

# **INFORMATION HANDOUT**

**For Contract No. 03-4F0704**

**At 03-Sac-50-17.1**

**Identified by**

**Project ID 0314000020**

03-4F0704  
03-Sac-50-17.1  
Project ID 0314000020

## **RAILROAD RELATIONS**

Railroad Relations and Insurance Requirements

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## **MATERIALS INFORMATION**

Asbestos and Lead –Containing Paint Survey

Aerially Deposited Lead and Bridge Survey Site Investigation Report

Foundation Recommendations

## **RAILROAD RELATIONS AND INSURANCE REQUIREMENTS.**

### **1.01 GENERAL**

The term "Railroad" shall mean **Sacramento Regional Transit District (RT)**.

It is expected that Railroad will cooperate with the Contractor to the end that the work may be handled in an efficient manner. However, except for additional compensation provided for hereinafter for delays in completion of specific unit of work to be performed by the Railroad, and except as provided in Public Contracts Code Section 7102, the Contractor shall have no claim for damages, extension of time, or extra compensation in the event his work is held up by railroad train operations or other work performed by the Railroad.

Contractor must understand the Contractor's right to enter the Railroad's property is subject to the absolute right of the Railroad to cause the Contractor's work on the Railroad's property to cease if, in the opinion of the Railroad, the Contractor's activities create a hazard to the Railroad's property, employees, and operations.

Contractor acknowledges its receipt from State's Resident Engineer of a copy of the Contractor's Right of Entry Agreement executed by Railroad and the State. Contractor agrees to execute and deliver to Railroad a Contractor's Endorsement attached hereto as Appendix 1 and to provide to the State and/or the Railroad all insurance policies, binders, certificates or endorsements that are set forth in Exhibit B of the Contractor's Railroad Right of Entry Agreement.

### **1.02 RAILROAD REQUIREMENTS**

Contractor shall provide Railroad's Authorized Representative (Railroad) and State's Resident Engineer (Engineer) in writing, advance notice requirements set forth in Section 1 of **Exhibit A** of the Right of Entry Agreement before performing any work on, or adjacent to property or tracks of Railroad.

Contractor shall cooperate with Railroad where work is over or under tracks, or within the limits of Railroad property to expedite the work and avoid interference with the operation of railroad equipment.

Contractor shall comply with the rules and regulations of Railroad and shall perform work so as not to endanger or interfere with the safe operation of Railroad and or all instructions of its representatives in relation to protecting tracks and property of Railroad and traffic moving on such tracks, as well as wires, signals and other property of Railroad, its tenants or licensees, at and in the vicinity of work during the period of construction. Responsibility of Contractor for safe conduct and adequate policing and supervision of its work at the job site shall not be lessened or otherwise affected by the presence at work site of Railroad representatives, or by Contractor's compliance with any requests or direction given by Railroad representatives.

Contractor shall take protective measures to keep Railroad facilities, including track ballast, free of sand, gravel or other forms of debris resulting from his operations. Additional attention and protective measures must be taken to protect workers and to prevent damage to railroad high voltage overhead messenger lines and appurtenances (Railroad Locomotive Power Lines). Railroad communication and safety facilities as well as maintenance roads are to be free of obstructions. Damage to Railroad facilities resulting from Contractor's operations will be repaired or replaced by Railroad and the cost of such repairs or replacement shall be deducted from Contractor's progress and final pay estimates.

Contractor shall contact Railroad's "Call Before You Dig Line" at least forty-eight (48) hours prior to commencing work, at 1-800-336-9193 during normal business hours (7:00 a.m. to 9:00 p.m. Central Time, Monday through Friday, except holidays – also a 24-hour, 7-day number for emergency calls) to determine location of fiber optics. If a telecommunications system is buried anywhere on or near the Railroad property, the Contractor will coordinate with Railroad and Telecommunication Company (ies) to arrange for relocation and/or other protection of the system prior to beginning any work on or near Railroad property.

Contractor shall not pile or store any materials nor park any equipment closer than 12'- 0" to the centerline of the nearest track, unless directed by Railroad's representative.

