**FOR CONTRACT NO.: 02-374304**

# INFORMATION HANDOUT

## AGREEMENTS

CALIFORNIA DEPARTMENT OF FISH AND GAME
NOTIFICATION NO.1600-2011-0176-R1

## MATERIALS INFORMATION

AERIALLY DEPOSITED LEAD,
TRAFFIC STRIPE PAINT AND
NATURALLY OCCURRING ASBESTOS SITE INVESTIGATION
AND BRIDGE SURVEY REPORT

REFERENCE PHOTOS ARCHITECTURAL SURFACE (TEXTURED CONCRETE)

**ROUTE: 02-TRI-299 23.3**

# AGREEMENTS

CALIFORNIA DEPARTMENT OF FISH AND GAME

NOTIFICATION NO.1600-2011-0176-R1

**CALIFORNIA DEPARTMENT OF FISH AND GAME**
NORTHERN REGION
601 LOCUST STREET
REDDING, CA, 96001

**STREAMBED ALTERATION AGREEMENT**
NOTIFICATION NO. 1600-2011-0176-R1
BIG FRENCH CREEK

CALIFORNIA DEPARTMENT OF TRANSPORTATION AND MR. STEVE ROGERS
BIG FRENCH CREEK BRIDGE WIDENING PROJECT
(ONE ENCROACHMENT)

This Streambed Alteration Agreement (Agreement) is entered into between the California Department of Fish and Game (DFG) and California Department of Transportation (Permittee) as represented by Mr. Steve Rogers.

## RECITALS

WHEREAS, pursuant to Fish and Game Code (FGC) section 1602, Permittee notified DFG on July 20, 2011, that Permittee intends to complete the project described herein.

WHEREAS, pursuant to FGC section 1603, DFG has determined that the project could substantially adversely affect existing fish or wildlife resources and has included measures in the Agreement necessary to protect those resources.

WHEREAS, Permittee has reviewed the Agreement and accepts its terms and conditions, including the measures to protect fish and wildlife resources.

NOW THEREFORE, Permittee agrees to complete the project in accordance with the Agreement.

## PROJECT LOCATION

The project is located at Big French Creek, tributary to the Trinity River, in the County of Trinity, State of California; Section 29, Township 5N, Range 7E, U.S. Geological Survey (USGS) map Del Loma, Humboldt Base and Meridian.

## PROJECT DESCRIPTION

The project is limited to the placement of eight sixteen-square-feet-wide gravel pads placed adjacent to the stream to facilitate the widening of an existing bridge on Highway 299 (post mile 23.3).

## PROJECT IMPACTS

Existing fish or wildlife resources the project could substantially adversely affect include: **Chinook salmon (*Oncorhynchus tshawytscha*), coho salmon (*O. kisutch*), steelhead trout (*O. mykiss*), Pacific lamprey (*Lampetra tridentate*)**, other non-game and game fishes, amphibians, reptiles, aquatic invertebrates, mammals, birds, and other aquatic and riparian species.

The adverse effects the project could have on the fish or wildlife resources identified above include:

**Impacts to bed, channel, or bank and effects on habitat structure:**

1. change in contour of bed, channel or bank;
2. temporary loss of bank stability during construction;
3. change in composition of channel materials (substrate particle size);
4. soil compaction or other disturbance to soil layer;

**Impacts to water quality:**

1. long-term release of contaminants (e.g., concrete);

**Impacts to bed, channel, or bank and direct effects on fish, wildlife, and their habitat:**

1. temporary loss or decline of riparian and/or emergent marsh habitat;
2. temporary disruption to wildlife;
3. temporary disturbance from project activity;

## MEASURES TO PROTECT FISH AND WILDLIFE RESOURCES

### 1. Administrative Measures

Permittee shall meet each administrative requirement described below.

1.1 Documentation at Project Site. Permittee shall make the Agreement, any extensions and amendments to the Agreement, and all related notification materials and California Environmental Quality Act (CEQA) documents, readily available at the project site at all times and shall be presented to DFG personnel, or personnel from another state, federal, or local agency upon request.

1.2 Providing Agreement to Persons at Project Site. Permittee shall provide copies of the Agreement and any extensions and amendments to the Agreement to all persons who will be working on the project at the project site on behalf of Permittee, including but not limited to contractors, subcontractors, inspectors, and monitors.

1.3 Notification of Conflicting Provisions. Permittee shall notify DFG if Permittee determines or learns that a provision in the Agreement might conflict with a provision imposed on the

project by another local, state, or federal agency. In that event, DFG shall contact Permittee to resolve any conflict.

1.4 Project Site Entry. Permittee agrees that DFG personnel may enter the project site at any time to verify compliance with the Agreement.

1.5 DFG Notification of Work Initiation and Completion. The Permittee shall contact DFG within the 7-day period preceding the beginning of work permitted by this Agreement. Information to be disclosed shall include Agreement number, and the anticipated start date. The Permittee shall contact DFG within thirty days of completion of the work permitted by this Agreement. Information to be disclosed shall include Agreement number.

## 2. Avoidance and Minimization Measures

To avoid or minimize adverse impacts to fish and wildlife resources identified above, Permittee shall implement each measure listed below.

2.1 Except where otherwise stipulated in this Agreement, all work shall be in accordance with the work plan submitted with Notification No. 1600-2011-0176-R1, as of July 20, 2011.

2.2 All work shall be confined to the period June 1 through October 15 of each year.

2.3 Gravel pads shall be constructed of washed, river run gravel. No crushed rock shall be used.

2.4 Excavated fill shall be placed in stable upland areas where it cannot enter or erode into a stream.

2.5 Equipment shall not operate in a live (flowing) stream or wetted channel.

2.6 No native fill shall be placed in a live stream. Any fill material used shall be placed and/or removed in such a manner that it shall cause no sediment discharge or siltation in the stream.

2.7 Adequate and effective erosion and siltation control measures shall be used to prevent sediment or turbid or silt-laden water from entering streams. Where needed, the Permittee shall use native vegetation or other treatments including jute netting, straw wattles, and geotextiles to protect and stabilize soils. Geotextiles, fiber rolls, and other erosion control treatments shall not contain plastic mesh netting.

2.8 All bare mineral soil exposed in conjunction with construction, deconstruction, maintenance or repair, shall be treated for erosion prior to the onset of precipitation capable of generating run-off or the end of the yearly work period, whichever comes first. Restoration shall include the seeding and mulching of all bare mineral soil exposed in

conjunction with encroachment work. Erosion control shall consist of at least 2 to 4 inches straw mulch and 100 lbs/acre equivalent barley seed. No annual, or Italian, ryegrass (*Lolium multiflorum*) shall be used.

2.9 Disturbance or removal of vegetation shall not exceed the minimum necessary to complete operations. No mature trees shall be removed.

2.10 The Permittee shall provide site maintenance including, but not limited to, re-applying erosion control to minimize surface erosion and ensuring drainage structures, streambeds and banks remain sufficiently armored and/or stable.

2.11 Refueling of equipment and vehicles and storing, adding or draining lubricants, coolants or hydraulic fluids shall not take place within riparian areas or within stream beds, banks or channels. All such fluids and containers shall be disposed of properly. Heavy equipment parked within riparian areas or streambeds, banks or channels shall use drip pans or other devices (i.e., absorbent blankets, sheet barriers or other materials) as needed to prevent soil and water contamination.

2.12 All activities performed in the field which involve the use of petroleum or oil based substances shall employ absorbent material designated for spill containment and clean up activity on site for use in case of accidental spill. Clean-up of all spills shall begin immediately. The Permittee shall immediately notify the State Office of Emergency Services at 1-800-852-7550. DFG shall be notified by the Permittee and consulted regarding clean-up procedures.

2.13 No debris, soil, silt, sand, bark, slash, sawdust, rubbish, cement or concrete washings, oil or petroleum products, or other organic or earthen material from any logging, construction, or associated activity of whatever nature shall be allowed to enter into or be placed where it may be washed by rainfall or runoff into Waters of the State. When operations are completed, any excess materials or debris shall be removed from the work area.

## 3. Reporting Measures

Permittee shall meet each reporting requirement described below.

3.1 Permittee shall provide a final construction report via email to DFG no later than 30 days after the project is fully completed. The construction report at a minimum shall contain a brief summary of the work accomplished, and pre- and post-project photos of each site.

## CONTACT INFORMATION

Written communication that Permittee or DFG submits to the other shall be delivered to the address below unless Permittee or DFG specifies otherwise:

To Permittee:

Steve Rogers
California Department of Transportation
1657 Riverside Drive
Redding, CA 96001
Email: steve.rogers@dot.ca.gov

To DFG:

Department of Fish and Game
Northern Region
619 2nd Street
Eureka, CA 95501

Attn: Lake and Streambed Alteration Program – Scott Bauer
Notification #1600-2011-0176-R1
Fax: (707) 441-2021
Email: sbauer@dfg.ca.gov

**LIABILITY**

Permittee shall be solely liable for any violations of the Agreement, whether committed by Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents or contractors and subcontractors, to complete the project or any activity related to it that the Agreement authorizes.

This Agreement does not constitute DFG's endorsement of, or require Permittee to proceed with the project. The decision to proceed with the project is Permittee's alone.

**SUSPENSION AND REVOCATION**

DFG may suspend or revoke in its entirety the Agreement if it determines that Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, is not in compliance with the Agreement.

Before DFG suspends or revokes the Agreement, it shall provide Permittee written notice by certified or registered mail that it intends to suspend or revoke. The notice shall state the reason(s) for the proposed suspension or revocation, provide Permittee an opportunity to correct any deficiency before DFG suspends or revokes the Agreement, and include instructions to Permittee, if necessary, including but not limited to a directive to immediately cease the specific activity or activities that caused DFG to issue the notice.

## ENFORCEMENT

Nothing in the Agreement precludes DFG from pursuing an enforcement action against Permittee instead of, or in addition to, suspending or revoking the Agreement.

Nothing in the Agreement limits or otherwise affects DFG's enforcement authority or that of its enforcement personnel.

## OTHER LEGAL OBLIGATIONS

This Agreement does not relieve Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, from obtaining any other permits or authorizations that might be required under other federal, state, or local laws or regulations before beginning the project or an activity related to it.

This Agreement does not relieve Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, from complying with other applicable statutes in the FGC including, but not limited to, FGC sections 2050 et seq. (threatened and endangered species), 3503 (bird nests and eggs), 3503.5 (birds of prey), 5650 (water pollution), 5652 (refuse disposal into water), 5901 (fish passage), 5937 (sufficient water for fish), and 5948 (obstruction of stream).

Nothing in the Agreement authorizes Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, to trespass.

## AMENDMENT

DFG may amend the Agreement at any time during its term if DFG determines the amendment is necessary to protect an existing fish or wildlife resource.

Permittee may amend the Agreement at any time during its term, provided the amendment is mutually agreed to in writing by DFG and Permittee. To request an amendment, Permittee shall submit to DFG a completed DFG "Request to Amend Lake or Streambed Alteration" form and include with the completed form payment of the corresponding amendment fee identified in DFG's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5).

## TRANSFER AND ASSIGNMENT

This Agreement may not be transferred or assigned to another entity, and any purported transfer or assignment of the Agreement to another entity shall not be valid or effective, unless the transfer or assignment is requested by Permittee in writing, as specified below, and thereafter DFG approves the transfer or assignment in writing.

The transfer or assignment of the Agreement to another entity shall constitute a minor amendment, and therefore to request a transfer or assignment, Permittee shall submit to DFG a completed DFG "Request to Amend Lake or Streambed Alteration" form and include with the completed form payment of the minor amendment fee identified in DFG's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5).

## EXTENSIONS

In accordance with FGC section 1605(b), Permittee may request one extension of the Agreement, provided the request is made prior to the expiration of the Agreement's term. To request an extension, Permittee shall submit to DFG a completed DFG "Request to Extend Lake or Streambed Alteration" form and include with the completed form payment of the extension fee identified in DFG's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5). DFG shall process the extension request in accordance with FGC 1605(b) through (e).

If Permittee fails to submit a request to extend the Agreement prior to its expiration, Permittee must submit a new notification and notification fee before beginning or continuing the project the Agreement covers (Fish & G. Code, § 1605, subd. (f)). .

## EFFECTIVE DATE

The Agreement becomes effective on the date of DFG's signature, which shall be: 1) after Permittee's signature; 2) after DFG complies with all applicable requirements under the California Environmental Quality Act (CEQA); and 3) after payment of the applicable FGC section 711.4 filing fee listed at http://www.dfg.ca.gov/habcon/ceqa/ceqa_changes.html.

## TERM

This Agreement becomes effective on the date of DFG's signature and terminates **2 years** from the effective date, unless it is terminated or extended before then. All provisions in the Agreement shall remain in force throughout its term. Permittee shall remain responsible for implementing any provisions specified herein to protect fish and wildlife resources after the Agreement expires or is terminated, as FGC section 1605(a)(2) requires.

## AUTHORITY

If the person signing the Agreement (signatory) is doing so as a representative of Permittee, the signatory hereby acknowledges that he or she is doing so on Permittee's behalf and represents and warrants that he or she has the authority to legally bind Permittee to the provisions herein.

## AUTHORIZATION

This Agreement authorizes only the project described herein. If Permittee begins or completes a project different from the project the Agreement authorizes, Permittee may be subject to civil or criminal prosecution for failing to notify DFG in accordance with FGC section 1602.

## CONCURRENCE

The undersigned accepts and agrees to comply with all provisions contained herein.

**FOR CALIFORNIA DEPARTMENTO OF TRANSPORTATION**

10/31/11

Steve Rogers — Date

Project Manager

**FOR DEPARTMENT OF FISH AND GAME**

T. LaBanca 11/10/11

for Curt Babcock — Date

Environmental Program Manager

Prepared by: Scott Bauer
Staff Environmental Scientist
September 29, 2011

# MATERIALS INFORMATION

AERIALLY DEPOSITED LEAD,
TRAFFIC STRIPE PAINT AND
NATURALLY OCCURRING ASBESTOS SITE INVESTIGATION
AND BRIDGE SURVEY REPORT

# AERIALLY DEPOSITED LEAD, TRAFFIC STRIPE PAINT AND NATURALLY OCCURRING ASBESTOS SITE INVESTIGATION AND BRIDGE SURVEY REPORT

## State Route 299 Big French Creek Bridge Improvement Project – Trinity County, California

***PREPARED FOR:***

**CALIFORNIA DEPARTMENT OF TRANSPORTATION – DISTRICT 3**
**ENVIRONMENTAL ENGINEERING OFFICE**
**703 B STREET, P.O. BOX 911**
**MARYSVILLE, CALIFORNIA 95901**

***PREPARED BY:***

**GEOCON CONSULTANTS, INC.**
**3160 GOLD VALLEY DRIVE, SUITE 800**
**RANCHO CORDOVA, CALIFORNIA 95742**

**GEOCON PROJECT NO. S9300-06-159**
**TASK ORDER NO. 159**
**EA 02-374300**

**APRIL 2011**

GEOCON
CONSULTANTS, INC.
GEOTECHNICAL ■ ENVIRONMENTAL ■ MATERIALS

Project No. S9300-06-159
April 8, 2011

Mr. Rajive Chadha
California Department of Transportation – District 3
Environmental Engineering Office
703 B Street
Marysville, California 95901

Subject: STATE ROUTE 299 PM 23.3
BIG FRENCH CREEK BRIDGE IMPROVEMENT PROJECT
TRINITY COUNTY, CALIFORNIA
CONTRACT NO. 03A1368, TASK ORDER NO. 159, EA 02-374300
AERIALLY DEPOSITED LEAD, TRAFFIC STRIPE PAINT, AND NATURALLY OCCURRING ASBESTOS SITE INVESTIGATION AND BRIDGE SURVEY REPORT

Dear Mr. Chadha:

In accordance with California Department of Transportation (Caltrans) Contract No. 03A1368, Task Order Number 159, and Expense Authorization 02-374300, Geocon Consultants, Inc. has performed environmental engineering services for the subject project. The Site consists of Caltrans right-of-way along State Route 299 near Big French Creek Bridge in Trinity County, California. The accompanying report summarizes the services performed, including the advancement of 24 hand-auger borings for shallow soil sampling, aerially deposited lead and naturally occurring asbestos analyses, and the collection and analysis of traffic stripe paint samples. We also performed an asbestos-containing materials and traffic stripe paint bridge survey within the project limits.

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

Please contact us if there are any questions concerning the contents of this report or if we may be of further service.

Sincerely,

**GEOCON CONSULTANTS, INC.**

Gemma G. Reblando
Project Geologist

John E. Juhrend, PE, CEG
Project Manager

REGISTERED PROFESSIONAL ENGINEER
JOHN JUHREND
No. 46681
Exp. 06/30/11
CIVIL
STATE OF CALIFORNIA

(4 + 3 CDs) Addressee

TABLE OF CONTENTS

AERIALLY DEPOSITED LEAD, TRAFFIC STRIPE PAINT, NATURALLY OCCURRING ASBESTOS SITE INVESTIGATION AND BRIDGE SURVEY REPORT Page

TABLE OF CONTENTS (continued)

# AERIALLY DEPOSITED LEAD, TRAFFIC STRIPE PAINT, AND NATURALLY OCCURRING ASBESTOS SITE INVESTIGATION AND BRIDGE SURVEY REPORT

## 1.0 INTRODUCTION

This Aerially Deposited Lead (ADL), Traffic Stripe Paint and Naturally Occurring Asbestos (NOA) Site Investigation Report for the State Route 299 Big French Creek Bridge Improvement Project was prepared by Geocon Consultants, Inc. under California Department of Transportation (Caltrans) Contract No. 03A1368, Task Order (TO) Number 159, and Expense Authorization (EA) 02-374300.

### 1.1 Project Description and Proposed Improvements

The project area consists of Caltrans right-of-way along the eastbound (EB) and westbound (WB) shoulders of State Route 299 (SR-299) near the Big French Creek Bridge at approximate PM 23.3 (the Site) in Trinity County, California. Proposed improvements include widening and repaving the Big French Creek Bridge (Bridge No. 05-0008) and reconstructing approximately 200 feet of the east and west bridge approaches. The approximate project location is depicted on the Vicinity Map, Figure 1, and Site Plan, Figure 2.

### 1.2 General Objectives

The purpose of the scope of work outlined in TO No. 159 was to: 1) evaluate whether impacts due to ADL from motor vehicle exhaust exist in the surface and near surface soils within the project boundaries; 2) to determine whether the yellow and white traffic stripe paint on the roadway contains lead; and 3) to determine whether soil at the Site contains NOA. The investigative results will be used by Caltrans to inform the construction contractor(s) if ADL- and/or NOA-impacted soil and lead-containing traffic stripe paint are present within the project boundaries for construction worker health and safety, soil reuse evaluation and waste management/disposal purposes.

Additionally, we performed an asbestos-containing material (ACM) and traffic stripe paint bridge survey. The results of the ACM and traffic stripe paint bridge survey are summarized in Section 6.5. The bridge survey report is presented in Appendix A.

## 2.0 BACKGROUND

### 2.1 Potential Lead Soil Impacts

Ongoing testing by Caltrans throughout California has indicated that ADL exists along major freeway routes due to emissions from vehicles powered by leaded gasoline.

## 2.2 Hazardous Waste Determination Criteria

Regulatory criteria to classify a waste as "California hazardous" for handling and disposal purposes are contained in the *CCR*, Title 22, Division 4.5, Chapter 11, Article 3, § 66261.24. Criteria to classify a waste as "Resource, Conservation, and Recovery Act (RCRA) hazardous" are contained in Chapter 40 of the Code of Federal Regulations (40 CFR), Section 261.

