ID: 104966-006 **Collection Date:** 4/9/2009
Client Sample ID: DD-P13A **Matrix:** PAINT CHIP

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

ICP METALS

EPA 3050B

EPA 6010B

RunID: ICP8_090413C QC Batch: 54641 PrepDate: 4/13/2009 Analyst: CL
Lead 220000 200 mg/Kg 100 4/13/2009 02:21 PM

Lab ID: 104966-007 **Collection Date:** 4/9/2009
Client Sample ID: DD-P14A **Matrix:** PAINT CHIP

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

ICP METALS

EPA 3050B

EPA 6010B

RunID: ICP8_090413C QC Batch: 54641 PrepDate: 4/13/2009 Analyst: CL
Lead 100 4.1 mg/Kg 1 4/13/2009 03:59 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

CLIENT: Geocon Consultants, Inc.
Work Order: 104966
Project: CALTRANS-DOYLE DRIVE, E8435-06-24

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID: LCS-54640	SampType: LCS	TestCode: 6010_S	Units: mg/Kg	Prep Date: 4/13/2009	RunNo: 108041						
Client ID: LCSS	Batch ID: 54640	TestNo: EPA 6010B EPA 3050B		Analysis Date: 4/13/2009	SeqNo: 1694432						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 49.511 1.0 50.00 0 99.0 80 120

Sample ID: LCSD-54640	SampType: LCSD	TestCode: 6010_S	Units: mg/Kg	Prep Date: 4/13/2009	RunNo: 108041						
Client ID: LCSS02	Batch ID: 54640	TestNo: EPA 6010B EPA 3050B		Analysis Date: 4/13/2009	SeqNo: 1694433						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 45.058 1.0 50.00 0 90.1 80 120 49.51 9.42 20

Sample ID: MB-54640MS	SampType: MS	TestCode: 6010_S	Units: mg/Kg	Prep Date: 4/13/2009	RunNo: 108041						
Client ID: ZZZZZ	Batch ID: 54640	TestNo: EPA 6010B EPA 3050B		Analysis Date: 4/13/2009	SeqNo: 1694444						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 109.881 1.0 125.0 0 87.9 33 120

Sample ID: MB-54640MSD	SampType: MSD	TestCode: 6010_S	Units: mg/Kg	Prep Date: 4/13/2009	RunNo: 108041						
Client ID: ZZZZZ	Batch ID: 54640	TestNo: EPA 6010B EPA 3050B		Analysis Date: 4/13/2009	SeqNo: 1694445						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

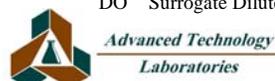
Lead 115.121 1.0 125.0 0 92.1 33 120 109.9 4.66 20

Sample ID: MB-54640	SampType: MBLK	TestCode: 6010_S	Units: mg/Kg	Prep Date: 4/13/2009	RunNo: 108041						
Client ID: PBS	Batch ID: 54640	TestNo: EPA 6010B EPA 3050B		Analysis Date: 4/13/2009	SeqNo: 1694493						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 1.0

Qualifiers:

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



CLIENT: Geocon Consultants, Inc.
Work Order: 104966
Project: CALTRANS-DOYLE DRIVE, E8435-06-24

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID: MB-54641	SampType: MBLK	TestCode: 6010_S	Units: mg/Kg	Prep Date: 4/13/2009	RunNo: 108046						
Client ID: PBS	Batch ID: 54641	TestNo: EPA 6010B EPA 3050B		Analysis Date: 4/13/2009	SeqNo: 1694494						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 1.0

Sample ID: LCS-54641	SampType: LCS	TestCode: 6010_S	Units: mg/Kg	Prep Date: 4/13/2009	RunNo: 108046						
Client ID: LCSS	Batch ID: 54641	TestNo: EPA 6010B EPA 3050B		Analysis Date: 4/13/2009	SeqNo: 1694495						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 47.403 1.0 50.00 0 94.8 80 120

Sample ID: LCSD-54641	SampType: LCSD	TestCode: 6010_S	Units: mg/Kg	Prep Date: 4/13/2009	RunNo: 108046						
Client ID: LCSS02	Batch ID: 54641	TestNo: EPA 6010B EPA 3050B		Analysis Date: 4/13/2009	SeqNo: 1694496						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 46.691 1.0 50.00 0 93.4 80 120 47.40 1.51 20

Sample ID: MB-54641MS	SampType: MS	TestCode: 6010_S	Units: mg/Kg	Prep Date: 4/13/2009	RunNo: 108046						
Client ID: ZZZZZ	Batch ID: 54641	TestNo: EPA 6010B EPA 3050B		Analysis Date: 4/13/2009	SeqNo: 1694501						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