Contractor shall also abide by the following temporary clearances during the course of construction:

(12'- 0") Horizontally from centerline of nearest track

(19'-2") Vertically from top of track

Walkways with railing shall be constructed by the Contractor over open excavation areas when in close proximity of tracks, and railings shall not be closer than (8'-6") horizontally from centerline of the nearest track, if tangent, or (9'-6") if curved.

Infringement on above temporary construction clearances by Contractor's operations shall be submitted to Railroad by the Engineer, and shall not be undertaken until approved by Railroad, and until Engineer has obtained any necessary authorization from any governmental body or bodies having jurisdiction there-over. No extension of time or extra compensation will be allowed in the event the Contractor's work is delayed pending Railroad approval and governmental authorization.

Contractor shall, upon completion of all work covered by this Contract to be performed by Contractor upon the premises or over or beneath the tracks of Railroad, promptly remove from the premises of Railroad, Contractor's tools, implements and other materials, whether brought upon said premises and cause said premises to be left in a clean and presentable condition.

Safety of personnel, property, rail operations and the public is of paramount importance. As reinforcement and in furtherance of overall safety measures to be observed by Contractor (and not by way of limitation), the following special safety rules shall be followed:

(a) Contractor shall keep job site free from safety and health hazards again noting and paying special attention to Railroad's electrical facilities including but not limited to overhead messenger (Cantenary) lines and contractor is to ensure that its employees are competent and adequately trained in all safety and health aspects of the job including Sacramento Regional Transit District's "Railroad On Track Safety Training" provided by Sacramento Regional Transit District's Chief Safety Officer.

(b) Contractor shall have proper first aid supplies available on the job site so that prompt first aid services can be provided to any person injured on job site. Contractor shall promptly notify the Railroad of any U.S. Occupational Safety and Health Administration reportable injuries occurring to any person that may arise during the work performed on the job site. Contractor shall have a non-delegable duty to control its employees while they are on the job site or any other property of the Railroad to be certain they do not use, be under the influence of, or have in their possession any alcoholic beverage, drug, narcotic or other substance that may inhibit safe performance of work by employees.

(c) Employees of Contractor shall be suitably dressed to perform their duties safely and in a manner that will not interfere with their vision, hearing or free use of their hands or feet. Only waist length shirts with sleeves and trousers that cover the entire leg are to be worn. If flare-legged trousers are worn, trouser bottoms must be tied to prevent catching. Employees should wear sturdy and protective work boots and at least the following protective equipment:

(1) Protective headgear that meets American National Standard-Z89.1-latest revision. It is suggested that all hardhats be affixed with Contractor's or subcontractor's company logo or name.

(2) Eye protection that meets American National Standard for occupational and educational eye and face protection, Z87.1-latest revision. Additional eye protection must be provided to meet specific job situations such as welding, grinding, burning, etc.; and

(3) Hearing protection that affords enough attenuation to give protection from noise levels that will be occurring on the job site.

(c) All heavy equipment provided or leased by the Contractor shall be equipped with audible back-up warning devices. If in the opinion of Railroad Representative any of Contractor's or Subcontractor's equipment is unsafe for use on Railroad's right-of-way, the Contractor, at the request or direction of Railroad representative, shall remove such equipment from Railroad's right-of-way.

### **1.03 PROTECTION OF RAILROAD FACILITIES**

Upon proper advanced notification provided to Railroad in the manner and time frame set forth in Section 1 of Exhibit A of Contractor's Right of Entry Agreement, Railroad representatives, conductors, flagmen or watchmen will be provided by Railroad to protect its facilities, property and movements of its trains or engines. Notice shall be made to Railroad's Representative Michael Cormiae, RT's Wayside Maintenance Superintendent at (916) 556-0461. At time of notification, Contractor shall provide Railroad with a schedule of dates flagging services will be needed, as well as times, if outside normal working hours. Subsequent deviation from the schedule shall require ten (10) working days' advance notice from the first affected date. Railroad will furnish such personnel or other protective devices:

(a) When equipment is standing or being operated within 12 feet, measured horizontally, from the nearest track on which trains may operate, or when any erection or construction activities are in progress within such limits, regardless of elevation above or below track.