For waste containing metals, the waste is classified as California hazardous when: 1) the total metal content exceeds the respective Total Threshold Limit Concentration (TTLC); or 2) the soluble metal content exceeds the respective Soluble Threshold Limit Concentration (STLC) based on the standard Waste Extraction Test (WET). A waste may have the potential of exceeding the STLC when the waste's total metal content is greater than or equal to ten times the respective STLC value, since the WET uses a 1:10 dilution ratio. Hence, when a total metal is detected at a concentration greater than or equal to ten times the respective STLC, and assuming that 100 percent of the total metals are soluble, soluble metal analysis is required. A material is classified as RCRA hazardous, or Federal hazardous, when the soluble metal content exceeds the Federal regulatory level based on the Toxicity Characteristic Leaching Procedure (TCLP). The TTLC value for lead is 1,000 milligrams per kilogram (mg/kg). The STLC and TCLP values for lead are both 5.0 milligrams per liter (mg/l).

The above regulatory criteria are based on chemical concentrations. Wastes may also be classified as hazardous based on other criteria such as ignitability and corrosivity; 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 corrosivity. Waste that is classified as either California hazardous or RCRA hazardous requires management as a hazardous waste.

The Department of Toxic Substances Control (DTSC) regulates and interprets hazardous waste laws in California. DTSC generally considers excavated or transported materials that exhibit "hazardous waste" characteristics to be a "waste" requiring proper management, treatment and disposal. Soil that contains lead above hazardous waste thresholds and is left in-place would not be necessarily classified by DTSC as a "waste." The DTSC has provided site-specific determinations that "movement of wastes within an area of contamination does not constitute "land disposal" and, thus, does not trigger hazardous waste disposal requirements." Therefore, lead-impacted soil that is scarified in-place, moisture-conditioned, and recompacted during roadway improvement activities might not be considered a "waste." DTSC should be consulted to confirm waste classification. It is noted that in addition to DTSC regulations, health and safety requirements and other local agency requirements may also apply to the handling and disposal of lead-impacted soil.

## 2.3 Naturally Occurring Asbestos

The California Air Resources Board (CARB) has mitigation practices for construction, grading, quarrying and surface mining operations that may disturb natural occurrences of asbestos as outlined in Title 17 California Code of Regulations (CCR), Section 93105. NOA potentially possesses a health hazard when it becomes an airborne particulate. Mitigation practices can reduce the risk of exposure to asbestos-containing dust. The primary mitigation practice used for controlling exposure to potentially asbestos-containing dust is the implementation of engineering controls including wetting the materials being disturbed. If engineering controls do not adequately control exposure to potentially asbestos-containing dust, the use of personal protective equipment including wearing air purifying respirators with High Efficiency Particulate Air (HEPA) filters is required during construction activities. Dust control methods similar to those in Title 17 CCR, Section 93105 are outlined in Title 17 CCR, Section 93106 for airborne asbestos in road surfacing applications. Using surfacing material with 0.25% or more asbestos material is not permitted and wetting of the material or the application of a surface sealant is recommended to minimize disturbance of the asbestos material. Onsite reuse or disposal of NOA-containing materials is allowed by 17 CCR 93106 and 17 CCR 93105 if it is buried under at least 3 inches of material that contains less than 0.25% NOA.

# 3.0 SCOPE OF SERVICES

We performed the following scope of services as requested by Caltrans in TO No. 159:

## 3.1 Pre-field Activities

- Caltrans representative Rajive Chadha conducted a pre-work site visit to outline the project limits in white paint for subsequent utility clearance.
- Prepared a *Health and Safety Plan* dated February 26, 2011, to provide guidelines on the use of personal protective equipment and the health and safety procedures implemented during the field activities.
- Provided 48-hour notification to Underground Service Alert prior to job site mobilization.
- Retained the services of Advanced Technology Laboratories (ATL) to perform the chemical analysis of soil and traffic stripe paint samples.
- Retained the services of EMSL Analytical, Inc. to perform the asbestos analysis of soil samples.

## 3.2 Field Activities

On March 1, 2011, 73 soil samples were collected from 24 borings located along the shoulders of EB and WB SR-299 near Big French Creek Bridge at approximate PM 23.3. The soil borings were excavated to an approximate maximum sampling depth of 3.0 feet. Soil samples were collected at general depth intervals of 0.0 to 0.5 foot, 0.5 to 1.0 foot, 1.0 to 2.0 feet and 2.0 to 3.0 feet. At some locations, excavation refusal was encountered between depths of 0.5 and 3.0 feet.

# 4.0 INVESTIGATIVE METHODS

## 4.1 Boring and Paint Sample Location Rationale

The soil boring locations were designated by Caltrans in the vicinity of proposed improvements. Borings WB1 through WB12 were advanced along the shoulder of westbound SR-299. Borings EB13 through EB24 were advanced along the shoulder of eastbound SR-299. The approximate soil boring locations are depicted on Figure 2.

The paint samples were collected within the proposed construction area. Traffic stripe paint sample BFCB-P1A was collected from the yellow centerline of SR-299. Traffic stripe paint sample BFCB-P2A was collected from the white traffic stripe paint on the eastbound side of SR-299. The approximate paint sample locations are depicted on Figure 2.

The coordinates of each boring location were determined using a differential global positioning system (GPS). The GPS was utilized during the field activities to locate the horizontal position of each location with an error of no more than 3.3 feet. The latitude and longitude of the boring locations are summarized in Table 1.

## 4.2 Soil Sampling Procedures

A total of 73 soil samples were collected from 24 hand-auger borings excavated at the Site. Soil samples were collected and transferred directly from the hand-auger to Ziploc® re-sealable plastic bags. The soil samples were field homogenized within the sample bags and subsequently labeled, placed in an ice chest, and delivered to ATL for analytical testing under chain-of-custody (COC) documentation.

Quality Assurance/Quality Control (QA/QC) procedures were performed during the field exploration activities. These procedures included decontamination of sampling equipment before each boring was advanced and providing COC documentation for each sample submitted to the laboratory. The soil sampling equipment was cleansed between each boring by washing the equipment with an Alconox™ solution followed by a double rinse with deionized water. The field sampling activities were performed under the supervision of Geocon's field manager.

The borings were backfilled with the excess soil cuttings generated at each boring. The decontamination water was discharged to the ground surface away from surface water bodies or storm drain inlets.

## 4.3 Paint Sampling Procedures

The traffic stripe paint samples were collected using a hammer to break a chip off the traffic stripe paint. The paint samples were placed in Ziploc® re-sealable plastic bags, subsequently labeled, and delivered to ATL under standard COC documentation.

## 4.4 NOA Investigation

Prior to the field sampling activities, we reviewed the following documents pertaining to the geologic setting of the Site:

- *2010 Geologic Map of California*, California Geological Survey, Geologic Data Map No. 2, accessed via the world-wide web at http://www.quake.ca.gov/gmaps/GMC/stategeologicmap.html, on February 24, 2011.
- *Geologic Map of California*, Redding Sheet, California Department of Natural Resources, Division of Mines, 1962.

Two 3-sample composites collected from the WB shoulder and two 3-sample composites from the EB shoulders of SR-299 were placed in a labeled Ziploc® re-sealable plastic bag and delivered to EMSL for asbestos analysis under COC protocol.

## 4.5 Traffic Control

We provided traffic control, including the use of a "SHOULDER WORK AHEAD" advanced warning signs and orange traffic cones, where necessary based on the proximity of the work zone with respect to the active traffic lanes.

## 4.6 Laboratory Analyses

The soil and paint samples collected within the project boundaries were submitted to ATL for laboratory analyses under expedited five-day turn-around-time (TAT) and to EMSL for laboratory analysis under standard TAT.

### 4.6.1 Lead

The soil and paint samples were submitted to ATL for the following analyses. The laboratory was instructed to homogenize the soil samples prior to analysis for lead in accordance with Contract 03A1368 requirements.

- Seventy-three soil samples were analyzed for total lead following United States Environmental Protection Agency (EPA) Test Method 6010B.
- Nine soil samples with total lead concentrations greater than or equal to 50 mg/kg (ten times the STLC value for lead of 5.0 mg/l) were further analyzed for WET soluble lead by EPA Test Method 7420.
- Two paint samples were analyzed for total lead following EPA Test Method 6010B.

### 4.6.2 NOA

Twelve soil samples collected from the Site were composited by EMSL into four 3-part composites (WB-3,4,5; WB-7,8,9; EB-16,17,18; and EB-21,22,23) and analyzed for asbestos by polarized light microscopy (PLM) using California Air Resources Board (CARB) Method 435 (CARB 435 PLM Method A). The analytical sensitivity of the PLM analysis was 0.25%.

## 4.7 Quality Assurance/Quality Control

QA/QC procedures were performed for each method of analysis with specificity for each analyte listed in the test method's QA/QC. The ATL QA/QC procedures included the following:

- One method blank for every ten samples, batch of samples or type of matrix, whichever was more frequent.
- One sample analyzed in duplicate for every ten samples, batch of samples or type of matrix, whichever was more frequent.
- One spiked sample for every ten samples, batch of samples or type of matrix, whichever was more frequent, with the spike made at ten times the reporting limit or at the analyte level.

Prior to submitting the soil samples to the laboratory, the COC documentation was reviewed for accuracy and completeness. Reproductions of the laboratory reports and COC documentation are presented in Appendix B.

# 5.0 FIELD OBSERVATIONS AND INVESTIGATIVE RESULTS

## 5.1 Geologic Map Review

The site geology is mapped as Paleozoic marine metasedimentary rocks including sandstone, shale, slate, chert, limestone, schist, and quartzite. The area is not considered likely to contain NOA.

## 5.2 Soil Conditions

Soil encountered during the excavation of borings was generally comprised of gravelly sand and cobbles to the maximum sampling depth of approximately 3.0 feet. Groundwater was not encountered in the soil borings.

## 5.3 Laboratory Analytical Results

The laboratory analytical results are discussed below. The ADL analytical results are summarized on Table 1. The analytical results of the traffic paint samples are summarized on Table 2. A summary of the asbestos analytical results are presented in Table 3. The laboratory reports and COC documentation are presented in Appendix B.

### 5.3.1 ADL

Total lead was detected in 72 of 73 soil samples at concentrations ranging from 6.6 to 180 mg/kg. Nine of the 73 soil samples had reported total lead concentrations greater than 50 mg/kg (ten times the STLC value for lead of 5.0 mg/l).

WET soluble lead was detected in each of the nine soil samples analyzed at concentrations ranging from 1.3 to 6.9 mg/l. Only one sample (EB19-0) had a WET soluble lead concentration greater than the STLC value for lead of 5.0 mg/l.

### 5.3.2 Traffic Stripe Paint

Total lead was reported for yellow traffic stripe paint sample BFCB-P1A at 300 mg/kg. Caltrans elected not to further analyze the yellow traffic stripe paint sample for WET and TCLP soluble lead.

Total lead was reported for white traffic stripe paint sample BFCB-P2A at 6.8 mg/kg, less than 50 mg/kg (i.e., less than ten times the STLC value for lead of 5.0 mg/l).

### 5.3.3 NOA

None of the four composite soil samples submitted for asbestos analysis were reported to contain asbestos at or greater than the PLM laboratory reporting limit of 0.25%. Each of the four composite samples submitted for asbestos analysis was reported as non-detect. The analytical laboratory reported each of the samples as 100% non-fibrous.

### 5.3.4 Laboratory QA/QC

We reviewed the ATL QA/QC provided with the laboratory reports. The data show acceptable surrogate recoveries and non-detect results for the method blanks. However, the relative percent differences (RPDs) for EPA Method 6010 were outside the RPD limit for several samples as stated in the Case Narrative in the laboratory report. However, the laboratory control sample validated the analytical batch. The data showed acceptable recoveries and RPDs for the remainder of the matrix spikes and duplicates. Based on this limited data review, no additional qualifications of the soil and paint sample data are necessary, and the data are of sufficient quality for the purposes of this report.

## 5.4 Statistical Evaluation for Lead Detected in Soil Samples

The total lead data for the soil samples collected from the Site were separated into two sample populations for statistical evaluation as described below:

- SR-299 WB Shoulder consists of soil samples collected from borings WB1 through WB12.
- SR-299 EB Shoulder consists of soil samples collected from borings EB13 through EB24.

Statistical methods were applied to the total lead data to evaluate: 1) the upper confidence limits (UCLs) of the arithmetic means of the total lead concentrations for each sampling depth; and 2) if an acceptable correlation between total and soluble lead concentrations exists that would allow the prediction of soluble lead concentrations based on calculated UCLs. The statistical methods used are discussed in a book entitled *Statistical Methods for Environmental Pollution Monitoring,* by Richard Gilbert; in an EPA *Technology Support Center Issue* document entitled, *The Lognormal Distribution in Environmental Applications*, by Ashok Singh et. al., dated December 1997; and in a book entitled *An Introduction to the Bootstrap,* by Bradley Efron and Robert J. Tibshirani.

### 5.4.1 Calculating the UCLs for the Arithmetic Mean

The upper one-sided 90% and 95% UCLs of the arithmetic mean are defined as the values that, when calculated repeatedly for randomly drawn subsets of site data, equal or exceed the true mean 90% and 95% of the time, respectively. Statistical confidence limits are the classical tool for addressing uncertainties of a distribution mean. The UCLs of the arithmetic mean concentration are used as the mean concentrations because it is not possible to know the true mean due to the essentially infinite number of soil samples that could be collected from a site. The UCLs therefore account for uncertainties due to limited sampling data. As data become less limited at a site, uncertainties decrease, and the UCLs move closer to the true mean.

Non-parametric bootstrap techniques used to calculate the UCLs are discussed in the previously referenced EPA document and in *An Introduction to the Bootstrap.* For those samples in which total lead was not detected at concentrations exceeding the laboratory reporting limit, a value equal to one-half of the reporting limit was used in the UCL calculation. The bootstrap results are included in Appendix C. The calculated UCLs and statistical results are summarized in the following tables:

**SR-299 WB Shoulder**
**(WB1 through WB12)**

| SAMPLE INTERVAL (feet) | 90% TOTAL LEAD UCL (mg/kg) | 95% TOTAL LEAD UCL (mg/kg) | TOTAL LEAD MEAN (mg/kg) | MINIMUM VALUE (mg/kg) | MAXIMUM VALUE (mg/kg) |
|---|---|---|---|---|---|
| 0.0 to 0.5 | 32.4 | 35.0 | 24.2 | 2.5 | 83 |
| 0.5 to 1.0 | 19.6 | 20.3 | 17.2 | 9.2 | 36 |
| 1.0 to 2.0 | 14.5 | 15.0 | 12.7 | 8.7 | 18 |
| 2.0 to 3.0 | 15.4 | 16.2 | 13.3 | 8.1 | 20 |

The average total lead for the SR-299 WB Shoulder data is 18.0 mg/kg.

**SR-299 EB Shoulder**
**(EB13 through EB24)**

| SAMPLE INTERVAL (feet) | 90% TOTAL LEAD UCL (mg/kg) | 95% TOTAL LEAD UCL (mg/kg) | TOTAL LEAD MEAN (mg/kg) | MINIMUM VALUE (mg/kg) | MAXIMUM VALUE (mg/kg) |
|---|---|---|---|---|---|
| 0.0 to 0.5 | 72.9 | 78.2 | 54.4 | 14 | 180 |
| 0.5 to 1.0 | 33.3 | 35.9 | 24.1 | 8.9 | 82 |
| 1.0 to 2.0 | 23.0 | 24.1 | 18.9 | 8.4 | 38 |
| 2.0 to 3.0 | 53.0 * | 53.0 * | 53.0 | 14 | 53 |

* UCLs could not be calculated using Bootstrap method due to insufficient number of distinct values for the samples collected from this depth. Thus, the maximum concentration from this sampling depth was used for the UCL.

The average total lead for the SR-299 EB Shoulder data is 33.1 mg/kg.

### 5.4.2 Correlation of Total and Soluble Lead

Total and corresponding WET soluble lead concentrations are bivariate data with a linear structure. This linear structure should allow for the prediction of WET soluble lead concentrations based on the UCLs calculated above in Section 5.4.1.

To estimate the degree of interrelation between total and corresponding WET soluble lead values (*x* and *y*, respectively), the *correlation coefficient [r]* is used. The correlation coefficient is a ratio that ranges from +1 to –1. A *correlation coefficient* of +1 indicates a perfect direct relationship between two variables; a *correlation coefficient* of –1 indicates that one variable changes inversely with relation to the other. Between the two extremes is a spectrum of less-than-perfect relationships, including zero, which indicates the lack of any sort of linear relationship at all.

The *correlation coefficient* was calculated for the (*x, y*) data points (i.e., soil samples analyzed for both total lead [*x*] and WET soluble lead [*y*]) and equaled 0.8596. A *correlation coefficient* greater than or equal to 0.8 is an acceptable indicator that a correlation exists. Consequently, an acceptable correlation

between total and WET soluble lead concentrations was established for the data points since the *correlation coefficient* is greater than 0.8.

For the *correlation coefficient* that indicates a linear relationship between total and WET soluble lead concentrations, it is possible to compute the line of dependence or a best-fit line between the two variables. A least squares method was used to find the equation of a best-fit line (regression line) by forcing the y-intercept equal to zero since that is a known point. The equation of the regression line was determined to be $y = 0.0295(x)$, where $x$ represents total lead concentrations and $y$ represents predicted WET soluble lead concentrations. This equation was used to estimate the expected WET soluble lead concentrations for the UCLs calculated in Section 5.4.1. Regression analysis results and a scatter plot depicting the ($x$, $y$) data points along with the regression line are presented in Appendix C. The 90% and 95% UCL-predicted WET soluble lead concentrations for the SR-299 EB Shoulder are presented in the table below. The UCL-predicted WET soluble lead concentrations were not calculated for the SR-299 WB Shoulder since the calculated total lead UCLs are less than 50 mg/kg.

**SR-299 EB Shoulder**
**(EB13 through EB24)**

| SAMPLE INTERVAL (feet) | 90% TOTAL LEAD UCL (mg/kg) | 90% UCL-PREDICTED WET SOLUBLE LEAD (mg/l) | 95% TOTAL LEAD UCL (mg/kg) | 95% UCL-PREDICTED WET SOLUBLE LEAD (mg/l) |
|---|---|---|---|---|
| 0.0 to 0.5 | 72.9 | 2.2 | 78.2 | 2.3 |
| 0.5 to 1.0 | 33.3 | 1.0 | 35.9 | 1.1 |
| 1.0 to 2.0 | 23.0 | 0.7 | 24.1 | 0.7 |
| 2.0 to 3.0 | 53.0 * | 1.6 | 53.0 * | 1.6 |

* The maximum concentration from this sampling depth was used for the UCL.

# 6.0 CONCLUSIONS AND RECOMMENDATIONS

Waste classifications based on the 90% UCL of the lead content for the relevant excavation depths has historically been considered sufficient to satisfy a good faith effort by the EPA as discussed in SW-846. Risk assessment characterization is typically based on the 95% UCL of the lead content in the waste for the relevant depths; this is in accordance with the Risk Assessment Guidance for Superfund (RAGS) Volume 1 Documentation for Exposure Assessment. Per Caltrans, the 90% UCLs are to be used to evaluate onsite reuse and the 95% UCLs are to be used to evaluate offsite disposal.

If soil within the project limits is scarified in-place, moisture-conditioned, and recompacted during roadway improvement activities, it may not be considered a "waste."

## 6.1 SR-299 WB Shoulder

Total lead concentrations ranged from less than the laboratory reporting limit (RL) of 5.0 mg/kg to 83 mg/kg, with an average total lead concentration of 18.0 mg/kg. Soil materials excavated to any depth up to 3.0 feet along the WB shoulder of SR-299 near the Big French Creek Bridge will not require special soil handling and disposal procedures based on lead content and can be reused or disposed of as non-hazardous soil since the calculated total lead UCLs are less than 50 mg/kg.