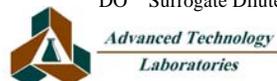
Lead 122.043 1.0 125.0 0 97.6 33 120

Sample ID: MB-54641MSD	SampType: MSD	TestCode: 6010_S	Units: mg/Kg	Prep Date: 4/13/2009	RunNo: 108046						
Client ID: ZZZZZ	Batch ID: 54641	TestNo: EPA 6010B EPA 3050B		Analysis Date: 4/13/2009	SeqNo: 1694502						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 132.783 1.0 125.0 0 106 33 120 122.0 8.43 20

Qualifiers:

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



CHAIN OF CUSTODY RECORD



**Advanced Technology
Laboratories**

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

FOR LABORATORY USE ONLY:

P.O.#: _____

Logged By: _____ Date: 4/10/09

Method of Transport

- Client
- ATL
- CA OverN
- FEDEX
- Other: GSO

Sample Condition Upon Receipt

- 1. CHILLED Y N 4. SEALED Y N
- 2. HEADSPACE (VOA) Y N N/A 5. # OF SPLS MATCH COC Y N
- 3. CONTAINER INTACT Y N 6. PRESERVED Y N

Client: GEOCON Address: 6671 BRISA ST TEL: (925) 371-5900
 Attn: CHRIS GIUNTOLI City: LIVERMORE State: CA Zip Code: 94550 FAX: ()

Project Name: CALTRANS - DOYLE DRIVE Project #: E8435-26-24 Sampler: (Printed Name) C GIUNTOLI (Signature) [Signature]

Relinquished by: (Signature and Printed Name) _____ Date: _____ Time: _____ Received by: (Signature and Printed Name) Marge Alf Date: 4/10/09 Time: 9:10
 Relinquished by: (Signature and Printed Name) _____ Date: _____ Time: _____ Received by: (Signature and Printed Name) _____ Date: _____ Time: _____
 Relinquished by: (Signature and Printed Name) _____ Date: _____ Time: _____ Received by: (Signature and Printed Name) _____ Date: _____ Time: _____

I hereby authorize ATL to perform the work indicated below:
 Project Mgr /Submitter:
CGIUNTOLI 4/9/09
 Print Name Date
[Signature]
 Signature

Send Report To:
 Attn: SEE ABOVE
 Co: _____
 Address: _____
 City _____ State _____ Zip _____

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

Special Instructions/Comments:
*SOLUBLE LEAD MAY BE REQUESTED BASED ON TOTAL LEAD RESULTS
24-HR TAT INCLUDE EDD

Sample/Records - Archival & Disposal
 Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.
Storage Fees (applies when storage is requested):
 • Sample : \$2.00 / sample / mo (after 45 days)
 • Records : \$1.00 / ATL workorder / mo (after 1 year)

Circle or Add Analysis(es) Requested	SPECIFY APPROPRIATE MATRIX						PRESERVATION	QA/QC
	SOIL	WATER	GROUND WATER	WASTEWATER	PAINT	PAINTS		
801A (Pesticides)							TAT # Type	RTNE <input type="checkbox"/>
802 (PCB)								CT <input checked="" type="checkbox"/>
820R (Volatiles)							OTHER _____	SWRCB <input type="checkbox"/>
827C (BVA)								Logcode _____
80102 (Total Metal)							REMARKS	
8015B (GRO) / 8020 (BTX)								
8015B (DRO)								
8021 (BTX)								
TITLE 22 / CAM 17 (6010 / 7000)								
TOTAL LEAD *								

I T E M	LAB USE ONLY:		Sample Description		
	Batch #:	Lab No.	Sample I.D. / Location	Date	Time
		<u>104966-001</u>	<u>DD-P8A</u>	<u>4/9/09</u>	
		<u>2</u>	<u>DD-P9A</u>		
		<u>3</u>	<u>DD-P10A</u>		
		<u>4</u>	<u>DD-P11A</u>		
		<u>5</u>	<u>DD-P12A</u>		
		<u>6</u>	<u>DD-P13A</u>		
		<u>7</u>	<u>DD-P14A</u>		

• TAT starts 8 a.m. following day if samples received after 3 p.m.

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=Pint J=Jar B=Teclar G=Glass P=Plastic M=Metal

Preservatives: H=HCl N=HNO₃ S=H₂SO₄ C=4°C Z=Zn(AC)₂ O=NaOH T=Na₂S₂O₃

April 29, 2009



Chris Giuntoli
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.: 104966

RE: CALTRANS-DOYLE DRIVE, E8435-06-24

Attention: Chris Giuntoli

Enclosed are the results for sample(s) received on April 10, 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: CALTRANS-DOYLE DRIVE, E8435-06-24
Lab Order: 104966

CASE NARRATIVE

Analytical Comments for Method 7420

Dilution was necessary for samples 104966-001A, 104966-003A and 104966-005A, due to sample matrix.