(b) For any excavation below elevation of track subgrade if, in the opinion of Railroad's representative, track or other Railroad facilities may be subject to settlement or movement.

(c) During any clearing, grubbing, grading or blasting in proximity to Railroad which, in the opinion of the Railroad's representative, may endanger Railroad facilities or operations.

(d) During any Contractor's operations when, in the opinion of Railroad representatives, Railroad facilities, including, but not limited to, tracks, buildings, signals, wire lines or pipe lines, may be endangered.

Cost of Railroad Flagging Protection and/or inspection provided by Railroad during the period of time required for construction of that portion of project located on or near Railroad property, as deemed necessary by Railroad for protection of Railroad's facilities and trains, will be borne by State. Railroad has indicated that its estimated flagging rate will be around seven hundred fifty dollars (\$750.00) or more per 8-hour day (night work will be billed at overtime rates) and that Railroad and State estimated a total of eighty (80) days of flagging will be required to complete Contractor's work on or near Sacramento Regional Transit District Railroad property. State shall pay Railroad for all actual flagging costs incurred by Railroad under this project. Dependent on circumstances, Contractor may be responsible for the cost of railroad flagging protection or inspection in excess of the 80-day estimate.

### **1.04 WORK BY RAILROAD**

The following work by the Railroad will be performed by Railroad forces and is not a part of the work under the State's Highway Contract.

- (a) Railroad will perform Railroad Flagging Protection as specified in Section 1.03 "Protection of Railroad Facilities," of these special provisions if determined to be necessary by Railroad.
- (b) Relocation and/or protection of Railroad's messenger (catenary) and/or communication lines are to be relocated prior to construction. If that relocation/protection is delayed, Railroad may be required to complete that work during construction. Additionally, Railroad may determine during construction that additional other work by Railroad may be required.

#### **1.05 DELAYS DUE TO WORK BY RAILROAD.**

If delays due to work by the Railroad occur, and the Contractor sustains loss which, in the opinion of the Engineer, could not have been avoided by the judicious handling of forces, equipment and plant, the amount of said loss shall be determined as provided in Section 8-1.07, "Delays," of the 2010 Standard Specifications.

If a delay due to work by the Railroad occurs, an extension of time determined pursuant to the provisions in Section 8-1.10, "Liquidated Damages," of the 2010 Standard Specifications will be granted.

#### **1.06 LEGAL RELATIONS**

The provisions of Section 1, "Relations with Railroad Company," and the provisions of Section 2, "Railroad Protective Insurance," of these special provisions shall inure directly to the benefit of the Railroad.

#### **1.7.19 COORDINATION WITH RT LIGHT RAIL OPERATIONS - HOURS OF WORK**

In addition to the requirements of the Contract Documents, construction of this Project will be coordinated with revenue service operations of Sacramento Light Rail Transit System (RT Light Rail Operations). RT Light Rail Operations operating conditions are in effect and light rail vehicles (LRVs) will be in revenue service daily from approximately \_\_\_\_\_ a.m./p.m. continuous until approximately \_\_\_\_\_ a.m./p.m. the next day, seven days a week. LRVs generally run at 15-minute intervals, each direction, with the exception of evening hours and weekend mornings, which are scheduled for 30-minute intervals each direction. Contractor must obtain and have the responsibility to be familiar with the current "Daily RT Light Rail Operations Light Rail Schedule" and any revisions issued during the term of this Contract.