## 6.2 SR-299 EB Shoulder

Total lead concentrations ranged from 8.4 to 180 mg/kg, with an average total lead concentration of 33.1 mg/kg. Soil materials excavated to any depth up to 3.0 feet along the EB shoulder of SR-299 near the Big French Creek Bridge will not require special soil handling and disposal procedures based on lead content and can be reused or disposed of as non-hazardous soil since the calculated total lead UCLs are less than 50 mg/kg (ten times the STLC value for lead of 5.0 mg/l) or the calculated 90% and 95% UCL-predicted WET soluble lead concentrations are less than STLC value for lead of 5.0 mg/l.

## 6.3 Traffic Stripe Paint Waste Classification/Disposal

The yellow and white traffic stripe paint was sampled per Caltrans' request since it may be removed from the underlying asphalt concrete by grinding or sand blasting, which would create a paint waste stream. The analytical results of the traffic stripe paint will be used by Caltrans to provide contractors with preliminary analytical data of the traffic stripe paint.

Yellow traffic stripe paint sample BFCB-P1A collected at the Site had a total lead level of 300 mg/kg, greater than 50 mg/kg (ten times the STLC value for lead of 5.0 mg/l). Waste streams containing yellow traffic stripe paints generated at the Site may require additional analytical testing to determine appropriate disposal options since the yellow traffic stripe paint sample collected at the Site contained a lead concentration that may potentially exceed the California hazardous waste threshold 5.0 mg/l (STLC).

Total lead was detected in the white traffic stripe paint sample (BFCB-P2A) collected at the Site at a concentration of 6.8 mg/kg. Thus, the white traffic stripe paint at the Site will not require disposal as a California hazardous waste since the total lead concentration is less than 50 mg/kg (ten times the STLC value for lead of 5.0 mg/l).

## 6.4 NOA

The soil samples submitted for asbestos analysis were not reported to contain asbestos at or greater than the laboratory reporting limit of 0.25% by the PLM method. Each of the four composite samples submitted for asbestos analysis was reported as non-detect. These results are consistent with the mapped geologic conditions for the site vicinity as consisting of rocks that are not likely to contain NOA. Since the Site is not known to contain serpentine or ultramafic rocks and NOA was not reported to be present in the samples analyzed, engineering controls to minimize the aerial dispersion of asbestos are not required.

## 6.5 Bridge Survey

Asbestos was not detected in the samples collected during the bridge survey. The traffic stripe paint samples collected during the survey would not be considered a California or Federal hazardous waste based on lead content since the total lead concentrations are less than 50 mg/kg (ten times the STLC value for lead of 5.0 mg/l) or the total lead concentrations are less than the TTLC value for lead of 1,000 mg/kg.

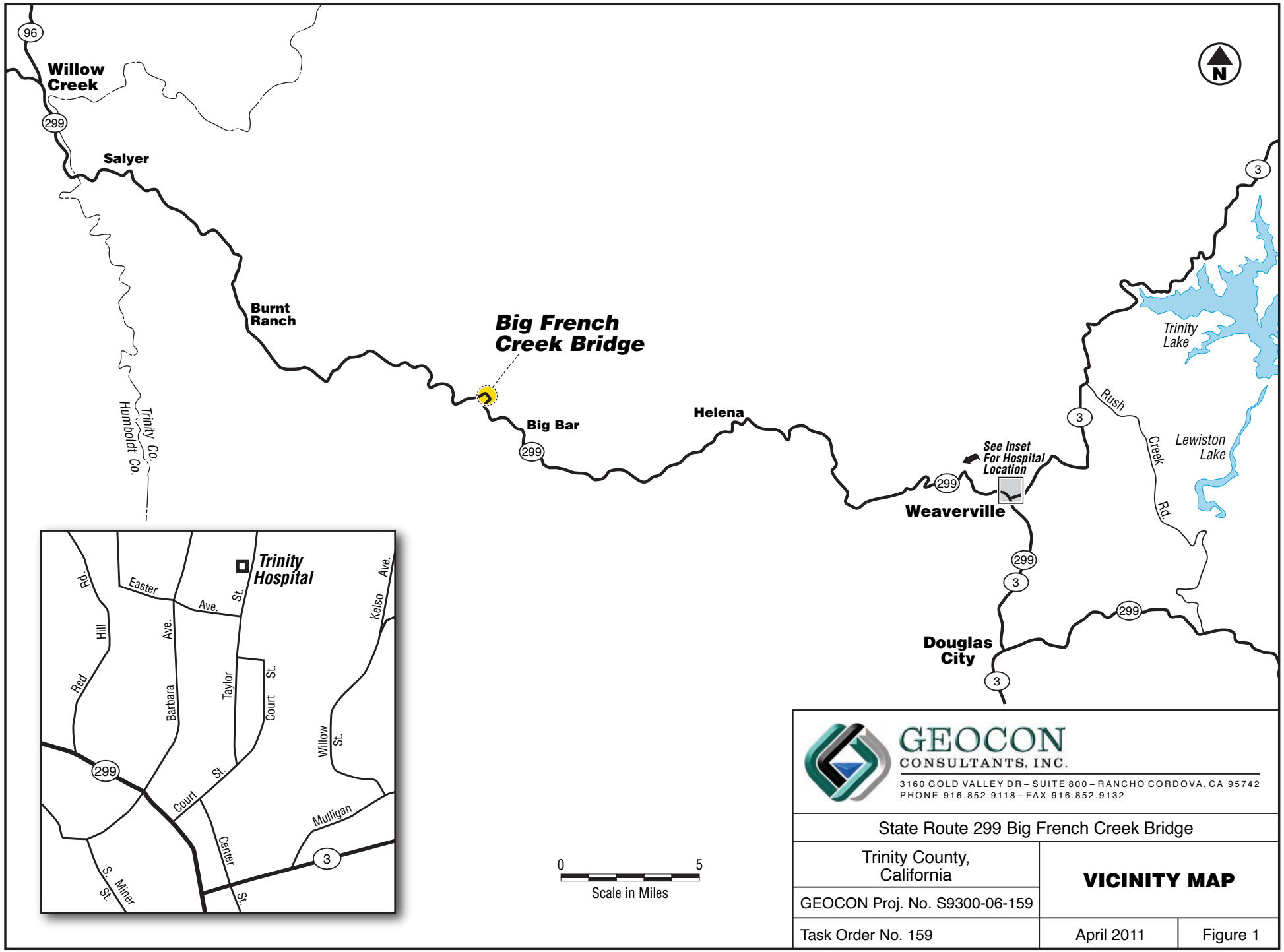
## 6.6 Worker Protection

Per Caltrans' requirements, the contractor(s) should prepare a project-specific Lead Compliance Plan (CCR Title 8, Section 1532.1, the "Lead in Construction" standard) to minimize worker exposure to lead-impacted soil and lead-impacted traffic stripe paint since material at the Site contains lead. According to Caltrans, removal of the traffic stripe paint may produce toxic waste materials. The plan should include protocols for environmental and personnel monitoring and other health and safety protocols and procedures for the handling of lead-impacted soil and lead-impacted traffic stripe paint. The plan should include a discussion of the constituents of concern, routes of exposure, permissible exposure limits, and personal protective measures. The plan should be reviewed and signed by the onsite construction workers prior to any field activities. We also recommend that contractors on the Site grinding asphalt which has been coated with yellow traffic stripe paint prepare a dust control plan. The dust control plan should include dust mitigation and monitoring procedures.

## 7.0 REPORT LIMITATIONS

This report has been prepared exclusively for Caltrans. The information contained herein is only valid as of the date of the report and will require an update to reflect additional information obtained.

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




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

State Route 299 Big French Creek Bridge

| | | |
|---|---|---|
| Trinity County, California | **VICINITY MAP** | |
| GEOCON Proj. No. S9300-06-159 | | |
| Task Order No. 159 | April 2011 | Figure 1 |

NOTES

1) INDICATES PAVEMENT WIDENING THAT IS NEEDED TO CONFORM TO THE BRIDGE WIDENING

2) PROJECT INCLUDES REMOVING AC PAVING FROM BRIDGE DECK RECONSTRUCT 100 FEET OF ROADWAY APPROACH AT BOTH ENDS OF BRIDGE TO MATCH NEW BRIDGE GRADE

BIG FRENCH CREEK

TO WILLOW CREEK

19+00

20+00

21+00

22+00

23+00

RTE 299

WB12 WB11 WB10 WB9 WB8 WB7 WB6 WB5 WB4 WB3 WB2 WB1

P2A P1A

EB13 EB14 EB15 EB16 EB17 EB18 EB19 EB20 EB21 EB22 EB23 EB24

TRINITY RIVER

PLAN VIEW

BIG FRENCH CREE

02-TRI-299- PM

LEGEND:

WB1 ⊗ Approximate Boring Location

P1A ▲ Approximate Traffic Stripe Sample Location

0 40

Scale in Feet

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

State Route 299 Big French Creek Bridge

Trinity County, California

**SITE PLAN**

GEOCON Proj. No. S9300-06-159

Task Order No. 159 | April 2011 | Figure 2

TABLE 1
SUMMARY OF SOIL BORING COORDINATES AND LEAD ANALYTICAL RESULTS
EA 02-374300
STATE ROUTE 299 BIG FRENCH CREEK BRIDGE IMPROVEMENT PROJECT
TRINITY COUNTY, CALIFORNIA

| BORING ID | SAMPLE DATE | LATITUDE | LONGITUDE | TOTAL LEAD (mg/kg) | WET LEAD (mg/l) |
|---|---|---|---|---|---|
| **STATE ROUTE 299 WESTBOUND SHOULDER** | | | | | |
| WB1-0 | 3/1/2011 | 40.77992591 | -123.30889555 | 6.6 | --- |
| WB1-0.5 | 3/1/2011 | | | 17 | --- |
| WB2-0 | 3/1/2011 | 40.77992522 | -123.30896428 | 6.6 | --- |
| WB2-0.5 | 3/1/2011 | | | 15 | --- |
| WB3-0 | 3/1/2011 | 40.77996933 | -123.30902173 | <5.0 | --- |
| WB3-0.5 | 3/1/2011 | | | 36 | --- |
| WB3-1 | 3/1/2011 | | | 9.9 | --- |
| WB4-0 | 3/1/2011 | 40.77997825 | -123.30912186 | 83 | 1.3 |
| WB4-0.5 | 3/1/2011 | | | 12 | --- |
| WB4-1 | 3/1/2011 | | | 11 | --- |
| WB4-2 | 3/1/2011 | | | 20 | --- |
| WB5-0 | 3/1/2011 | 40.77999178 | -123.30919246 | 18 | --- |
| WB5-0.5 | 3/1/2011 | | | 15 | --- |
| WB5-1 | 3/1/2011 | | | 9.0 | --- |
| WB5-2 | 3/1/2011 | | | 9.5 | --- |
| WB6-0 | 3/1/2011 | 40.77999339 | -123.30926762 | 12 | --- |
| WB6-0.5 | 3/1/2011 | | | 17 | --- |
| WB6-1 | 3/1/2011 | | | 18 | --- |
| WB6-2 | 3/1/2011 | | | 11 | --- |
| WB7-0 | 3/1/2011 | 40.78001787 | -123.30967027 | 44 | --- |
| WB7-0.5 | 3/1/2011 | | | 15 | --- |
| WB7-1 | 3/1/2011 | | | 8.7 | --- |
| WB7-2 | 3/1/2011 | | | 8.1 | --- |
| WB8-0 | 3/1/2011 | 40.78002281 | -123.30970891 | 27 | --- |
| WB8-0.5 | 3/1/2011 | | | 20 | --- |
| WB8-1 | 3/1/2011 | | | 14 | --- |
| WB8-2 | 3/1/2011 | | | 17 | --- |
| WB9-0 | 3/1/2011 | 40.78004590 | -123.30977526 | 52 | 2.0 |
| WB9-0.5 | 3/1/2011 | | | 19 | --- |
| WB9-1 | 3/1/2011 | | | 18 | --- |
| WB9-2 | 3/1/2011 | | | 14 | --- |
| WB10-0 | 3/1/2011 | 40.78003456 | -123.30982525 | 11 | --- |
| WB10-0.5 | 3/1/2011 | | | 9.2 | --- |
| WB11-0 | 3/1/2011 | 40.78001846 | -123.31006310 | 16 | --- |
| WB11-0.5 | 3/1/2011 | | | 20 | --- |

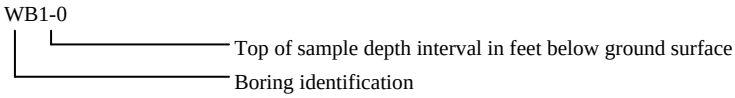
TABLE 1
SUMMARY OF SOIL BORING COORDINATES AND LEAD ANALYTICAL RESULTS
EA 02-374300
STATE ROUTE 299 BIG FRENCH CREEK BRIDGE IMPROVEMENT PROJECT
TRINITY COUNTY, CALIFORNIA

| BORING ID | SAMPLE DATE | LATITUDE | LONGITUDE | TOTAL LEAD (mg/kg) | WET LEAD (mg/l) |
|---|---|---|---|---|---|
| WB12-0 | 3/1/2011 | 40.77999756 | -123.31017717 | 12 | --- |
| WB12-0.5 | 3/1/2011 | | | 11 | --- |
| **STATE ROUTE 299 EASTBOUND SHOULDER** | | | | | |
| EB13-0 | 3/1/2011 | 40.77991757 | -123.31015137 | 22 | --- |
| EB14-0 | 3/1/2011 | 40.77991140 | -123.31005285 | 19 | --- |
| EB14-0.5 | 3/1/2011 | | | 13 | --- |
| EB14-1 | 3/1/2011 | | | 15 | --- |
| EB15-0 | 3/1/2011 | 40.77992686 | -123.30995997 | 21 | --- |
| EB15-0.5 | 3/1/2011 | | | 9.5 | --- |
| EB15-1 | 3/1/2011 | | | 16 | --- |
| EB16-0 | 3/1/2011 | 40.77993601 | -123.30987591 | 23 | --- |
| EB16-0.5 | 3/1/2011 | | | 9.2 | --- |
| EB16-1 | 3/1/2011 | | | 13 | --- |
| EB17-0 | 3/1/2011 | 40.77994282 | -123.30979992 | 100 | 1.5 |
| EB17-0.5 | 3/1/2011 | | | 22 | --- |
| EB17-1 | 3/1/2011 | | | 38 | --- |
| EB17-2 | 3/1/2011 | | | 23 | --- |
| EB18-0 | 3/1/2011 | 40.77994070 | -123.30970553 | 14 | --- |
| EB18-0.5 | 3/1/2011 | | | 8.9 | --- |
| EB18-1 | 3/1/2011 | | | 8.4 | --- |
| EB18-2 | 3/1/2011 | | | 14 | --- |
| EB19-0 | 3/1/2011 | 40.77989337 | -123.30932821 | 180 | **6.9** |
| EB20-0 | 3/1/2011 | 40.77988967 | -123.30925246 | 28 | --- |
| EB20-0.5 | 3/1/2011 | | | 14 | --- |
| EB20-1 | 3/1/2011 | | | 17 | --- |
| EB21-0 | 3/1/2011 | 40.77987185 | -123.30917284 | 110 | 2.8 |
| EB21-0.5 | 3/1/2011 | | | 51 | 1.3 |
| EB21-1 | 3/1/2011 | | | 23 | --- |
| EB21-2 | 3/1/2011 | | | 19 | --- |
| EB22-0 | 3/1/2011 | 40.77985951 | -123.30906984 | 34 | --- |
| EB22-0.5 | 3/1/2011 | | | 20 | --- |
| EB22-1 | 3/1/2011 | | | 11 | --- |
| EB23-0 | 3/1/2011 | 40.77984114 | -123.30900428 | 80 | 2.2 |
| EB23-0.5 | 3/1/2011 | | | 82 | 2.6 |
| EB23-1 | 3/1/2011 | | | 37 | --- |

TABLE 1
SUMMARY OF SOIL BORING COORDINATES AND LEAD ANALYTICAL RESULTS
EA 02-374300
STATE ROUTE 299 BIG FRENCH CREEK BRIDGE IMPROVEMENT PROJECT
TRINITY COUNTY, CALIFORNIA

| BORING ID | SAMPLE DATE | LATITUDE | LONGITUDE | TOTAL LEAD (mg/kg) | WET LEAD (mg/l) |
|---|---|---|---|---|---|
| EB23-2 | 3/1/2011 | | | 53 | 1.4 |
| EB24-0 | 3/1/2011 | 40.77981170 | -123.30892676 | 22 | --- |
| EB24-0.5 | 3/1/2011 | | | 11 | --- |
| EB24-1 | 3/1/2011 | | | 11 | --- |

Notes:




WET = Waste Extraction Test by EPA Test Method 7420

mg/kg = Milligrams per kilogram

mg/l = Milligrams per liter

< = Less than the laboratory reporting limit

--- = Not analyzed

WET lead concentration in **bold** type is greater than the Soluble Threshold Limit Concentration for lead of 5.0 mg/l

TABLE 2
SUMMARY OF TRAFFIC PAINT SAMPLE ANALYTICAL RESULTS
EA 02-374300
STATE ROUTE 299 BIG FRENCH CREEK BRIDGE IMPROVEMENT PROJECT
TRINITY COUNTY, CALIFORNIA

| SAMPLE ID | SAMPLE DATE | PAINT COLOR | TOTAL LEAD (mg/kg) |
|---|---|---|---|
| BFCB-P1A | 3/1/2011 | Yellow | 300 |
| BFCB-P2A | 3/1/2011 | White | 6.8 |

Notes:
mg/kg = Milligrams per kilogram

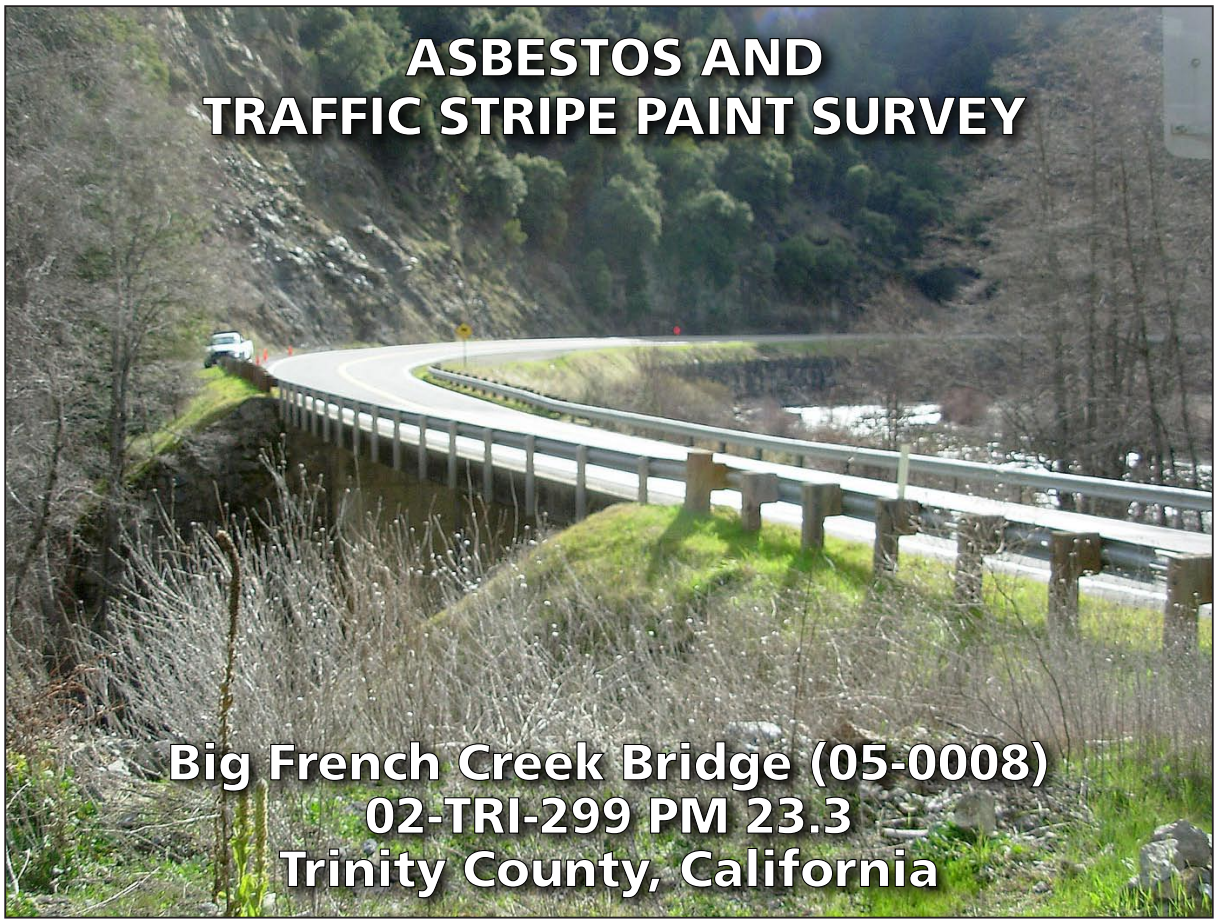
TABLE 3
SUMMARY OF NATURALLY OCCURRING ASBESTOS ANALYTICAL RESULTS
EA 02-374300
STATE ROUTE 299 BIG FRENCH CREEK BRIDGE IMPROVEMENT PROJECT
TRINITY COUNTY, CALIFORNIA

| SAMPLE I.D. | SAMPLE DATE | ANALYTICAL METHOD | ASBESTOS % | ASBESTOS TYPE |
|---|---|---|---|---|
| WB-3,4,5 | 3/1/2011 | PLM | ND | None Reported |
| WB-7,8,9 | 3/1/2011 | PLM | ND | None Reported |
| EB-16,17,18 | 3/1/2011 | PLM | ND | None Reported |
| EB-21,22,23 | 3/1/2011 | PLM | ND | None Reported |