Matrix Spike (MS) and /or Matrix Spike Duplicate (MSD) are/is outside recovery criteria for samples 105193-001AMS and 105193-001AMSD; however, the analytical batch was validated by the Laboratory Control Sample (LCS).



**LEAD BY ATOMIC ABSORPTION (STLC)
WET/ EPA 7420**

ANALYTICAL RESULTS

CLIENT:	Geocon Consultants, Inc.	Lab Order:	104966
Project:	CALTRANS-DOYLE DRIVE, E8435-06-24	Date Received	4/10/2009 9:10:00 AM
Project No:		Matrix:	Paint Chip
Analyte:	Lead	Analyst:	VV

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
104966-007A	DD-P14A	1.9	mg/L	55009	0.25	1	4/9/2009	4/29/2009

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		



LEAD BY ATOMIC ABSORPTION (TCLP)
EPA 1311/ 7420

ANALYTICAL RESULTS

CLIENT:	Geocon Consultants, Inc.	Lab Order:	104966
Project:	CALTRANS-DOYLE DRIVE, E8435-06-24	Date Received	4/10/2009 9:10:00 AM
Project No:		Matrix:	Paint Chip
Analyte:	Lead	Analyst:	RQ

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
104966-001A	DD-P8A	67	mg/L	55028	5.0	20	4/9/2009	4/28/2009
104966-003A	DD-P10A	9.5	mg/L	55028	0.50	2	4/9/2009	4/28/2009
104966-005A	DD-P12A	54	mg/L	55028	5.0	20	4/9/2009	4/28/2009
104966-006A	DD-P13A	3.7	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		



CLIENT: Geocon Consultants, Inc.
Work Order: 104966
Project: CALTRANS-DOYLE DRIVE, E8435-06-24

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID: MB-55009	SampType: MBLK	TestCode: 7420_ST	Units: mg/L	Prep Date: 4/27/2009	RunNo: 108596						
Client ID: PBS	Batch ID: 55009	TestNo: WET/ EPA 74 WET		Analysis Date: 4/29/2009	SeqNo: 1704179						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.25

Sample ID: LCS-55009	SampType: LCS	TestCode: 7420_ST	Units: mg/L	Prep Date: 4/27/2009	RunNo: 108596						
Client ID: LCSS	Batch ID: 55009	TestNo: WET/ EPA 74 WET		Analysis Date: 4/29/2009	SeqNo: 1704180						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 4.859 0.25 5.000 0 97.2 80 120

Sample ID: 105193-001A-DUP	SampType: DUP	TestCode: 7420_ST	Units: mg/L	Prep Date: 4/27/2009	RunNo: 108596						
Client ID: ZZZZZ	Batch ID: 55009	TestNo: WET/ EPA 74 WET		Analysis Date: 4/29/2009	SeqNo: 1704182						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 23.624 1.2 23.84 0.893 20

Sample ID: 105193-001A-MS	SampType: MS	TestCode: 7420_ST	Units: mg/L	Prep Date: 4/27/2009	RunNo: 108596						
Client ID: ZZZZZ	Batch ID: 55009	TestNo: WET/ EPA 74 WET		Analysis Date: 4/29/2009	SeqNo: 1704183						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

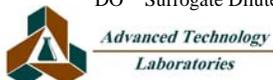
Lead 28.541 1.2 5.000 23.84 94.1 80 120

Sample ID: 105193-001A-MSD	SampType: MSD	TestCode: 7420_ST	Units: mg/L	Prep Date: 4/27/2009	RunNo: 108596						
Client ID: ZZZZZ	Batch ID: 55009	TestNo: WET/ EPA 74 WET		Analysis Date: 4/29/2009	SeqNo: 1704184						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 27.651 1.2 5.000 23.84 76.3 80 120 28.54 3.17 20 S

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: Chris Giuntoli [giuntoli@geoconinc.com]
Sent: Friday, April 24, 2009 3:53 PM
To: Diane Galvan
Subject: RE: Results/EDD - CALTRANS-DOYLE DRIVE (104966)

Hi Diane,

For workorder 104966, please run WET for lead on a 72-hour TAT for sample DD-P14A

And run TCLPs for lead on a 72-hour TAT for the following samples:

DD-P8A
DD-P10A
DD-P12A
DD-P13A

Thanks,
Chris