Contractor will cause all Work to be performed with regard to time, place and manner so that RT Light Rail Operations scheduled revenue service is not disrupted unless expressly provided otherwise herein. All work performed by Contractor or its subcontractors of any tier in the vicinity of the existing LRT track and facilities must be in accordance with RT Light Rail Operations Instructions for Track Warrants (Appendix «Apx4TrackWarrants»). It is Contractor's responsibility to apply for and secure the Track Warrant and/or Red Tag for each and every shift of Limited or Full Access construction, as defined below. If Contractor fails to comply with this requirement, and/or if Contractor or its subcontractors of any tier violate the terms of the Track Warrants and/or Red Tags, RT will issue a Stop Work Order to Contractor. The Stop Work Order will be in effect until such time as a Track Warrant or Red Tag is secured and/or the violation is corrected. Any delays or costs associated with this requirement must be borne by Contractor.

During hours of revenue service, Contractor and/or its subcontractors of any tier will be allowed Limited Access to any track area with RT Light Rail Operations revenue service operations through the Project site. Limited Access construction is defined as work to be performed within 12' of the nearest rail of the operating track, or any work that includes equipment capable of coming in contact with the overhead catenary system. Limited Access construction must be coordinated daily with RT Light Rail Operations through the Track Warrant procedure.

During the hours when RT Light Rail Operations is not in operation, approximately: 8:00 p.m. to 3:00 a.m. daily (Sunday-Thursday), 8:00 p.m. to 5:00 a.m (Friday), and 8:00 p.m to 8:00 a.m (Saturday),

Contractor and/or its subcontractors of any tier will be permitted Full Access to the existing track and facilities in the construction area through a Red Tag procedure. Any Work performed on existing track structure and facilities during Full Access will be restored by Contractor to complete operating conditions prior to resumption of scheduled revenue service. Full Access will be coordinated each and every time with RT Light Rail Operations through Track Warrant and Red Tag procedures.

Contractor and its subcontractors, regardless of tier, must not perform any Work that will require an unscheduled disruption of service at any time. All Work must be performed with sufficient labor, materials, and standby equipment to ensure that unscheduled service disruptions do not occur.

Contractor must submit a Work Plan detailing hours of work, construction methods and activities for RT's approval. The Work Plan must indicate the means to ensure conformance to this special condition. Contractor must not do any Work until Contractor receives written approval of the Work Plan from RT.

### **1.7.20 COOPERATION WITH RT LIGHT RAIL OPERATIONS**

All communications and/or correspondence relating to inspection and coordination between Contractor and RT Light Rail Operations must be given as set out in Article 5 of the Contract, Notices, unless otherwise specifically authorized by the RT AGM of Engineering and Construction. In the event of such authorization, Contractor must keep said RT AGM informed, in writing, of all such communications and their content.

RT Light Rail Operations staff will communicate directly with Contractor if conditions deemed to be an emergency exist. Under emergency conditions, life or property must be in immediate danger of loss. Should an emergency condition occur, Contractor must follow the directions of the RT Light Rail Operations staff without hesitation.

The application for issuance of Track Warrants and Red Tags must be coordinated directly between Contractor and RT Light Rail Operations staff. Contractor must maintain the Track Warrant or Red Tag documentation at the work site. Failure to produce the required documentation when requested will result in the cessation of Work until the documentation is produced. No exceptions will be allowed, and time for completion will not be extended if Work is stopped for the foregoing reason.

Red Tags will be provided by RT at a cost of \$750.00 per Red Tag. The cost for the Red Tag must be paid at the time of submitting the application for the Red Tag. Contractor must call Michael Cormia, Wayside Maintenance Superintendent at (916) 556-0461 to arrange for the Red Tag permit. Red Tags will only be given for the hours between \_\_\_\_ a.m./p.m and \_\_\_\_ a.m./p.m. Application for a Red Tag must be made at least 7 calendar days prior to the date requested.

### **2.0 RAILROAD PROTECTIVE LIABILITY INSURANCE REQUIREMENTS**

In addition to any other form of insurance or bonds required under the terms of the contract and specifications, Contractor will be required to carry insurance of the kinds and in the amounts hereinafter specified.

Such insurance shall be approved by Railroad before any work is performed on Railroad's property and shall be carried until all work required to be performed on or adjacent to Railroad's property under the terms of contract is satisfactorily completed as determined by Engineer, and thereafter until all tools, equipment and materials have been removed from Railroad's property and such property is left in a clean, presentable and operable condition.