Notes: PLM = Polarized Light Microscopy
ND = Not detected

# APPENDIX A

# ASBESTOS AND TRAFFIC STRIPE PAINT SURVEY



## Big French Creek Bridge (05-0008)
## 02-TRI-299 PM 23.3
## Trinity County, California

***PREPARED FOR:***

**CALIFORNIA DEPARTMENT OF TRANSPORTATION – DISTRICT 3**
**ENVIRONMENTAL ENGINEERING OFFICE**
**703 B STREET, P.O. BOX 911**
**MARYSVILLE, CALIFORNIA 95901**

***PREPARED BY:***

**GEOCON CONSULTANTS, INC.**
**3160 GOLD VALLEY DRIVE, SUITE 800**
**RANCHO CORDOVA, CALIFORNIA 95742**

**GEOCON PROJECT NO. S9300-06-159**
**TASK ORDER NO. 159**
**E-FIS 02 0000 0280 0 (EA 02-374300)**
**CONTRACT NO. 03A1368**

**APRIL 2011**

GEOCON
CONSULTANTS, INC.
GEOTECHNICAL ■ ENVIRONMENTAL ■ MATERIALS

Project No. S9300-06-159
April 8, 2011

Rajive Chadha, Task Order Manager
Caltrans District 3
703 B Street
Marysville, California 95901

Subject: BIG FRENCH CREEK BRIDGE (05-0008)
TRINITY COUNTY, CALIFORNIA
CONTRACT NO. 03A1368, E-FIS 02 0000 0280 0 (EA 02-374300)
TASK ORDER NO. 159, 02-TRI-299 PM 23.3
ASBESTOS AND TRAFFIC STRIPE PAINT SURVEY REPORT

Dear Mr. Chadha:

In accordance with California Department of Transportation Contract No. 03A1368 and Task Order No. 159, we have performed an asbestos and traffic stripe paint survey of the subject bridge in Trinity County, California. The scope of services included surveying the bridge for suspect asbestos-containing materials and traffic stripe paint, collecting bulk samples, and submitting the samples to laboratories for analyses.

The accompanying report summarizes the services performed and laboratory analysis.

*The contents of this report reflect the views of Geocon Consultants, Inc., 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.*

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

Sincerely,

**GEOCON CONSULTANTS, INC.**

David A. Watts, CAC
Senior Project Scientist

John E. Juhrend, PE, CEG
Project Manager

(4 + 3 CDs) Addressee

TABLE OF CONTENTS

ASBESTOS AND TRAFFIC STRIPE PAINT SURVEY REPORT Page

# ASBESTOS AND TRAFFIC STRIPE PAINT SURVEY REPORT

## 1.0 INTRODUCTION

This asbestos and lead-containing traffic stripe paint (LCP) survey report was prepared by Geocon Consultants, Inc. under Caltrans Contract No. 03A1368, Task Order No. 159 (TO-159).

### 1.1 Project Description

The project consists of the widening of the Big French Creek Bridge (05-0008) located at Post Mile (PM) 23.3 on Highway 299 in Trinity County, California. We performed asbestos and LCP survey activities at the bridge. The approximate project location is depicted on the Vicinity Map, Figure 1. The approximate sample locations are depicted on the Site Plan, Figure 2.

### 1.2 General Objectives

The purpose of the scope of services outlined in TO-159 was to determine the presence and quantity of asbestos and LCP at the project location prior to planned bridge widening. The information obtained from this investigation will be used by Caltrans for waste profiling, determining California Occupational Safety and Health Administration (Cal/OSHA) applicability, and coordinating asbestos and LCP disturbance activities.

> *It was <u>not</u> Geocon's intent during this inspection to conduct an evaluation of lead-based paint hazards in accordance with U.S. Department of Housing and Urban Development (HUD) guidelines.*

## 2.0 BACKGROUND

### 2.1 Asbestos

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

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

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

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

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

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

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

## 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 substrate. Demolition of a deteriorated LCP component would require waste characterization and appropriate disposal. Intact LCP on a component is currently accepted by most landfill facilities; however, contractors are responsible for segregating and characterizing waste streams prior to disposal.

For a solid waste containing lead, the waste is classified as California hazardous when: 1) the total lead content equals or exceeds the respective Total Threshold Limit Concentration (TTLC) of 1,000 milligrams per kilogram (mg/kg); or 2) the soluble lead content equals or exceeds the respective Soluble Threshold Limit Concentration (STLC) of 5 milligrams per liter (mg/l) based on the standard Waste Extraction Test (WET). A waste has the potential for exceeding the lead STLC when the waste's total lead content is greater than or equal to ten times the respective STLC value since the WET uses a 1:10 dilution ratio. Hence, when total lead is detected at a concentration greater than or equal to 50 mg/kg, and assuming that 100 percent of the total lead is soluble, soluble lead analysis is required. Lead-containing waste is classified as "Resource, Conservation, and Recovery Act" (RCRA) hazardous, or Federal hazardous, when the soluble lead content equals or exceeds the Federal regulatory level of 5 mg/l based on the Toxicity Characteristic Leaching Procedure (TCLP).

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

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

### 2.3 Architectural Drawings and Previous Survey Activities

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

## 3.0 SCOPE OF SERVICES

Mr. David Watts, a California-Certified Asbestos Consultant (CAC), certification No. 98-2404 (expiration September 16, 2011), and Certified Lead Paint Inspector/Assessor and Project Monitor with the California Department of Public Health (DPH), certification numbers I-1734 and M-1734 (expiration December 4, 2011), performed the asbestos and LCP survey at the project location on March 1, 2011.

## 3.1 Asbestos

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

Our procedures for inspection and sampling in accordance with TO-159 are discussed below:

- Collected bulk asbestos samples after first wetting friable material with a light mist of water. The samples were then cut from the substrate and transferred to a labeled container. Note that when multiple samples were collected, the sampling locations were distributed throughout the homogeneous area (spaces where the material was observed).
- Relinquished bulk asbestos samples to EMSL Analytical, Inc., a California-licensed and Caltrans-approved subcontractor, for asbestos analysis in accordance with United States Environmental Protection Agency (EPA) Test Method 600/R-93/116 using polarized light microscopy (PLM) under chain-of-custody protocol. EMSL Analytical, Inc. is a laboratory accredited by the National Institute of Standards and Technology National Voluntary Laboratory Accreditation Program (NIST-NVLAP) for bulk asbestos fiber analysis. The laboratory analyses were requested on a standard turn-around-time.

Sample group identification numbers, material descriptions, approximate quantities, friability assessments, and photo references are summarized on Table 1. Approximate sample locations are presented on Figure 2. Materials represented by the samples collected are shown in the attached photographs.

## 3.2 Lead Paint

Two traffic stripe paint samples were collected at the project location. We did not observe deteriorated LCP during our survey. Our sampling procedures in accordance with TO-159 are discussed below:

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

Paint sample identification numbers, descriptions, peeling and flaking quantities, and photo references are summarized on Table 2. Approximate sample locations are presented on Figure 2. Materials represented by the samples collected are shown in the attached photographs.

# 4.0 INVESTIGATIVE RESULTS

## 4.1 Asbestos Analytical Results

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

## 4.2 Paint Analytical Results

A sample representing intact yellow traffic striping exhibited a total lead concentration of 290 mg/kg and a WET lead concentration of 1.1 mg/l.

A sample representing intact white traffic striping exhibited a total lead concentration of 8.5 mg/kg.

A summary of the analytical laboratory test results for paint is presented on Table 2. Reproductions of the laboratory report and chain-of-custody documentation are presented in Appendix A.

# 5.0 RECOMMENDATIONS

Based on our findings, we recommend the following:

## 5.1 Asbestos

Since no asbestos was detected in samples collected during our survey, the Cal/OSHA asbestos standard does not apply for planned activities. In addition, demolition debris would not be considered as a California hazardous waste based on asbestos content. Written notification to the North Coast Unified Air Quality Management District (NCUAQMD) is required ten working days prior to commencement of *any* demolition activity (whether asbestos is present or not), however, since load bearing members will reportedly not be removed during the bridge widening activities, notification to the NCUAQMD would not be required.

## 5.2 Lead Paint

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

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

## 6.0 REPORT LIMITATIONS

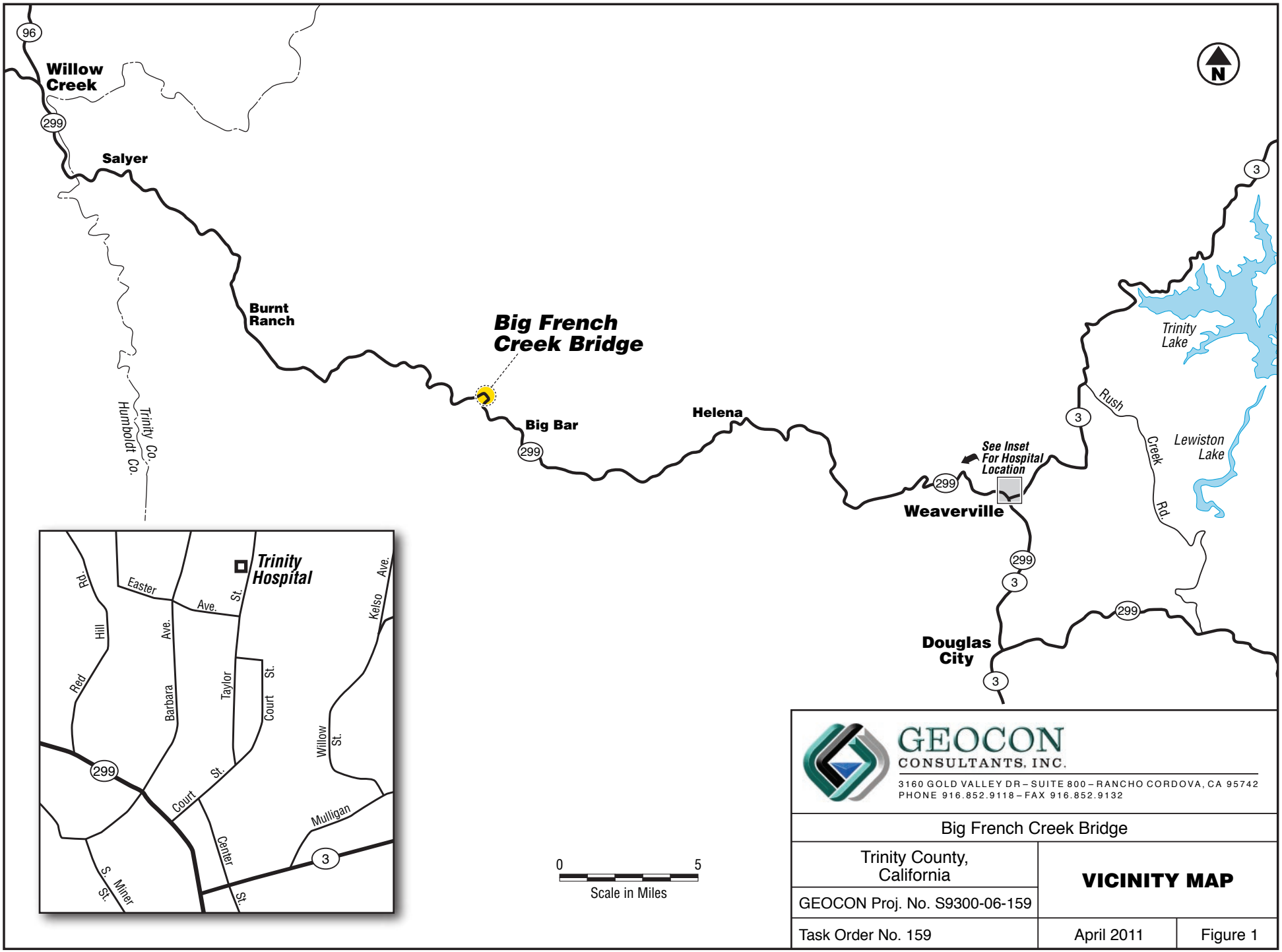
The asbestos and LCP survey was conducted in conformance with generally accepted standards of practice for identifying and evaluating asbestos and LCP in structures. The survey addressed only the structure identified in Section 1.1. Due to the nature of structure surveys, asbestos and LCP use, and laboratory analytical limitations, some ACM or LCP at the project location may not have been identified. Spaces such as cavities, voids, crawlspaces, and pipe chases may have been concealed to our investigator. Previous renovation work may have concealed or covered spaces or materials or may have partially demolished materials and left debris in inaccessible areas. Additionally, renovation activities may have partially replaced ACM with indistinguishable non-ACM. Asbestos and/or LCP may exist in areas of the structure that were not accessible or sampled in conjunction with this TO.

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

This report has been prepared exclusively for Caltrans. The information contained herein is only valid as of the date of the report and will require an update to reflect additional information obtained.

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

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




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

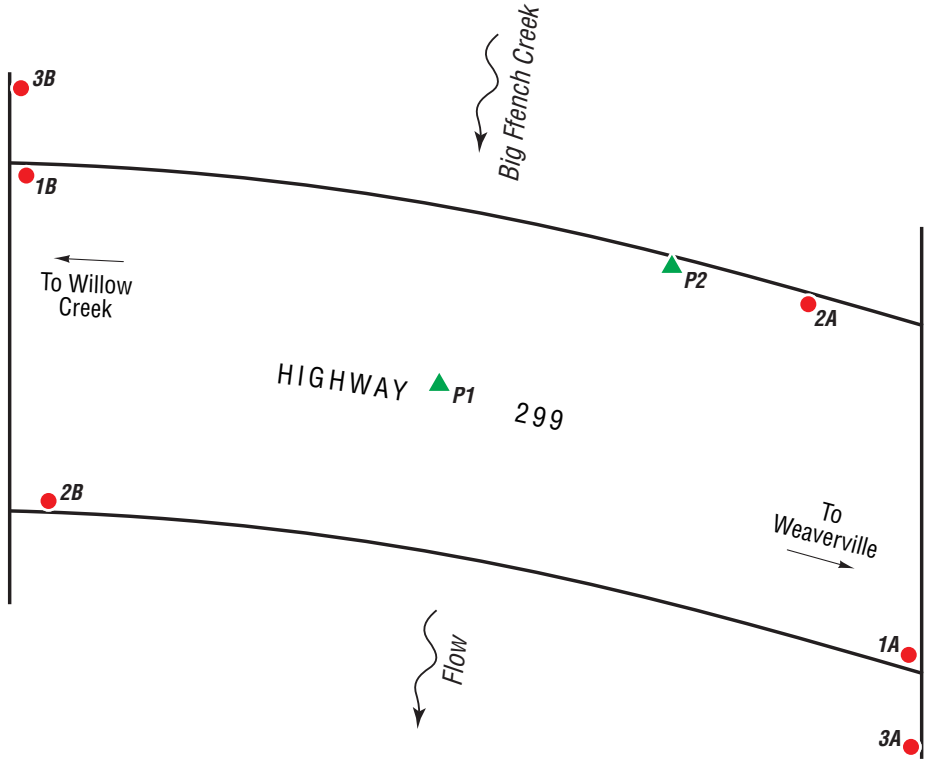
Big French Creek Bridge

Trinity County, California

**VICINITY MAP**

GEOCON Proj. No. S9300-06-159

Task Order No. 159 | April 2011 | Figure 1




**BRIDGE 05-0008**

LEGEND:

- Approximate Asbestos Sample Location
- Approximate Paint Sample Location

SCALE APPROXIMATE

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

| | | |
|---|---|---|
| Big French Creek Bridge | | |
| Trinity County, California | **SITE PLAN** | |
| GEOCON Proj. No. S9300-06-159 | | |
| Task Order No. 159 | April 2011 | Figure 2 |

**Photo 1 – Big French Creek Bridge (05-0008) on Highway 299 (PM 23.3) in Trinity County, California**

**Photo 2 – Expansion joint**

**Photo 3 – Bridge deck**

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

| PHOTOGRAPHS 1, 2, & 3 | | |
|---|---|---|
| Big French Creek Bridge Improvement Project<br>SR-299, PM 23.3, Trinity County, California | | |
| S9300-06-159 | (EA 02-374300) | April 2011 |

TABLE 1

SUMMARY OF ASBESTOS ANALYTICAL RESULTS

BIG FRENCH CREEK BRIDGE (05-0008)

CALTRANS CONTRACT 03A1638, TASK ORDER NO.159, E-FIS 02 0000 0280 0 (EA 02-374300), 02-TRI-299 PM 23.3

TRINITY COUNTY, CALIFORNIA

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

| Sample Group No. | Description of Material | Approximate Quantity | Friable | Site Photo | Asbestos Content |
|---|---|---|---|---|---|
| 1 | Expansion joint fill material | NA | NA | 2 | ND |
| 2 | Concrete (deck and piers) | NA | NA | 1 | ND |
| 3 | Block and mortar (wall systems) | NA | NA | 1 | ND |

Notes:

NA = Not applicable (no asbestos detected)

ND = Not detected

TABLE 2

SUMMARY OF PAINT ANALYTICAL RESULTS - TOTAL AND SOLUBLE LEAD

BIG FRENCH CREEK BRIDGE (05-0008)

CALTRANS CONTRACT 03A1638, TASK ORDER NO.159, E-FIS 02 0000 0280 0 (EA 02-374300), 02-TRI-299 PM 23.3

TRINITY COUNTY, CALIFORNIA

| Paint Sample No. | Paint Description | Approximate Quantity Peeling/Flaking | Site Photos | Total Lead (mg/kg) | WET Lead (mg/l) |
|---|---|---|---|---|---|
| P1 | Yellow traffic striping | Intact | 3 | 290 | 1.1 |
| P2 | White traffic striping | Intact | 3 | 8.5 | --- |

Notes:

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

WET = Waste Extraction Test (EPA Test Method 7420)

mg/l = milligrams per liter

--- = Not analyzed

# APPENDIX A

EMSL Analytical, Inc
2235 Polvorosa Ave , Suite 230, San Leandro, CA 94577
Phone: (510) 895-3675 Fax: (510) 895-3680 Email: sanleandrolab@emsl.com

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

**Livermore, CA 94550**

Fax: (925) 371-5915 Phone: (925) 371-5900
Project: **S9300-06-159 / Big French Creek (Bridge)**

Customer ID: GECN21
Customer PO: S9300-06-159
Received: 03/04/11 9:45 AM
EMSL Order: 091102003

EMSL Proj: S9300-06-**
Analysis Date: 3/16/2011

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

| | | | Non-Asbestos | | | | Asbestos |
|---|---|---|---|---|---|---|---|
| **Sample** | **Description** | **Appearance** | **%** | **Fibrous** | **%** | **Non-Fibrous** | **% Type** |
| 1a-Joint Fill<br>*091102003-0001* | | Brown<br>Fibrous<br>Homogeneous | 70% | Cellulose | 30% | Non-fibrous (other) | **None Detected** |
| 1b-Joint Fill<br>*091102003-0002* | | Brown<br>Fibrous<br>Homogeneous | 70% | Cellulose | 30% | Non-fibrous (other) | **None Detected** |
| 2a-Concrete<br>*091102003-0003* | | Brown/Gray<br>Non-Fibrous<br>Heterogeneous | | | 100% | Non-fibrous (other) | **None Detected** |
| 2b-Concrete<br>*091102003-0004* | | Brown/Gray<br>Non-Fibrous<br>Heterogeneous | | | 100% | Non-fibrous (other) | **None Detected** |
| 3a-Block<br>*091102003-0005* | | Gray<br>Non-Fibrous<br>Homogeneous | | | 100% | Non-fibrous (other) | **None Detected** |
| 3a-Mortar<br>*091102003-0005A* | | Gray/Tan<br>Non-Fibrous<br>Heterogeneous | | | 100% | Non-fibrous (other) | **None Detected** |

Initial report from 03/16/2011 18:02:14

Analyst(s)

*Jason Mcgriff (8)*

Baojia Ke, Laboratory Manager
or other approved signatory

EMSL Analytical, Inc
2235 Polvorosa Ave , Suite 230, San Leandro, CA 94577
Phone: (510) 895-3675 Fax: (510) 895-3680 Email: sanleandrolab@emsl.com

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

**Livermore, CA 94550**

Fax: (925) 371-5915 Phone: (925) 371-5900
Project: **S9300-06-159 / Big French Creek (Bridge)**

Customer ID: GECN21
Customer PO: S9300-06-159
Received: 03/04/11 9:45 AM
EMSL Order: 091102003

EMSL Proj: S9300-06-**
Analysis Date: 3/16/2011

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

| | | | Non-Asbestos | | Asbestos |
|---|---|---|---|---|---|
| **Sample** | **Description** | **Appearance** | **% Fibrous** | **% Non-Fibrous** | **% Type** |
| 3b-Block<br>*091102003-0006* | | Gray<br>Non-Fibrous<br>Homogeneous | | 100% Non-fibrous (other) | **None Detected** |
| 3b-Mortar<br>*091102003-0006A* | | Gray/Tan<br>Non-Fibrous<br>Heterogeneous | | 100% Non-fibrous (other) | **None Detected** |

Initial report from 03/16/2011 18:02:14

Analyst(s)

*Jason Mcgriff (8)*

Baojia Ke, Laboratory Manager
or other approved signatory

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected may require additional testing by TEM to confirm asbestos quantities. The limit of detection as stated in the method is 1%. 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. The test results contained within this report meet the requirements of NELAC unless otherwise noted. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc San Leandro, CA



**THIS IS THE LAST PAGE OF THE REPORT.**

091102003

# Asbestos Chain of Custody

**EMSL Order Number** (*Lab Use Only*): 091102003

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

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

| | |
|---|---|
| **Company :** GEOCON | **EMSL-Bill to:** ☒ Same ☐ Different<br>If Bill to is Different note instructions in Comments** |
| **Street:** 6671 BELLA ST | *Third Party Billing requires written authorization from third party* |
| **City:** LIVERMORE **State/Province:** CA | **Zip/Postal Code:** 94550 **Country:** USA |
| **Report To (Name):** D. WATTS | **Fax #:** (925) 371-5915 |
| **Telephone #:** (925) 371-5900 | **Email Address:** |
| **Project Name/Number:** S9360-06-159 | BIG FRENCH CREEK (BRIDGE) |
| **Please Provide Results:** ☐ Fax ☐ Email | **Purchase Order:** **U.S. State Samples Taken:** |

**Turnaround Time (TAT) Options* – Please Check**

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

**For TEM Air 3 hours/6 hours, please call ahead to schedule. *There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide.*

**PCM - Air**
- ☐ NIOSH 7400
- ☐ w/ OSHA 8hr. TWA

**PLM - Bulk (reporting limit)**
- ☒ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)

Point Count
- ☐ 400 (<0.25%) ☐ 1000 (<0.1%)

Point Count w/Gravimetric
- ☐ 400 (<0.25%) ☐ 1000 (<0.1%)
- ☐ NYS 198.1 (friable in NY)
- ☐ NYS 198.6 NOB (non-friable-NY)
- ☐ NIOSH 9002 (<1%)

**TEM – Air** ☐ **4-4.5hr TAT (AHERA only)**
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☐ ISO 10312

**TEM - Bulk**
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (non-friable-NY)
- ☐ Chatfield SOP
- ☐ TEM Mass Analysis-EPA 600 sec. 2.5

**TEM – Water:** EPA 100.2
- Fibers >10µm ☐ Waste ☐ Drinking
- All Fiber Sizes ☐ Waste ☐ Drinking

**TEM- Dust**
- ☐ Microvac - ASTM D 5755
- ☐ Wipe - ASTM D6480
- ☐ Carpet Sonication (EPA 600/J-93/167)

**Soil/Rock/Vermiculite**
- ☐ PLM CARB 435 - A (0.25% sensitivity)
- ☐ PLM CARB 435 - B (0.1% sensitivity)
- ☐ TEM CARB 435 - B (0.1% sensitivity)
- ☐ TEM CARB 435 - C (0.01% sensitivity)
- ☐ EPA Protocol (Semi-Quantitative)
- ☐ EPA Protocol (Quantitative)

**Other:** ☐

☐ **Check For Positive Stop – Clearly Identify Homogenous Group**

**Samplers Name:** J. WATTS **Samplers Signature:** WATTS

| Sample # | Sample Description | Volume/Area (Air) HA # (Bulk) | Date/Time Sampled |
|---|---|---|---|
| 1A/1B | JOINT FILL MATERIAL | NA | 1 MAR 2011 |
| 2A/2B | CONCRETE | ↓ | ↓ |
| 3A/3B | BLOCK/MORTAR (HEADWALLS) | ↓ | ↓ |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

**Client Sample # (s):** **Total # of Samples:** 6

**Relinquished (Client):** WATTS UPS **Date:** 3 MAR 2011 / 3 MAR 2011 **Time:** 1700 / 1700

**Received (Lab):** [signature] **Date:** 3/4/11 **Time:** 0945 UPS

**Comments/Special Instructions:**

March 11, 2011

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

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

Workorder No.: 116697

RE: Hwy 299, S9300-06-159

Attention: Dave Watts

Enclosed are the results for sample(s) received on March 04, 2011 by Advanced Technology Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

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

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

Sincerely,

Eddie F. Rodriguez
Laboratory Director

**CLIENT:** Geocon Consultants, Inc. **Lab Order:** 116697
**Project:** Hwy 299, S9300-06-159

**Lab ID:** 116697-001 **Collection Date:** 3/1/2011
**Client Sample ID:** P1 (YELLOW TS) **Matrix:** PAINT

| Analyses | Result | PQL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **ICP METALS** | | | | | | |
| **EPA 3050B** | | | | **EPA 6010B** | | |
| RunID: ICP8_110310E | QC Batch: 71379 | | | PrepDate: 3/9/2011 | Analyst: **IL** | |
| Lead | 290 | 2.0 | | mg/Kg | 1 | 3/10/2011 01:11 PM |

**Lab ID:** 116697-002 **Collection Date:** 3/1/2011
**Client Sample ID:** P2 (WHITE TS) **Matrix:** PAINT

| Analyses | Result | PQL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **ICP METALS** | | | | | | |
| **EPA 3050B** | | | | **EPA 6010B** | | |
| RunID: ICP8_110310E | QC Batch: 71379 | | | PrepDate: 3/9/2011 | Analyst: **IL** | |
| Lead | 8.5 | 4.0 | | mg/Kg | 1 | 3/10/2011 01:16 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 | | |

**CLIENT:** Geocon Consultants, Inc.
**Work Order:** 116697
**Project:** Hwy 299, S9300-06-159

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_S**

| Sample ID | **MB-71379** | SampType: | **MBLK** | TestCode: | **6010_S** | Units: | **mg/Kg** | Prep Date: | **3/9/2011** | RunNo: | **130882** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBS** | Batch ID: | **71379** | TestNo: | **EPA 6010B** | **EPA 3050B** | | Analysis Date: | **3/10/2011** | SeqNo: | **2130217** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | ND | 1.0 | | | | | | | | | |

| Sample ID | **LCS-71379** | SampType: | **LCS** | TestCode: | **6010_S** | Units: | **mg/Kg** | Prep Date: | **3/9/2011** | RunNo: | **130882** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **LCSS** | Batch ID: | **71379** | TestNo: | **EPA 6010B** | **EPA 3050B** | | Analysis Date: | **3/10/2011** | SeqNo: | **2130218** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 53.804 | 1.0 | 50.00 | 0 | 108 | 80 | 120 | | | | |

| Sample ID | **116722-008A-DUP** | SampType: | **DUP** | TestCode: | **6010_S** | Units: | **mg/Kg** | Prep Date: | **3/9/2011** | RunNo: | **130882** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **ZZZZZZ** | Batch ID: | **71379** | TestNo: | **EPA 6010B** | **EPA 3050B** | | Analysis Date: | **3/10/2011** | SeqNo: | **2130227** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 2.164 | 1.0 | | | | | | 2.018 | 6.98 | 20 | |

| Sample ID | **116722-008A-MS** | SampType: | **MS** | TestCode: | **6010_S** | Units: | **mg/Kg** | Prep Date: | **3/9/2011** | RunNo: | **130882** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **ZZZZZZ** | Batch ID: | **71379** | TestNo: | **EPA 6010B** | **EPA 3050B** | | Analysis Date: | **3/10/2011** | SeqNo: | **2130228** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 111.149 | 1.0 | 125.0 | 2.018 | 87.3 | 34 | 126 | | | | |

| Sample ID | **116722-008A-MSD** | SampType: | **MSD** | TestCode: | **6010_S** | Units: | **mg/Kg** | Prep Date: | **3/9/2011** | RunNo: | **130882** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **ZZZZZZ** | Batch ID: | **71379** | TestNo: | **EPA 6010B** | **EPA 3050B** | | Analysis Date: | **3/10/2011** | SeqNo: | **2130229** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 110.055 | 1.0 | 125.0 | 2.018 | 86.4 | 34 | 126 | 111.1 | 0.989 | 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

Pg 1 of 1

ADVANCED TECHNOLOGY LABORATORIES

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

P.O.#: _____ Quote #: _____

Logged By: _____ Date: 3/4/11

NOTE: Please include your Quote No. to ensure proper pricing of your project.

**FOR LABORATORY USE ONLY:**

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

14.0 Sample Condition Upon Receipt

| | | | |
|---|---|---|---|
| 1. CHILLED | Y☐ N☑ | 4. CUSTODY SEAL | 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 Consultants, Inc.** Address: 6671 Brisa Street TEL: (925) 371-5900

Attn: D. WATTS City Livemore State CA Zip Code 94550 FAX: (925) 371-5915

Project Name: Hwy 289 Project #: 59300-06-159 Sampler: (Printed Name) D. WATTS (Signature) [signature]

Relinquished by: (Signature and Printed Name) [signature] Date: 3/3/11 Time: 1830 Received by: (Signature and Printed Name) GSO Date: 3/3/11 Time: 1830

Relinquished by: (Signature and Printed Name) Date: Time: Received by: (Signature and Printed Name) [signature] Date: 3/4/11 Time: 8:26

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~~:
D. WATTS (Print Name) 3/3/11 (Date)
[signature] (Signature)

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

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

Special Instructions/Comments:
PAINT – total Pb
(ANTICIPATE SOLUBLE REQUESTS)
PLEASE RETURN ALL COOLERS ASAP!

**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

**Q A / Q C**
RTNE ☐
CT ☒
Legal ☐
SWRCB ☐ Logcode ____
OTHER ____

| ITEM | LAB USE ONLY: Batch #: / Lab No. | Sample Description: Sample I.D. / Location | Date | Time | 8081A (Pesticides) | 8082 (PCB) | 8260B (Volatiles) | 8270C (BNA) | 6010B (Total Metal) – Pb | 8015B (GRO) / 8021 (BTEX) | 8015B (DRO) | TITLE 22 / CAM 17 (6010 / 7000) | PAINT | SEDIMENT | SOLID | SOIL | DRINKING WATER | GROUND WATER | WASTEWATER | STORMWATER | AQUEOUS | TAT | Container(s) # | Container(s) Type | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1106977-001 | P1 (YELLOW T3) | 3/1/11 | VAH | | | | X | | | | | X | | | | | | | | | E | 1 | Bg | P |
| | 1 2 | P2 (WHITE T3) | ↓ | ↓ | | | | ↓ | | | | | ↓ | | | | | | | | | ↓ | ↓ | ↓ | ↓ |

• TAT starts 8 a.m. following day if samples received after 5 p.m.

TAT: ☐A= Overnight ≤ 24 hrs ☐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=Tedlar G=Glass P=Plastic M=Metal

Preservatives: H=Hcl N=$HNO_3$ S=$H_2SO_4$ C=4°C Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

Rev. 2010-0325

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

## Diane Galvan

**From:** Rebecca Silva [silva@geoconinc.com]
**Sent:** Tuesday, March 08, 2011 8:00 AM
**To:** Diane Galvan
**Cc:** watts@geoconinc.com
**Subject:** S9300-06-159

Hi Diane - Could you please change the TAT for these samples to 5-day rather than standard?

Thanks!
Rebecca

**Rebecca Silva, REA** | *Senior Project Scientist*
**Geocon Consultants, Inc.**
3160 Gold Valley Drive Suite 800, Rancho Cordova, CA 95742
Tel 916.852.9118 Fax 916.852.9132 Cell 916.508.1910
www.geoconinc.com

March 21, 2011

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

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

Workorder No.: 116697

RE: Hwy 299, S9300-06-159

Attention: Dave Watts

Enclosed are the results for sample(s) received on March 04, 2011 by Advanced Technology Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

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

## Advanced Technology Laboratories

Date: 3/21/2011

## ANALYTICAL RESULTS

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

| | | | |
|---|---|---|---|
| **CLIENT:** | Geocon Consultants, Inc. | **Lab Order:** | 116697 |
| **Project:** | Hwy 299, S9300-06-159 | **Date Received** | 3/4/2011 8:28:00 AM |
| **Project No:** | | **Matrix:** | Paint |
| **Analyte:** | Lead | **Analyst:** | VV |

| Laboratory ID | Client Sample ID | Results | Units | QC Batch | PQL | DF | Date Collected | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| 116697-001A | P1 (YELLOW TS) | 1.1 | mg/L | 71564 | 0.25 | 1 | 3/1/2011 | 3/18/2011 |

**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:** 116697
**Project:** Hwy 299, S9300-06-159

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 7420_ST**

| Sample ID | **MB-71568A** | SampType: | **MBLK** | TestCode: | **7420_ST** | Units: | **mg/L** | Prep Date: | **3/16/2011** | RunNo: | **131196** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBS** | Batch ID: | **71564** | TestNo: | **WET/ EPA 74** | **WET** | | Analysis Date: | **3/18/2011** | SeqNo: | **2135762** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | ND | 0.25 | | | | | | | | | |

| Sample ID | **LCS-71564** | SampType: | **LCS** | TestCode: | **7420_ST** | Units: | **mg/L** | Prep Date: | **3/16/2011** | RunNo: | **131196** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **LCSS** | Batch ID: | **71564** | TestNo: | **WET/ EPA 74** | **WET** | | Analysis Date: | **3/18/2011** | SeqNo: | **2135763** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 4.639 | 0.25 | 5.000 | 0 | 92.8 | 80 | 120 | | | | |

| Sample ID | **116695-070A-DUP** | SampType: | **DUP** | TestCode: | **7420_ST** | Units: | **mg/L** | Prep Date: | **3/16/2011** | RunNo: | **131196** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **ZZZZZZ** | Batch ID: | **71564** | TestNo: | **WET/ EPA 74** | **WET** | | Analysis Date: | **3/18/2011** | SeqNo: | **2135773** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 1.374 | 0.25 | | | | | | 1.375 | 0.0448 | 20 | |

| Sample ID | **116695-070A-MS** | SampType: | **MS** | TestCode: | **7420_ST** | Units: | **mg/L** | Prep Date: | **3/16/2011** | RunNo: | **131196** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **ZZZZZZ** | Batch ID: | **71564** | TestNo: | **WET/ EPA 74** | **WET** | | Analysis Date: | **3/18/2011** | SeqNo: | **2135774** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 6.151 | 0.25 | 5.000 | 1.375 | 95.5 | 80 | 120 | | | | |

| Sample ID | **MB-71564B** | SampType: | **MBLK** | TestCode: | **7420_ST** | Units: | **mg/L** | Prep Date: | **3/16/2011** | RunNo: | **131196** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBS** | Batch ID: | **71564** | TestNo: | **WET/ EPA 74** | **WET** | | Analysis Date: | **3/18/2011** | SeqNo: | **2135775** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | ND | 0.25 | | | | | | | | | |

**Qualifiers:**

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

**CLIENT:** Geocon Consultants, Inc.
**Work Order:** 116697
**Project:** Hwy 299, S9300-06-159

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 7420_ST**

| Sample ID | 116841-002A-DUP | SampType: | DUP | TestCode: | 7420_ST | Units: | mg/L | Prep Date: | 3/16/2011 | RunNo: | 131196 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | ZZZZZZ | Batch ID: | 71564 | TestNo: | WET/ EPA 74 | WET | | Analysis Date: | 3/18/2011 | SeqNo: | 2135779 |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 5.318 | 0.25 | | | | | | 5.388 | 1.31 | 20 | |

| Sample ID | 116841-002A-MS | SampType: | MS | TestCode: | 7420_ST | Units: | mg/L | Prep Date: | 3/16/2011 | RunNo: | 131196 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | ZZZZZZ | Batch ID: | 71564 | TestNo: | WET/ EPA 74 | WET | | Analysis Date: | 3/18/2011 | SeqNo: | 2135780 |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 10.631 | 0.50 | 5.000 | 5.388 | 105 | 80 | 120 | | | | |

| Sample ID | 116841-002A-MSD | SampType: | MSD | TestCode: | 7420_ST | Units: | mg/L | Prep Date: | 3/16/2011 | RunNo: | 131196 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | ZZZZZZ | Batch ID: | 71564 | TestNo: | WET/ EPA 74 | WET | | Analysis Date: | 3/18/2011 | SeqNo: | 2135781 |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 10.507 | 0.50 | 5.000 | 5.388 | 102 | 80 | 120 | 10.63 | 1.18 | 20 | |

**Qualifiers:**

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

## Diane Galvan

**From:** David Watts [watts@geoconinc.com]
**Sent:** Monday, March 14, 2011 9:13 AM
**To:** Diane Galvan
**Cc:** silva@geoconinc.com
**Subject:** RE: Results/EDD - Hwy 299 (116697)

Diane,

Please run a WET on P1. Please run TCLP if we fail WET (5-day TATs).