Full compensation for all premiums which Contractor is required to pay on all insurance described hereinafter shall be considered as included in the prices paid for the various items of work to be performed under contract, and no additional allowance will be made thereof or for additional premiums which may be required by extensions of the policies of insurance.

**The following insurance coverage will be required:**

- A. **Commercial General Liability Insurance** Commercial general liability (CGL) with a limit of not less than \$5,000,000 each occurrence and an aggregate limit of not less than \$10,000,000. CGL insurance must be written on ISO occurrence form CG 00 01 12 04 (or a substitute form providing equivalent coverage).

The policy must also contain the following endorsement, which must be stated on the certificate of insurance:

- Contractual Liability Railroads ISO form CG 24171001 (or a substitute form providing equivalent coverage) showing “Sacramento Regional Transit District Property” at DOT grade separated crossing number 753550F “Natoma Overhead” as Designated Job Site.

- B. **Business Automobile Coverage** insurance. Business auto coverage written on ISO form CA 00 01 (or a substitute form providing equivalent liability coverage) with a combined single limit of not less \$5,000,000 for each accident. The policy must contain the following endorsements, which must be stated on the certificate of insurance:

- Coverage For Certain Operations In Connection With Railroads ISO form CA 20 70 10 01 (or a substitute form providing equivalent coverage) showing “Sacramento Regional Transit District” at DOT crossing number 753550F as the Designated Job Site.
- Motor Carrier Act Endorsement - Hazardous materials clean up (MCS-90) if required by law.

- C. **Workers' Compensation and Employers' Liability Insurance** Coverage must include but not be limited to:

- Contractor's statutory liability under the workers' compensation laws of the State of California.
- Employers' Liability (Part B) with limits of at least \$500,000 each accident, \$500,000 disease policy limit \$500,000 each employee.

If Contractor is self-insured, evidence of state approval and excess workers compensation coverage must be provided. Coverage must include liability arising out of the U. S. Longshoremen's and Harbor Workers' Act, the Jones Act, and the Outer Continental Shelf Land Act, if applicable.

The policy must contain the following endorsement, which must be stated on the certificate of insurance:

- Alternate Employer endorsement ISO form WC 00 03 01 A (or a substitute form providing equivalent coverage) showing Railroad in the schedule as the alternate employer (or a substitute form providing equivalent coverage).

- D. **Railroad Protective Liability Insurance.** Contractor must maintain Railroad Protective Liability Insurance written on ISO occurrence form CG 00 35 12 04 (or a substitute form providing equivalent coverage) on behalf of Railroad as named insured, with a limit of not less than \$5,000,000 per occurrence and an aggregate of \$10,000,000. A binder stating the policy is in place must be submitted to Railroad before the work may be commenced and until the original policy is forwarded to Railroad.

- E. **Umbrella or Excess Insurance** If Contractor utilizes umbrella or excess policies, these policies must “follow form” and afford no less coverage than the primary policy.

## **Other Requirements**

- F.** All policy (ies) required above (except worker's compensation and employers liability) must include Railroad as "Additional Insured" using ISO Additional Insured Endorsements CG 20 26, and CA 20 48 (or substitute forms providing equivalent coverage). The coverage provided to Railroad as additional insured shall, to the extent provided under ISO Additional Insured

Endorsement CG 20 26, and CA 20 48 provide coverage for Railroad's negligence whether sole or partial, active or passive, and shall not be limited by Contractor's liability under the indemnity provisions of this Agreement.