(traffic striping on Big French Creek Bridge)

Thanks.

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

# APPENDIX B

March 11, 2011

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

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

Workorder No.: 116695

RE: BIG FRENCH CREEK BRIDGE (BFCB), S930

Attention: Dave Watts

Enclosed are the results for sample(s) received on March 04, 2011 by Advanced Technology Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

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

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

Sincerely,

Eddie F. Rodriguez
Laboratory Director

**CLIENT:** Geocon Consultants, Inc.
**Project:** BIG FRENCH CREEK BRIDGE (BFCB), S930
**Lab Order:** 116695

# CASE NARRATIVE

Analytical Comments for Method 6010

RPD for Duplicate (DUP) and/or Matrix Spike (MS)/Matrix Spike Duplicate (MSD) is outside criteria for samples 116695-010ADUP, 116995-020ADUP, 116995-030ADUP, 116695-040ADUP, 116695-050ADUP, 116695-070ADUP, 116696-007ADUP and 116696-093AMSD; however, the analytical batch was validated by the Laboratory Control Sample (LCS).



Advanced Technology Laboratories
*3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562. 989.4045 Fax: 562.989.4040*

## Advanced Technology Laboratories

Date: 3/11/2011

## ANALYTICAL RESULTS

**LEAD BY ICP**
**EPA 6010B**

| | | | |
|---|---|---|---|
| **CLIENT:** | Geocon Consultants, Inc. | **Lab Order:** | 116695 |
| **Project:** | BIG FRENCH CREEK BRIDGE (BFCB), S930 | **Date Received** | 3/4/2011 8:28:00 AM |
| **Project No:** | | **Matrix:** | Soil |
| **Analyte:** | Lead | **Analyst:** | SRB |

| Laboratory ID | Client Sample ID | Results | Units | QC Batch | PQL | DF | Date Collected | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| 116695-001A | WB1-0 | 6.6 | mg/Kg | 71382 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-002A | WB1-0.5 | 17 | mg/Kg | 71382 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-003A | WB2-0 | 6.6 | mg/Kg | 71382 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-004A | WB2-0.5 | 15 | mg/Kg | 71382 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-005A | WB3-0 | ND | mg/Kg | 71382 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-006A | WB3-0.5 | 36 | mg/Kg | 71382 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-007A | WB3-1 | 9.9 | mg/Kg | 71382 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-008A | WB4-0 | 83 | mg/Kg | 71382 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-009A | WB4-0.5 | 12 | mg/Kg | 71382 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-010A | WB4-1 | 11 | mg/Kg | 71382 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-011A | WB4-2 | 20 | mg/Kg | 71382 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-012A | WB5-0 | 18 | mg/Kg | 71382 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-013A | WB5-0.5 | 15 | mg/Kg | 71382 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-014A | WB5-1 | 9.0 | mg/Kg | 71382 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-015A | WB5-2 | 9.5 | mg/Kg | 71382 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-016A | WB6-0 | 12 | mg/Kg | 71382 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-017A | WB6-0.5 | 17 | mg/Kg | 71382 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-018A | WB6-1 | 18 | mg/Kg | 71382 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |

**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

Date: 3/11/2011

## ANALYTICAL RESULTS

**LEAD BY ICP**
**EPA 6010B**

| | | | |
|---|---|---|---|
| **CLIENT:** | Geocon Consultants, Inc. | **Lab Order:** | 116695 |
| **Project:** | BIG FRENCH CREEK BRIDGE (BFCB), S930 | **Date Received** | 3/4/2011 8:28:00 AM |
| **Project No:** | | **Matrix:** | Soil |
| **Analyte:** | Lead | **Analyst:** | SRB |

| Laboratory ID | Client Sample ID | Results | Units | QC Batch | PQL | DF | Date Collected | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| 116695-019A | WB6-2 | 11 | mg/Kg | 71382 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-020A | WB7-0 | 44 | mg/Kg | 71382 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-021A | WB7-0.5 | 15 | mg/Kg | 71383 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-022A | WB7-1 | 8.7 | mg/Kg | 71383 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-023A | WB7-2 | 8.1 | mg/Kg | 71383 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-024A | WB8-0 | 27 | mg/Kg | 71383 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-025A | WB8-0.5 | 20 | mg/Kg | 71383 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-026A | WB8-1 | 14 | mg/Kg | 71383 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-027A | WB8-2 | 17 | mg/Kg | 71383 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-028A | WB9-0 | 52 | mg/Kg | 71383 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-029A | WB9-0.5 | 19 | mg/Kg | 71383 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-030A | WB9-1 | 18 | mg/Kg | 71383 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-031A | WB9-2 | 14 | mg/Kg | 71383 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-032A | WB10-0 | 11 | mg/Kg | 71383 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-033A | WB10-0.5 | 9.2 | mg/Kg | 71383 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-034A | WB11-0 | 16 | mg/Kg | 71383 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-035A | WB11-0.5 | 20 | mg/Kg | 71383 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-036A | WB12-0 | 12 | mg/Kg | 71383 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |

**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

Date: 3/11/2011

## ANALYTICAL RESULTS

**LEAD BY ICP**
**EPA 6010B**

| | | | |
|---|---|---|---|
| **CLIENT:** | Geocon Consultants, Inc. | **Lab Order:** | 116695 |
| **Project:** | BIG FRENCH CREEK BRIDGE (BFCB), S930 | **Date Received** | 3/4/2011 8:28:00 AM |
| **Project No:** | | **Matrix:** | Soil |
| **Analyte:** | Lead | **Analyst:** | SRB |

| Laboratory ID | Client Sample ID | Results | Units | QC Batch | PQL | DF | Date Collected | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| 116695-037A | WB12-0.5 | 11 | mg/Kg | 71383 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-038A | EB13-0 | 22 | mg/Kg | 71383 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-039A | EB14-0 | 19 | mg/Kg | 71383 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-040A | EB14-0.5 | 13 | mg/Kg | 71383 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-041A | EB14-1 | 15 | mg/Kg | 71384 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-042A | EB15-0 | 21 | mg/Kg | 71384 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-043A | EB15-0.5 | 9.5 | mg/Kg | 71384 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-044A | EB15-1 | 16 | mg/Kg | 71384 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-045A | EB16-0 | 23 | mg/Kg | 71384 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-046A | EB16-0.5 | 9.2 | mg/Kg | 71384 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-047A | EB16-1 | 13 | mg/Kg | 71384 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-048A | EB17-0 | 100 | mg/Kg | 71384 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-049A | EB17-0.5 | 22 | mg/Kg | 71384 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-050A | EB17-1 | 38 | mg/Kg | 71384 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-051A | EB17-2 | 23 | mg/Kg | 71384 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-052A | EB18-0 | 14 | mg/Kg | 71384 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-053A | EB18-0.5 | 8.9 | mg/Kg | 71384 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-054A | EB18-1 | 8.4 | mg/Kg | 71384 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |

**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

Date: 3/11/2011

## ANALYTICAL RESULTS

**LEAD BY ICP**
**EPA 6010B**

| | | | |
|---|---|---|---|
| **CLIENT:** | Geocon Consultants, Inc. | **Lab Order:** | 116695 |
| **Project:** | BIG FRENCH CREEK BRIDGE (BFCB), S930 | **Date Received** | 3/4/2011 8:28:00 AM |
| **Project No:** | | **Matrix:** | Soil |
| **Analyte:** | Lead | **Analyst:** | SRB |

| Laboratory ID | Client Sample ID | Results | Units | QC Batch | PQL | DF | Date Collected | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| 116695-055A | EB18-2 | 14 | mg/Kg | 71384 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-056A | EB19-0 | 180 | mg/Kg | 71384 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-057A | EB20-0 | 28 | mg/Kg | 71384 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-058A | EB20-0.5 | 14 | mg/Kg | 71384 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-059A | EB20-1 | 17 | mg/Kg | 71384 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-060A | EB21-0 | 110 | mg/Kg | 71384 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-061A | EB21-0.5 | 51 | mg/Kg | 71385 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-062A | EB21-1 | 23 | mg/Kg | 71385 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-063A | EB21-2 | 19 | mg/Kg | 71385 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-064A | EB22-0 | 34 | mg/Kg | 71385 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-065A | EB22-0.5 | 20 | mg/Kg | 71385 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-066A | EB22-1 | 11 | mg/Kg | 71385 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-067A | EB23-0 | 80 | mg/Kg | 71385 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-068A | EB23-0.5 | 82 | mg/Kg | 71385 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-069A | EB23-1 | 37 | mg/Kg | 71385 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-070A | EB23-2 | 53 | mg/Kg | 71385 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-071A | EB24-0 | 22 | mg/Kg | 71385 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |
| 116695-072A | EB24-0.5 | 11 | mg/Kg | 71385 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |

**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

Date: 3/11/2011

## ANALYTICAL RESULTS

**LEAD BY ICP**
**EPA 6010B**

| | | | |
|---|---|---|---|
| **CLIENT:** | Geocon Consultants, Inc. | **Lab Order:** | 116695 |
| **Project:** | BIG FRENCH CREEK BRIDGE (BFCB), S930 | **Date Received** | 3/4/2011 8:28:00 AM |
| **Project No:** | | **Matrix:** | Soil |
| **Analyte:** | Lead | **Analyst:** | SRB |

| Laboratory ID | Client Sample ID | Results | Units | QC Batch | PQL | DF | Date Collected | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| 116695-073A | EB24-1 | 11 | mg/Kg | 71385 | 5.0 | 1 | 3/1/2011 | 3/10/2011 |

| 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. **Lab Order:** 116695
**Project:** BIG FRENCH CREEK BRIDGE (BFCB), S930

**Lab ID:** 116695-074 **Collection Date:** 3/1/2011
**Client Sample ID:** BFCB-P1A **Matrix:** PAINT

| Analyses | Result | PQL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **ICP METALS** | | | | | | |
| | **EPA 3050B** | | | **EPA 6010B** | | |
| RunID: ICP8_110310A | QC Batch: 71376 | | | PrepDate: 3/9/2011 | Analyst: **IL** | |
| Lead | 300 | 2.0 | | mg/Kg | 1 | 3/10/2011 08:13 AM |

**Lab ID:** 116695-075 **Collection Date:** 3/1/2011
**Client Sample ID:** BFCB-P2A **Matrix:** PAINT

| Analyses | Result | PQL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **ICP METALS** | | | | | | |
| | **EPA 3050B** | | | **EPA 6010B** | | |
| RunID: ICP8_110310A | QC Batch: 71376 | | | PrepDate: 3/9/2011 | Analyst: **IL** | |
| Lead | 6.8 | 4.0 | | mg/Kg | 1 | 3/10/2011 08:18 AM |

**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:** 116695
**Project:** BIG FRENCH CREEK BRIDGE (BFCB), S930

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_S**

| Sample ID | **MB-71376** | SampType: **MBLK** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **3/9/2011** | RunNo: **130854** |
|---|---|---|---|---|---|---|
| Client ID: | **PBS** | Batch ID: **71376** | TestNo: **EPA 6010B** | **EPA 3050B** | Analysis Date: **3/10/2011** | SeqNo: **2129649** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | ND | 1.0 | | | | | | | | | |

| Sample ID | **LCS-71376** | SampType: **LCS** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **3/9/2011** | RunNo: **130854** |
|---|---|---|---|---|---|---|
| Client ID: | **LCSS** | Batch ID: **71376** | TestNo: **EPA 6010B** | **EPA 3050B** | Analysis Date: **3/10/2011** | SeqNo: **2129650** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 48.506 | 1.0 | 50.00 | 0 | 97.0 | 80 | 120 | | | | |

| Sample ID | **116696-093A-DUP** | SampType: **DUP** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **3/9/2011** | RunNo: **130854** |
|---|---|---|---|---|---|---|
| Client ID: | **ZZZZZZ** | Batch ID: **71376** | TestNo: **EPA 6010B** | **EPA 3050B** | Analysis Date: **3/10/2011** | SeqNo: **2129661** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 25.643 | 1.0 | | | | | | 24.92 | 2.88 | 20 | |

| Sample ID | **116696-093A-MS** | SampType: **MS** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **3/9/2011** | RunNo: **130854** |
|---|---|---|---|---|---|---|
| Client ID: | **ZZZZZZ** | Batch ID: **71376** | TestNo: **EPA 6010B** | **EPA 3050B** | Analysis Date: **3/10/2011** | SeqNo: **2129662** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 132.461 | 1.0 | 125.0 | 24.92 | 86.0 | 34 | 126 | | | | |

| Sample ID | **116696-093A-MSD** | SampType: **MSD** | TestCode: **6010_S** | Units: **mg/Kg** | Prep Date: **3/9/2011** | RunNo: **130854** |
|---|---|---|---|---|---|---|
| Client ID: | **ZZZZZZ** | Batch ID: **71376** | TestNo: **EPA 6010B** | **EPA 3050B** | Analysis Date: **3/10/2011** | SeqNo: **2129663** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 106.327 | 1.0 | 125.0 | 24.92 | 65.1 | 34 | 126 | 132.5 | 21.9 | 20 | R |

**Qualifiers:**

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

**CLIENT:** Geocon Consultants, Inc.
**Work Order:** 116695
**Project:** BIG FRENCH CREEK BRIDGE (BFCB), S930

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_SPB**

| Sample ID | MB-71382A | SampType: | MBLK | TestCode: | 6010_SPB | Units: | mg/Kg | Prep Date: | 3/9/2011 | RunNo: | 130883 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | PBS | Batch ID: | 71382 | TestNo: | EPA 6010B | EPA 3050M | | Analysis Date: | 3/10/2011 | SeqNo: | 2130188 |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 0.157 | 5.0 | | | | | | | | | |

| Sample ID | LCS-71382 | SampType: | LCS | TestCode: | 6010_SPB | Units: | mg/Kg | Prep Date: | 3/9/2011 | RunNo: | 130883 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | LCSS | Batch ID: | 71382 | TestNo: | EPA 6010B | EPA 3050M | | Analysis Date: | 3/10/2011 | SeqNo: | 2130189 |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 238.596 | 5.0 | 250.0 | 0.1571 | 95.4 | 80 | 120 | | | | |

| Sample ID | 116695-010A-DUP | SampType: | DUP | TestCode: | 6010_SPB | Units: | mg/Kg | Prep Date: | 3/9/2011 | RunNo: | 130883 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | WB4-1 | Batch ID: | 71382 | TestNo: | EPA 6010B | EPA 3050M | | Analysis Date: | 3/10/2011 | SeqNo: | 2130200 |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 7.391 | 5.0 | | | | | | 10.72 | 36.7 | 20 | R |

| Sample ID | 116695-010A-MS | SampType: | MS | TestCode: | 6010_SPB | Units: | mg/Kg | Prep Date: | 3/9/2011 | RunNo: | 130883 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | WB4-1 | Batch ID: | 71382 | TestNo: | EPA 6010B | EPA 3050M | | Analysis Date: | 3/10/2011 | SeqNo: | 2130201 |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 129.829 | 5.0 | 250.0 | 10.72 | 47.6 | 34 | 126 | | | | |

| Sample ID | MB-71382B | SampType: | MBLK | TestCode: | 6010_SPB | Units: | mg/Kg | Prep Date: | 3/9/2011 | RunNo: | 130883 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | PBS | Batch ID: | 71382 | TestNo: | EPA 6010B | EPA 3050M | | Analysis Date: | 3/10/2011 | SeqNo: | 2130202 |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | ND | 5.0 | | | | | | | | | |

**Qualifiers:**

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

**CLIENT:** Geocon Consultants, Inc.
**Work Order:** 116695
**Project:** BIG FRENCH CREEK BRIDGE (BFCB), S930

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_SPB**

| Sample ID | 116695-020A-DUP | SampType: | DUP | TestCode: | 6010_SPB | Units: | mg/Kg | Prep Date: | 3/9/2011 | RunNo: | 130883 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | WB7-0 | Batch ID: | 71382 | TestNo: | EPA 6010B | EPA 3050M | | Analysis Date: | 3/10/2011 | SeqNo: | 2130213 | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual | |
| Lead | 26.222 | 5.0 | | | | | | 43.84 | 50.3 | 20 | R | |

| Sample ID | 116695-020A-MS | SampType: | MS | TestCode: | 6010_SPB | Units: | mg/Kg | Prep Date: | 3/9/2011 | RunNo: | 130883 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | WB7-0 | Batch ID: | 71382 | TestNo: | EPA 6010B | EPA 3050M | | Analysis Date: | 3/10/2011 | SeqNo: | 2130214 | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual | |
| Lead | 201.630 | 5.0 | 250.0 | 43.84 | 63.1 | 34 | 126 | | | | | |

| Sample ID | 116695-020A-MSD | SampType: | MSD | TestCode: | 6010_SPB | Units: | mg/Kg | Prep Date: | 3/9/2011 | RunNo: | 130883 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | WB7-0 | Batch ID: | 71382 | TestNo: | EPA 6010B | EPA 3050M | | Analysis Date: | 3/10/2011 | SeqNo: | 2130215 | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual | |
| Lead | 237.868 | 5.0 | 250.0 | 43.84 | 77.6 | 34 | 126 | 201.6 | 16.5 | 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 | | |

**CLIENT:** Geocon Consultants, Inc.
**Work Order:** 116695
**Project:** BIG FRENCH CREEK BRIDGE (BFCB), S930

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_SPB**

| Sample ID | MB-71383A | SampType: | MBLK | TestCode: | 6010_SPB | Units: | mg/Kg | Prep Date: | 3/9/2011 | RunNo: | 130884 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | PBS | Batch ID: | 71383 | TestNo: | EPA 6010B | EPA 3050M | | Analysis Date: | 3/10/2011 | SeqNo: | 2130234 |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | ND | 5.0 | | | | | | | | | |

| Sample ID | LCS-71383 | SampType: | LCS | TestCode: | 6010_SPB | Units: | mg/Kg | Prep Date: | 3/9/2011 | RunNo: | 130884 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | LCSS | Batch ID: | 71383 | TestNo: | EPA 6010B | EPA 3050M | | Analysis Date: | 3/10/2011 | SeqNo: | 2130235 |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 212.924 | 5.0 | 250.0 | 0 | 85.2 | 80 | 120 | | | | |

| Sample ID | 116695-030A-DUP | SampType: | DUP | TestCode: | 6010_SPB | Units: | mg/Kg | Prep Date: | 3/9/2011 | RunNo: | 130884 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | WB9-1 | Batch ID: | 71383 | TestNo: | EPA 6010B | EPA 3050M | | Analysis Date: | 3/10/2011 | SeqNo: | 2130246 |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 24.867 | 5.0 | | | | | | 17.52 | 34.7 | 20 | R |

| Sample ID | 116695-030A-MS | SampType: | MS | TestCode: | 6010_SPB | Units: | mg/Kg | Prep Date: | 3/9/2011 | RunNo: | 130884 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | WB9-1 | Batch ID: | 71383 | TestNo: | EPA 6010B | EPA 3050M | | Analysis Date: | 3/10/2011 | SeqNo: | 2130247 |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 223.869 | 5.0 | 250.0 | 17.52 | 82.5 | 34 | 126 | | | | |

| Sample ID | MB-71383B | SampType: | MBLK | TestCode: | 6010_SPB | Units: | mg/Kg | Prep Date: | 3/9/2011 | RunNo: | 130884 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | PBS | Batch ID: | 71383 | TestNo: | EPA 6010B | EPA 3050M | | Analysis Date: | 3/10/2011 | SeqNo: | 2130248 |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | ND | 5.0 | | | | | | | | | |

**Qualifiers:**

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

**CLIENT:** Geocon Consultants, Inc.
**Work Order:** 116695
**Project:** BIG FRENCH CREEK BRIDGE (BFCB), S930

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_SPB**

| Sample ID | 116695-040A-DUP | SampType: | DUP | TestCode: | 6010_SPB | Units: | mg/Kg | Prep Date: | 3/9/2011 | RunNo: | 130884 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | EB14-0.5 | Batch ID: | 71383 | TestNo: | EPA 6010B | EPA 3050M | | Analysis Date: | 3/10/2011 | SeqNo: | 2130259 | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual | |
| Lead | 10.506 | 5.0 | | | | | | 13.13 | 22.2 | 20 | R | |

| Sample ID | 116695-040A-MS | SampType: | MS | TestCode: | 6010_SPB | Units: | mg/Kg | Prep Date: | 3/9/2011 | RunNo: | 130884 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | EB14-0.5 | Batch ID: | 71383 | TestNo: | EPA 6010B | EPA 3050M | | Analysis Date: | 3/10/2011 | SeqNo: | 2130260 | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual | |
| Lead | 205.859 | 5.0 | 250.0 | 13.13 | 77.1 | 34 | 126 | | | | | |

| Sample ID | 116695-040A-MSD | SampType: | MSD | TestCode: | 6010_SPB | Units: | mg/Kg | Prep Date: | 3/9/2011 | RunNo: | 130884 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | EB14-0.5 | Batch ID: | 71383 | TestNo: | EPA 6010B | EPA 3050M | | Analysis Date: | 3/10/2011 | SeqNo: | 2130261 | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual | |
| Lead | 197.416 | 5.0 | 250.0 | 13.13 | 73.7 | 34 | 126 | 205.9 | 4.19 | 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 | | |

**CLIENT:** Geocon Consultants, Inc.
**Work Order:** 116695
**Project:** BIG FRENCH CREEK BRIDGE (BFCB), S930

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_SPB**

| Sample ID | MB-71384A | SampType: | MBLK | TestCode: | 6010_SPB | Units: | mg/Kg | Prep Date: | 3/9/2011 | RunNo: | 130885 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | PBS | Batch ID: | 71384 | TestNo: | EPA 6010B | EPA 3050M | | Analysis Date: | 3/10/2011 | SeqNo: | 2130342 |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | ND | 5.0 | | | | | | | | | |

| Sample ID | LCS-71384 | SampType: | LCS | TestCode: | 6010_SPB | Units: | mg/Kg | Prep Date: | 3/9/2011 | RunNo: | 130885 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | LCSS | Batch ID: | 71384 | TestNo: | EPA 6010B | EPA 3050M | | Analysis Date: | 3/10/2011 | SeqNo: | 2130343 |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 245.195 | 5.0 | 250.0 | 0 | 98.1 | 80 | 120 | | | | |

| Sample ID | 116695-050A-DUP | SampType: | DUP | TestCode: | 6010_SPB | Units: | mg/Kg | Prep Date: | 3/9/2011 | RunNo: | 130885 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | EB17-1 | Batch ID: | 71384 | TestNo: | EPA 6010B | EPA 3050M | | Analysis Date: | 3/10/2011 | SeqNo: | 2130354 |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 25.635 | 5.0 | | | | | | 37.79 | 38.3 | 20 | R |

| Sample ID | 116695-050A-MS | SampType: | MS | TestCode: | 6010_SPB | Units: | mg/Kg | Prep Date: | 3/9/2011 | RunNo: | 130885 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | EB17-1 | Batch ID: | 71384 | TestNo: | EPA 6010B | EPA 3050M | | Analysis Date: | 3/10/2011 | SeqNo: | 2130355 |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 219.808 | 5.0 | 250.0 | 37.79 | 72.8 | 34 | 126 | | | | |

| Sample ID | MB-71384B | SampType: | MBLK | TestCode: | 6010_SPB | Units: | mg/Kg | Prep Date: | 3/9/2011 | RunNo: | 130885 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | PBS | Batch ID: | 71384 | TestNo: | EPA 6010B | EPA 3050M | | Analysis Date: | 3/10/2011 | SeqNo: | 2130356 |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | ND | 5.0 | | | | | | | | | |

**Qualifiers:**

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

**CLIENT:** Geocon Consultants, Inc.
**Work Order:** 116695
**Project:** BIG FRENCH CREEK BRIDGE (BFCB), S930

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_SPB**

| Sample ID | 116695-060A-DUP | SampType: | DUP | TestCode: | 6010_SPB | Units: | mg/Kg | Prep Date: | 3/9/2011 | RunNo: | 130885 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | EB21-0 | Batch ID: | 71384 | TestNo: | EPA 6010B | EPA 3050M | | Analysis Date: | 3/10/2011 | SeqNo: | 2130367 | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual | |
| Lead | 120.683 | 5.0 | | | | | | 114.3 | 5.47 | 20 | | |

| Sample ID | 116695-060A-MS | SampType: | MS | TestCode: | 6010_SPB | Units: | mg/Kg | Prep Date: | 3/9/2011 | RunNo: | 130885 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | EB21-0 | Batch ID: | 71384 | TestNo: | EPA 6010B | EPA 3050M | | Analysis Date: | 3/10/2011 | SeqNo: | 2130368 | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual | |
| Lead | 298.465 | 5.0 | 250.0 | 114.3 | 73.7 | 34 | 126 | | | | | |

| Sample ID | 116695-060A-MSD | SampType: | MSD | TestCode: | 6010_SPB | Units: | mg/Kg | Prep Date: | 3/9/2011 | RunNo: | 130885 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | EB21-0 | Batch ID: | 71384 | TestNo: | EPA 6010B | EPA 3050M | | Analysis Date: | 3/10/2011 | SeqNo: | 2130369 | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual | |
| Lead | 284.674 | 5.0 | 250.0 | 114.3 | 68.2 | 34 | 126 | 298.5 | 4.73 | 20 | | |

**Qualifiers:**

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

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

**CLIENT:** Geocon Consultants, Inc.
**Work Order:** 116695
**Project:** BIG FRENCH CREEK BRIDGE (BFCB), S930

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_SPB**

| Sample ID | MB-71385A | SampType: | MBLK | TestCode: | 6010_SPB | Units: | mg/Kg | Prep Date: | 3/9/2011 | RunNo: | 130890 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | PBS | Batch ID: | 71385 | TestNo: | EPA 6010B | EPA 3050M | | Analysis Date: | 3/10/2011 | SeqNo: | 2130409 |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | ND | 5.0 | | | | | | | | | |

| Sample ID | LCS-71385 | SampType: | LCS | TestCode: | 6010_SPB | Units: | mg/Kg | Prep Date: | 3/9/2011 | RunNo: | 130890 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | LCSS | Batch ID: | 71385 | TestNo: | EPA 6010B | EPA 3050M | | Analysis Date: | 3/10/2011 | SeqNo: | 2130410 |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 240.816 | 5.0 | 250.0 | 0 | 96.3 | 80 | 120 | | | | |

| Sample ID | 116695-070A-DUP | SampType: | DUP | TestCode: | 6010_SPB | Units: | mg/Kg | Prep Date: | 3/9/2011 | RunNo: | 130890 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | EB23-2 | Batch ID: | 71385 | TestNo: | EPA 6010B | EPA 3050M | | Analysis Date: | 3/10/2011 | SeqNo: | 2130421 |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 76.016 | 5.0 | | | | | | 53.15 | 35.4 | 20 | R |

| Sample ID | 116695-070A-MS | SampType: | MS | TestCode: | 6010_SPB | Units: | mg/Kg | Prep Date: | 3/9/2011 | RunNo: | 130890 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | EB23-2 | Batch ID: | 71385 | TestNo: | EPA 6010B | EPA 3050M | | Analysis Date: | 3/10/2011 | SeqNo: | 2130422 |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 257.179 | 5.0 | 250.0 | 53.15 | 81.6 | 34 | 126 | | | | |

| Sample ID | MB-71385B | SampType: | MBLK | TestCode: | 6010_SPB | Units: | mg/Kg | Prep Date: | 3/9/2011 | RunNo: | 130890 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | PBS | Batch ID: | 71385 | TestNo: | EPA 6010B | EPA 3050M | | Analysis Date: | 3/10/2011 | SeqNo: | 2130423 |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | ND | 5.0 | | | | | | | | | |

**Qualifiers:**

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

**CLIENT:** Geocon Consultants, Inc.
**Work Order:** 116695
**Project:** BIG FRENCH CREEK BRIDGE (BFCB), S930

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010_SPB**

| Sample ID | 116696-007A-DUP | SampType: | DUP | TestCode: | 6010_SPB | Units: | mg/Kg | Prep Date: | 3/9/2011 | RunNo: | 130890 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | ZZZZZZ | Batch ID: | 71385 | TestNo: | EPA 6010B | EPA 3050M | | Analysis Date: | 3/10/2011 | SeqNo: | 2130434 | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual | |
| Lead | 20.095 | 5.0 | | | | | | 15.13 | 28.2 | 20 | R | |

| Sample ID | 116696-007A-MS | SampType: | MS | TestCode: | 6010_SPB | Units: | mg/Kg | Prep Date: | 3/9/2011 | RunNo: | 130890 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | ZZZZZZ | Batch ID: | 71385 | TestNo: | EPA 6010B | EPA 3050M | | Analysis Date: | 3/10/2011 | SeqNo: | 2130435 | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual | |
| Lead | 197.163 | 5.0 | 250.0 | 15.13 | 72.8 | 34 | 126 | | | | | |

| Sample ID | 116696-007A-MSD | SampType: | MSD | TestCode: | 6010_SPB | Units: | mg/Kg | Prep Date: | 3/9/2011 | RunNo: | 130890 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | ZZZZZZ | Batch ID: | 71385 | TestNo: | EPA 6010B | EPA 3050M | | Analysis Date: | 3/10/2011 | SeqNo: | 2130436 | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual | |
| Lead | 198.860 | 5.0 | 250.0 | 15.13 | 73.5 | 34 | 126 | 197.2 | 0.857 | 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

Pg 1 of 3

ADVANCED TECHNOLOGY LABORATORIES

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

P.O.#: _____ Quote #: _____

Logged By: _____ Date: 3/5/11

NOTE: Please include your Quote No. to ensure proper pricing of your project.

**FOR LABORATORY USE ONLY:**

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

14.0 3.8 Sample Condition Upon Receipt
1. CHILLED Y☑ N☐ 4. CUSTODY SEAL 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 Consultants, Inc.** Address: 6671 Brisa Street TEL: (925) 371-5900
Attn: D. WATTS City Livermore State CA Zip Code 94550 FAX: (925) 371-5915

Project Name: Big French Creek Bridge (BFCB) Project #: 59300-06-159 Sampler: (Printed Name) D. WATTS (Signature) [signature]

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Relinquished by: (Signature and Printed Name) [signature] | Date: 3/3/11 | Time: 1830 | Received by: (Signature and Printed Name) GSO | Date: 3/3/11 | Time: 1830 |
| Relinquished by: (Signature and Printed Name) | Date: | Time: | Received by: (Signature and Printed Name) [signature] | Date: 3/4/11 | Time: 8:28 |
| 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~~:
D. WATTS — Print Name
1 MAR 2011 — Date
[signature] — Signature

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

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

Special Instructions/Comments:
DO NOT COMPOSITE SAMPLE SETS.
PLEASE RETURN ALL COOLERS ASAP.

**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

**Q A / Q C**
RTNE ☐
CT ☒
Legal ☐
SWRCB ☐ Logcode ____
OTHER ____

| ITEM | LAB USE ONLY: Batch #: / Lab No. | Sample Description: Sample I.D. / Location | Date | Time | 8081A (Pesticides) | 8082 (PCB) | 8260B (Volatiles) | 8270C (BNA) | 6010B (Total Metal) - Pb | 8015B (GRO) / 8021 (BTEX) | 8015B (DRO) | TITLE 22 / CAM 17 (6010 / 7000) | SEDIMENT | SOLID | SOIL | DRINKING WATER | GROUND WATER | WASTEWATER | STORMWATER | AQUEOUS | TAT | Container(s) # | Container(s) Type | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1100795-001/002 | WB1-0, 0.5 | 3/1/11 | VAR | | | | X | | | | | | X | | | | | | | E | 2 | Pg P | |
| | 3/4 | WB2-0, 0.5 | | | | | | | | | | | | | | | | | | | | 2 | | |
| | 5/7 | WB3-0, 0.5, 1 | | | | | | | | | | | | | | | | | | | | 3 | | |
| | 8/11 | WB4-0, 0.5, 1, 2 | | | | | | | | | | | | | | | | | | | | 4 | | |
| | 12/15 | WB5-0, 0.5, 1, 2 | | | | | | | | | | | | | | | | | | | | 4 | | |
| | 16/19 | WB6-0, 0.5, 1, 2 | | | | | | | | | | | | | | | | | | | | 4 | | |
| | 20/23 | WB7-0, 0.5, 1, 2 | | | | | | | | | | | | | | | | | | | | 4 | | |
| | 24/27 | WB8-0, 0.5, 1, 2 | | | | | | | | | | | | | | | | | | | | 4 | | |
| | 28/31 | WB9-0, 0.5, 1, 2 | | | | | | | | | | | | | | | | | | | | 4 | | |
| | 32/33 | WB10-0, 0.5 | | | | | | | | | | | | | | | | | | | | 2 | | |

• TAT starts 8 a.m. following day if samples received after 5 p.m.

TAT: ☐A= Overnight ≤ 24 hrs ☐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=Tedlar G=Glass P=Plastic M=Metal

Preservatives:
H=Hcl N=$HNO_3$ S=$H_2SO_4$ C=4°C
Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

Rev. 2010-0325

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

# CHAIN OF CUSTODY RECORD



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

P.O.#: _____ Quote #: _____

Logged By: _____ Date: _____

NOTE: Please include your Quote No. to ensure proper pricing of your project.

**FOR LABORATORY USE ONLY:**

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

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

Client: **Geocon Consultants, Inc.** Address: 6671 Brisa Street TEL: (925) 371-5900
Attn: SEE Pg 1 City Livermore State CA Zip Code 94550 FAX: (925) 371-5915
Project Name: (BFCB) Project #: Sampler: (Printed Name) (Signature)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Relinquished by: (Signature and Printed Name) Matt Lu | Date: 3/3/11 | Time: 1830 | Received by: (Signature and Printed Name) GSO | Date: 3/3/11 | Time: 1830 |
| Relinquished by: (Signature and Printed Name) | Date: | Time: | Received by: (Signature and Printed Name) | Date: 3/4/11 | Time: 8:28 |
| 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: SEE Pg 1
Print Name Date
Signature

Send Report To:
Attn: _____
Co: _____
Addr: _____
City: State: Zip:

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

Special Instructions/Comments:
BIG FRENCH CREEK BRIDGE (BFCB)

**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

**Q A / Q C**
RTNE ☐
CT ☒
Legal ☐
SWRCB ☐ Logcode ____
OTHER ____

| ITEM | LAB USE ONLY: Batch #: / Lab No. | Sample Description: Sample I.D. / Location | Date | Time | 8081A (Pesticides) | 8082 (PCB) | 8260B (Volatiles) | 8270C (BNA) | 6010B (Total Metal) - Pb | 8015B (GRO) / 8021 (BTEX) | 8015B (DRO) | TITLE 22 / CAM 17 (6010 / 7000) | SEDIMENT | SOLID | SOIL | DRINKING WATER | GROUND WATER | WASTEWATER | STORMWATER | AQUEOUS | TAT | Container(s) # | Container(s) Type | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1166035 - 34/35 | WB11-0, 0.5 | 3/1/11 | VAR | | | | X | | | | | | | X | | | | | | E | 2 | Bg P | |
| | 36/37 | WB12-0, 0.5 | | | | | | | | | | | | | | | | | | | | 2 | O | |
| | 38 | EB13-0 | | | | | | | | | | | | | | | | | | | | 1 | | |
| | 39/41 | EB14-0, 0.5, 1 | | | | | | | | | | | | | | | | | | | | 3 | | |
| | 42/44 | EB15-0, 0.5, 1 | | | | | | | | | | | | | | | | | | | | 3 | | |
| | 45/47 | EB16-0, 0.5, 1 | | | | | | | | | | | | | | | | | | | | 3 | | |
| | 48/51 | EB17-0, 0.5, 1, 2 | | | | | | | | | | | | | | | | | | | | 4 | | |
| | 52/55 | EB18-0, 0.5, 1, 2 | | | | | | | | | | | | | | | | | | | | 4 | | |
| | 56 | EB19-0 | | | | | | | | | | | | | | | | | | | | 1 | | |
| | 57/59 | EB20-0, 0.5, 1 | | | | | | | | | | | | | | | | | | | | 3 | | |

• TAT starts 8 a.m. following day if samples received after 5 p.m.

TAT: ☐A= Overnight ≤ 24 hrs ☐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=Tedlar G=Glass P=Plastic M=Metal

Preservatives:
H=Hcl N=$HNO_3$ S=$H_2SO_4$ C=4°C
Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$



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

# CHAIN OF CUSTODY RECORD



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

P.O.#: _____ Quote #: _____

Logged By: _____ Date: _____

NOTE: Please include your Quote No. to ensure proper pricing of your project.

**FOR LABORATORY USE ONLY:**

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

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

Client: **Geocon Consultants, Inc.** Address: 6671 Brisa Street TEL: (925) 371-5900
Attn: City Livermore State CA Zip Code 94550 FAX: (925) 371-5915

Project Name: SEE Pg 1 (BFCB) Project #: Sampler: (Printed Name) (Signature)

Relinquished by: (Signature and Printed Name) Will S Date: 3/3/11 Time: 1830 Received by: (Signature and Printed Name) GSO Date: 3/3/11 Time: 1830

Relinquished by: (Signature and Printed Name) Date: Time: Received by: (Signature and Printed Name) Date: 3/4/11 Time: 824

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: SEE Pg 1
Print Name Date
Signature

Send Report To:
Attn:
Co:
Addr:
City: State: Zip:

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

Special Instructions/Comments:
P1A = YELLOW TRAFFIC STRIPING
P2A = WHITE "
BIG FRENCH CREEK BRIDGE (BFCB)

**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: 8081A (Pesticides), 8082 (PCB), 8260B (Volatiles), 8270C (BNA), 6010B (Total Metal) - Pb, 8015B (GRO) / 8021 (BTEX), 8015B (DRO), TITLE 22 / CAM 17 (6010 / 7000)

SPECIFY APPROPRIATE MATRIX: SEDIMENT, SOLID, SOIL, DRINKING WATER, GROUND WATER, WASTEWATER, STORMWATER, AQUEOUS, PAINT

PRESERVATION

QA/QC: RTNE ☐ CT ☒ Legal ☐ SWRCB ☐ Logcode ____ OTHER ____

| ITEM | LAB USE ONLY: Batch #: / Lab No. | Sample Description: Sample I.D. / Location | Date | Time | TAT | Container(s): # | Type | REMARKS |
|---|---|---|---|---|---|---|---|---|
| | 116695-60/63 | EB21-0, 0.5, 1, 2 | 3/1/11 | VAR | E | 4 | Bg P | |
| | 64/66 | EB22-0, 0.5, 1 | | | | 3 | | |
| | 67/70 | EB23-0, 0.5, 1, 2 | | | | 4 | | |
| | 71/73 | EB24-0, 0.5, 1 | | | | 3 | | |
| | 74 | BFCB - P1A | 3/4/11 | VAR | E | 1 | Bg P | Y |
| | 75 | BFCB - P2A | | | | | | W |

· TAT starts 8 a.m. following day if samples received after 5 p.m.