- G.** Punitive damages exclusion, if any, must be deleted (and the deletion indicated on the certificate of insurance), unless the law governing this Agreement prohibits all punitive damages that might arise under this Agreement.
- H.** Contractor waives all rights of recovery, and its insurers also waive all rights of subrogation of damages against Railroad and its agents, officers, directors and employees. This waiver must be stated on the certificate of insurance.
- I.** Prior to commencing the work, Contractor shall furnish Railroad and The Department with a certificate(s) of insurance, executed by a duly authorized representative of each insurer, showing compliance with the insurance requirements in this Agreement.
- J.** All insurance policies must be written by a reputable insurance company acceptable to Railroad or with a current Best's Insurance Guide Rating of A- and Class VII or better, and authorized to do business in the State of California.
- K.** The fact that insurance is obtained by Contractor or by Railroad on behalf of Contractor will not be deemed to release or diminish the liability of Contractor, including, without limitation, liability under the indemnity provisions of this Agreement. Damages recoverable by Railroad from Contractor or any third party will not be limited by the amount of the required insurance coverage.

**CONTRACTOR'S ENDORSEMENT**

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**A.** As a condition to entering upon Railroad's right-of-way to perform Work pursuant to this agreement, State's contractor, \_\_\_\_\_

(Name of Contractor)

whose address is \_\_\_\_\_,

(Contractor's Mailing Address)

(hereinafter "Contractor"), agrees to comply with and be bound by all the terms and provisions of the attached Caltrans Right of Entry Agreement that was signed by Sacramento Regional Transit District ("Railroad") and the State of California, Department of Transportation ("State") relating to the Work to be performed and the insurance requirements set forth in Exhibit B of the Right of Entry Agreement. The Contractor further acknowledges and agrees that the reference to Cal. Gov. Code §14662.5 in Sections 5.b) and 8.b) of Exhibit A to the Right of Entry Agreement does not apply to the Contractor and in no way limits the indemnities set forth in those provisions, to which the Contractor agrees to be bound.

**B.** Before the Contractor commences any Work, Contractor will provide Railroad with (i) a binder of insurance for the Railroad Protective Liability Insurance described in Section 2 of the Contract Special Provisions, hereto attached, and the original policy, or a certified duplicate original policy when available, and (ii) a certificate issued by its insurance carrier providing the other insurance coverage and endorsements required pursuant to Section 2 of the Contract Special Provisions.

**C.** All insurance correspondence, binders or originals shall be directed to:

Sacramento Regional Transit District  
Attention: Michael R Wiley, CEO  
P.O. Box 2110  
Sacramento, CA 95812-2110

**D.** Please note that fiber optic cable is buried on Railroad's property. **Prior to commencing any work, the Contractor agrees to contact the Railroad's Telecommunications Operation Center as provided in Section 5 of Exhibit A of the Right of Entry Agreement to determine if any fiber optic cable is located on the Railroad's property on or near the location where the work is to be performed.** If there is, the Contractor must comply with the terms and conditions of Section 5 of Exhibit A before commencing any work on the Railroad's property.

**E.** Contractor agrees to also provide to Railroad advance notice required in Section 1 of **Exhibit A** of Right of Entry Agreement prior to working on Railroad's property in order for Railroad to coordinate Contractor's work with Railroad's operations and to make arrangements for flagging protection (if applicable).

This endorsement shall be completed and sent to the person named in Paragraph C above.

\_\_\_\_\_  
(Name of Contractor)

By \_\_\_\_\_

Title: \_\_\_\_\_

## **EXHIBIT F**

### **RAILROAD MINIMUM REQUIREMENTS**

#### **PART 1 – GENERAL**

##### **1.01 DESCRIPTION**

This project includes construction work within the Right-of-Way and/or properties of an overhead electric powered railroad, The Sacramento Regional Transit District (RT) and adjacent to tracks, overhead communication and electrical (Catenary) wire lines and other facilities. This section describes the special requirements for coordination Railroad when work by Contractor will be performed upon, over or under Railroad Right-of-Way or may impact current or future Railroad operations. Contractor will coordinate with Railroad while performing the work outlined in this Contract, and shall afford the same cooperation with Railroad as it does with State. All submittals and work shall be completed in accordance with Railroad Guidelines and AREMA recommendations as modified by these minimum special requirements or as directed in writing by Railroad's Designated Representative.

For purposes of this project, Railroad's Designated Representative shall be the person or persons designated by Railroad to handle specific tasks related to this project.