TAT: ☐A= Overnight ≤ 24 hrs ☐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=Tedlar G=Glass P=Plastic M=Metal

Preservatives: H=Hcl N=$HNO_3$ S=$H_2SO_4$ C=4°C Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$



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

## Diane Galvan

**From:** Rebecca Silva [silva@geoconinc.com]
**Sent:** Tuesday, March 08, 2011 8:00 AM
**To:** Diane Galvan
**Cc:** watts@geoconinc.com
**Subject:** S9300-06-159

Hi Diane - Could you please change the TAT for these samples to 5-day rather than standard?

Thanks!
Rebecca

**Rebecca Silva, REA** | *Senior Project Scientist*
**Geocon Consultants, Inc.**
3160 Gold Valley Drive Suite 800, Rancho Cordova, CA 95742
Tel 916.852.9118 Fax 916.852.9132 Cell 916.508.1910
www.geoconinc.com

March 21, 2011

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

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

Workorder No.: 116695

RE: BIG FRENCH CREEK BRIDGE (BFCB), S930

Attention: Dave Watts

Enclosed are the results for sample(s) received on March 04, 2011 by Advanced Technology Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

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

## Advanced Technology Laboratories

Date: 3/21/2011

## ANALYTICAL RESULTS

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

| | | | |
|---|---|---|---|
| **CLIENT:** | Geocon Consultants, Inc. | **Lab Order:** | 116695 |
| **Project:** | BIG FRENCH CREEK BRIDGE (BFCB), S930 | **Date Received** | 3/4/2011 8:28:00 AM |
| **Project No:** | | **Matrix:** | Soil |
| **Analyte:** | Lead | **Analyst:** | VV |

| Laboratory ID | Client Sample ID | Results | Units | QC Batch | PQL | DF | Date Collected | Date Analyzed |
|---|---|---|---|---|---|---|---|---|
| 116695-008A | WB4-0 | 1.3 | mg/L | 71564 | 0.25 | 1 | 3/1/2011 | 3/18/2011 |
| 116695-028A | WB9-0 | 2.0 | mg/L | 71564 | 0.25 | 1 | 3/1/2011 | 3/18/2011 |
| 116695-048A | EB17-0 | 1.5 | mg/L | 71564 | 0.25 | 1 | 3/1/2011 | 3/18/2011 |
| 116695-056A | EB19-0 | 6.9 | mg/L | 71564 | 0.25 | 1 | 3/1/2011 | 3/18/2011 |
| 116695-060A | EB21-0 | 2.8 | mg/L | 71564 | 0.25 | 1 | 3/1/2011 | 3/18/2011 |
| 116695-061A | EB21-0.5 | 1.3 | mg/L | 71564 | 0.25 | 1 | 3/1/2011 | 3/18/2011 |
| 116695-067A | EB23-0 | 2.2 | mg/L | 71564 | 0.25 | 1 | 3/1/2011 | 3/18/2011 |
| 116695-068A | EB23-0.5 | 2.6 | mg/L | 71564 | 0.25 | 1 | 3/1/2011 | 3/18/2011 |
| 116695-070A | EB23-2 | 1.4 | mg/L | 71564 | 0.25 | 1 | 3/1/2011 | 3/18/2011 |

**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:** 116695
**Project:** BIG FRENCH CREEK BRIDGE (BFCB), S930

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 7420_ST**

| Sample ID | **MB-71568A** | SampType: | **MBLK** | TestCode: | **7420_ST** | Units: | **mg/L** | Prep Date: | **3/16/2011** | RunNo: | **131196** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBS** | Batch ID: | **71564** | TestNo: | **WET/ EPA 74** | **WET** | | Analysis Date: | **3/18/2011** | SeqNo: | **2135762** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | ND | 0.25 | | | | | | | | | |

| Sample ID | **LCS-71564** | SampType: | **LCS** | TestCode: | **7420_ST** | Units: | **mg/L** | Prep Date: | **3/16/2011** | RunNo: | **131196** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **LCSS** | Batch ID: | **71564** | TestNo: | **WET/ EPA 74** | **WET** | | Analysis Date: | **3/18/2011** | SeqNo: | **2135763** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 4.639 | 0.25 | 5.000 | 0 | 92.8 | 80 | 120 | | | | |

| Sample ID | **116695-070A-DUP** | SampType: | **DUP** | TestCode: | **7420_ST** | Units: | **mg/L** | Prep Date: | **3/16/2011** | RunNo: | **131196** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **EB23-2** | Batch ID: | **71564** | TestNo: | **WET/ EPA 74** | **WET** | | Analysis Date: | **3/18/2011** | SeqNo: | **2135773** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 1.374 | 0.25 | | | | | | 1.375 | 0.0448 | 20 | |

| Sample ID | **116695-070A-MS** | SampType: | **MS** | TestCode: | **7420_ST** | Units: | **mg/L** | Prep Date: | **3/16/2011** | RunNo: | **131196** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **EB23-2** | Batch ID: | **71564** | TestNo: | **WET/ EPA 74** | **WET** | | Analysis Date: | **3/18/2011** | SeqNo: | **2135774** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 6.151 | 0.25 | 5.000 | 1.375 | 95.5 | 80 | 120 | | | | |

| Sample ID | **MB-71564B** | SampType: | **MBLK** | TestCode: | **7420_ST** | Units: | **mg/L** | Prep Date: | **3/16/2011** | RunNo: | **131196** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBS** | Batch ID: | **71564** | TestNo: | **WET/ EPA 74** | **WET** | | Analysis Date: | **3/18/2011** | SeqNo: | **2135775** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | ND | 0.25 | | | | | | | | | |

**Qualifiers:**

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

**CLIENT:** Geocon Consultants, Inc.
**Work Order:** 116695
**Project:** BIG FRENCH CREEK BRIDGE (BFCB), S930

# ANALYTICAL QC SUMMARY REPORT

**TestCode: 7420_ST**

| Sample ID | 116841-002A-DUP | SampType: | DUP | TestCode: | 7420_ST | Units: | mg/L | Prep Date: | 3/16/2011 | RunNo: | 131196 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | ZZZZZZ | Batch ID: | 71564 | TestNo: | WET/ EPA 74 | WET | | Analysis Date: | 3/18/2011 | SeqNo: | 2135779 |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 5.318 | 0.25 | | | | | | 5.388 | 1.31 | 20 | |

| Sample ID | 116841-002A-MS | SampType: | MS | TestCode: | 7420_ST | Units: | mg/L | Prep Date: | 3/16/2011 | RunNo: | 131196 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | ZZZZZZ | Batch ID: | 71564 | TestNo: | WET/ EPA 74 | WET | | Analysis Date: | 3/18/2011 | SeqNo: | 2135780 |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 10.631 | 0.50 | 5.000 | 5.388 | 105 | 80 | 120 | | | | |

| Sample ID | 116841-002A-MSD | SampType: | MSD | TestCode: | 7420_ST | Units: | mg/L | Prep Date: | 3/16/2011 | RunNo: | 131196 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | ZZZZZZ | Batch ID: | 71564 | TestNo: | WET/ EPA 74 | WET | | Analysis Date: | 3/18/2011 | SeqNo: | 2135781 |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 10.507 | 0.50 | 5.000 | 5.388 | 102 | 80 | 120 | 10.63 | 1.18 | 20 | |

**Qualifiers:**

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

## Diane Galvan

**From:** Rebecca Silva [silva@geoconinc.com]
**Sent:** Monday, March 14, 2011 9:58 AM
**To:** Diane Galvan
**Subject:** RE: Results/EDD - BIG FRENCH CREEK BRIDGE (116695)

Hi Diane - Please analyze the 9 soil samples with total lead > 50 mg/kg for WET lead on 5-day TAT.

I will let you know about the paint sample. I have a call in to the client.

Thanks,
Rebecca

EMSL Analytical, Inc
2235 Polvorosa Ave , Suite 230, San Leandro, CA 94577
Phone: (510) 895-3675 Fax: (510) 895-3680 Email: sanleandrolab@emsl.com

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

**Livermore, CA 94550**

Fax: (925) 371-5915 Phone: (925) 371-5900
Project: **S9300-06-159 / Big French Creek**

Customer ID: GECN21
Customer PO: S9300-06-159
Received: 03/04/11 9:45 AM
EMSL Order: 091102002

EMSL Proj: S9300-06-**
Analysis Date: 3/16/2011

## Test Report: PLM Analysis of Bulk Samples for Asbestos via EPA 600/R-93/116 Method with CARB 435 Prep (Milling) Level A for 0.25% Target Analytical Sensitivity

| | | | Non-Asbestos | | Asbestos |
|---|---|---|---|---|---|
| **Sample** | **Description** | **Appearance** | **% Fibrous** | **% Non-Fibrous** | **% Type** |
| WB 3,4,5 --3 part composite<br>*091102002-0001* | | Brown<br>Non-Fibrous<br>Homogeneous | | 100.00% Non-fibrous (other) | **None Detected** |
| WB 7,8,9--3 part composite<br>*091102002-0002* | | Brown<br>Non-Fibrous<br>Homogeneous | | 100.00% Non-fibrous (other) | **None Detected** |
| EB 16,17,18--3 part composite<br>*091102002-0003* | | Brown<br>Non-Fibrous<br>Homogeneous | | 100.00% Non-fibrous (other) | **None Detected** |
| EB 21,22,23--3 part composite<br>*091102002-0004* | | Brown<br>Non-Fibrous<br>Homogeneous | | 100.00% Non-fibrous (other) | **None Detected** |

Initial report from

Analyst(s)

*Rui Cindy Geng (4)*

Baojia Ke, Laboratory Manager
or other approved signatory





**THIS IS THE LAST PAGE OF THE REPORT.**

# APPENDIX C

**DESCRIPTION OF DATA SET**

| | |
|---|---|
| Project Name: | SR-299 Big French Creek Bridge Improvement Project |
| Project No.: | S9300-06-159 |
| Sample Depth: | 0.0 ft |
| | **SR-299 WESTBOUND SHOULDER** |

**DATA SET STATISTICS**

| | |
|---|---|
| Number of Valid Observations | 12 |
| Number of Distinct Observations | 10 |
| Minimum | 2.5 |
| Maximum | 83 |
| Mean | 24.23 |
| Median | 14 |
| Standard Deviation | 23.93 |
| Variance | 572.6 |
| Standard Error of Mean | 6.907 |
| Coefficient of Variation | 0.988 |
| Skewness | 1.626 |
| Mean of log data | 2.764 |
| Standard Deviation of log data | 0.988 |
| **90% Non-parametric UCLs** | |
| Standard Bootstrap UCL | 32.4 |
| **95% Non-parametric UCLs** | |
| Standard Bootstrap UCL | 35.03 |

**DESCRIPTION OF DATA SET**

| | |
|---|---|
| Project Name: | SR-299 Big French Creek Bridge Improvement Project |
| Project No.: | S9300-06-159 |
| Sample Depth: | 0.5 ft |
| | **SR-299 WESTBOUND SHOULDER** |

**DATA SET STATISTICS**

| | |
|---|---|
| Number of Valid Observations | 12 |
| Number of Distinct Observations | 8 |
| Minimum | 9.2 |
| Maximum | 36 |
| Mean | 17.18 |
| Median | 16 |
| Standard Deviation | 6.852 |
| Variance | 46.95 |
| Standard Error of Mean | 1.978 |
| Coefficient of Variation | 0.399 |
| Skewness | 1.966 |
| Mean of log data | 2.784 |
| Standard Deviation of log data | 0.348 |
| **90% Non-parametric UCLs** | |
| Standard Bootstrap UCL | 19.61 |
| **95% Non-parametric UCLs** | |
| Standard Bootstrap UCL | 20.31 |

**DESCRIPTION OF DATA SET**

| | |
|---|---|
| Project Name: | SR-299 Big French Creek Bridge Improvement Project |
| Project No.: | S9300-06-159 |
| Sample Depth: | 1.0 ft |
| | **SR-299 WESTBOUND SHOULDER** |

**DATA SET STATISTICS**

| | |
|---|---|
| Number of Valid Observations | 7 |
| Number of Distinct Observations | 6 |
| Minimum | 8.7 |
| Maximum | 18 |
| Mean | 12.66 |
| Median | 11 |
| Standard Deviation | 4.047 |
| Variance | 16.38 |
| Standard Error of Mean | 1.53 |
| Coefficient of Variation | 0.32 |
| Skewness | 0.602 |
| Mean of log data | 2.496 |
| Standard Deviation of log data | 0.312 |
| **90% Non-parametric UCLs** | |
| Standard Bootstrap UCL | 14.46 |
| **95% Non-parametric UCLs** | |
| Standard Bootstrap UCL | 14.97 |

**DESCRIPTION OF DATA SET**

| | |
|---|---|
| Project Name: | SR-299 Big French Creek Bridge Improvement Project |
| Project No.: | S9300-06-159 |
| Sample Depth: | 2.0 ft |
| | **SR-299 WESTBOUND SHOULDER** |

**DATA SET STATISTICS**

| | |
|---|---|
| Number of Valid Observations | 6 |
| Number of Distinct Observations | 6 |
| Minimum | 8.1 |
| Maximum | 20 |
| Mean | 13.27 |
| Median | 12.5 |
| Standard Deviation | 4.601 |
| Variance | 21.17 |
| Standard Error of Mean | 1.878 |
| Coefficient of Variation | 0.347 |
| Skewness | 0.477 |
| Mean of log data | 2.535 |
| Standard Deviation of log data | 0.349 |
| **90% Non-parametric UCLs** | |
| Standard Bootstrap UCL | 15.44 |
| **95% Non-parametric UCLs** | |
| Standard Bootstrap UCL | 16.16 |

**DESCRIPTION OF DATA SET**

| | |
|---|---|
| Project Name: | SR-299 Big French Creek Bridge Improvement Project |
| Project No.: | S9300-06-159 |
| Sample Depth: | 0.0 ft |
| | **SR-299 EASTBOUND SHOULDER** |

**DATA SET STATISTICS**

| | |
|---|---|
| Number of Valid Observations | 12 |
| Number of Distinct Observations | 11 |
| Minimum | 14 |
| Maximum | 180 |
| Mean | 54.42 |
| Median | 25.5 |
| Standard Deviation | 52.05 |
| Variance | 2709 |
| Standard Error of Mean | 15.03 |
| Coefficient of Variation | 0.957 |
| Skewness | 1.539 |
| Mean of log data | 3.64 |
| Standard Deviation of log data | 0.843 |
| **90% Non-parametric UCLs** | |
| Standard Bootstrap UCL | 72.91 |
| **95% Non-parametric UCLs** | |
| Standard Bootstrap UCL | 78.2 |

**DESCRIPTION OF DATA SET**

| | |
|---|---|
| Project Name: | SR-299 Big French Creek Bridge Improvement Project |
| Project No.: | S9300-06-159 |
| Sample Depth: | 0.5 ft |
| | **SR-299 EASTBOUND SHOULDER** |

**DATA SET STATISTICS**

| | |
|---|---|
| Number of Valid Observations | 10 |
| Number of Distinct Observations | 10 |
| Minimum | 8.9 |
| Maximum | 82 |
| Mean | 24.06 |
| Median | 13.5 |
| Standard Deviation | 23.94 |
| Variance | 573.4 |
| Standard Error of Mean | 7.572 |
| Coefficient of Variation | 0.995 |
| Skewness | 2.019 |
| Mean of log data | 2.868 |
| Standard Deviation of log data | 0.76 |
| **90% Non-parametric UCLs** | |
| Standard Bootstrap UCL | 33.27 |
| **95% Non-parametric UCLs** | |
| Standard Bootstrap UCL | 35.86 |

**DESCRIPTION OF DATA SET**

| | |
|---|---|
| Project Name: | SR-299 Big French Creek Bridge Improvement Project |
| Project No.: | S9300-06-159 |
| Sample Depth: | 1.0 ft |
| | **SR-299 EASTBOUND SHOULDER** |

**DATA SET STATISTICS**

| | |
|---|---|
| Number of Valid Observations | 10 |
| Number of Distinct Observations | 9 |
| Minimum | 8.4 |
| Maximum | 38 |
| Mean | 18.94 |
| Median | 15.5 |
| Standard Deviation | 10.57 |
| Variance | 111.8 |
| Standard Error of Mean | 3.344 |
| Coefficient of Variation | 0.558 |
| Skewness | 1.222 |
| Mean of log data | 2.819 |
| Standard Deviation of log data | 0.506 |
| **90% Non-parametric UCLs** | |
| Standard Bootstrap UCL | 22.95 |
| **95% Non-parametric UCLs** | |
| Standard Bootstrap UCL | 24.13 |

**DESCRIPTION OF DATA SET**

| | |
|---|---|
| Project Name: | SR-299 Big French Creek Bridge Improvement Project |
| Project No.: | S9300-06-159 |
| Sample Depth: | 2.0 ft |
| | **SR-299 EASTBOUND SHOULDER** |

**DATA SET STATISTICS**

| | |
|---|---|
| Number of Valid Observations | 4 |
| Number of Distinct Observations | 4 |
| Minimum | 14 |
| Maximum | 53 |
| Mean | |
| Median | |
| Standard Deviation | |
| Variance | |
| Standard Error of Mean | |
| Coefficient of Variation | |
| Skewness | |
| Mean of log data | |
| Standard Deviation of log data | |

**90% Non-parametric UCLs**

| | |
|---|---|
| Standard Bootstrap UCL | N/A |

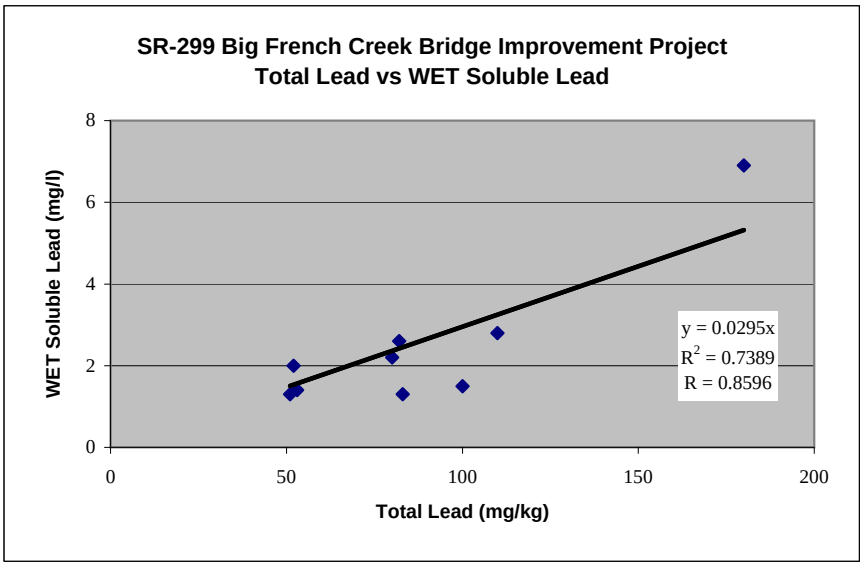
**95% Non-parametric UCLs**

| | |
|---|---|
| Standard Bootstrap UCL | N/A |

**Data set is too small to compute reliable and meaningful statistics and estimates**
**UCLS could not be calculated using Bootstrap method**

**SR-299 Big French Creek Bridge Improvement Project**
**S9300-06-159**

| Sample ID | Total Lead | WET Lead |
|---|---|---|
| WB4-0 | 83 | 1.3 |
| EB21-0.5 | 51 | 1.3 |
| EB23-2 | 53 | 1.4 |
| EB17-0 | 100 | 1.5 |
| WB9-0 | 52 | 2.0 |
| EB23-0 | 80 | 2.2 |
| EB23-0.5 | 82 | 2.6 |
| EB21-0 | 110 | 2.8 |
| EB19-0 | 180 | **6.9** |



# MATERIALS INFORMATION

REFERENCE PHOTOS ARCHITECTURAL SURFACE (TEXTURED CONCRETE)



Photographs of Referee Samples for Architectural Surface (Textured Concrete) with Colored Concrete and Stain