##### **1.02 DEFINITION OF AGENCY AND CONTRACTOR**

As used in these Railroad requirements, the term "Agency" shall mean the State of California, by and through its Department of Transportation.

As used in these Railroad requirements, the term "Contractor" shall mean the contractor or contractor's hired by Agency to perform any project work on any portion of Railroad's property and shall also include the contractor's subcontractors and contractor's and subcontractor's respective officers, agents and employees, and others acting under its or their authority.

##### **1.03 RAILROAD "RT" CONTACTS**

Railroad Flagging Protection/Inspection and/or other requests of Railroad are to be addressed to State's Resident Engineer who will provide Railroad contact information (if applicable) to Contractor.

##### **1.04 REQUEST FOR INFORMATION/CLARIFICATION**

All Requests for Information ("RFI") involving work within any Railroad Right-Of-Way shall be in accordance with procedures listed elsewhere in these bid documents. All RFI's shall be submitted to Engineer of Record. Engineer of Record will submit RFI to Railroad's Designated Representative for review and approval for corresponding to work within the Railroad Right-Of-Way. The Contractor shall allow four (4) weeks for review and approval process by Railroad.

##### **1.05 PLANS/SPECIFICATIONS**

Plans and specifications for this project, affecting Railroad are subject to written approval by Railroad if required, and any changes to the plans that may be required after award of the Contract. Such changes are subject to the approval of Agency and Railroad.

## **PART 2 – UTILITIES AND FIBER OPTIC**

All installations shall be constructed in accordance with current AREMA recommendations and Railroad specifications and requirements. Railroad's general guidelines and required application forms for utility installations can be found on Railroad's website at [www.rt.com](http://www.rt.com), or through State's Resident Engineer.

### **3.01 GENERAL**

- A. Contractor shall perform all work in compliance with all applicable Railroad and Federal Railroad Administration/California Public Utility Commission (FRA/CPUC) rules and regulations. Contractor shall arrange and conduct all work in such manner and at such times as shall not endanger or interfere with the safe operation of the tracks and property of Railroad and the train traffic moving on such tracks, or wires, signals and other property of Railroad, its tenants or licensees, at or in the vicinity of the work. Railroad shall be reimbursed by Contractor or Agency for train delay costs and lost revenue claims due to any delays or interruption of train operations resulting from Contractor's construction work or other activities.
- B. Requests to perform construction activities that are absolutely necessary within 12 feet horizontally of the nearest operational tracks, may be submitted to Railroad's Designated Representative who may or may not grant approval. Construction activities within 12 feet horizontally of the nearest operational track(s) must allow the tracks to stay operational.
- C. Track protection is required for all work equipment (including rubber tired equipment) operating within 12 feet horizontally from nearest rail.
- D. Contractor is also advised that new or relocated railroad facilities within the project limits may be built by Railroad and that certain Contractor's activities cannot proceed until that work is completed. Contractor shall be aware of the limits of responsibilities and allow sufficient time in the schedule for that work to be accomplished and shall coordinate its efforts with Railroad.

### **3.02 RAILROAD OPERATIONS**

- A. Contractor shall be advised that trains and/or equipment are to be expected on any tracks, at any time, in either direction. Contractor shall become familiar with train schedules in this location and structure its bid assuming intermittent track windows in this period, as defined in Paragraph B below.
- B. All railroad tracks within and adjacent to the Contract Site are active, and rail traffic over these facilities shall be maintained throughout the Project. Railroad traffic and operations will occur continuously throughout the day from \_\_\_\_ a.m./p.m. and \_\_\_\_ a.m./p.m. (\_\_\_\_ hours per day) on these tracks and shall be maintained at all times as defined herein. Contractor shall coordinate and schedule the work so that construction activities do not interfere with railroad operations.
- C. Work windows for this Contract shall be coordinated with Agency and Railroad Designated Representatives. Types of work windows include Conditional Work Windows and Absolute Work Windows, as defined below:
  - 1. Conditional Work Window: A Conditional Work Window is a period of time that railroad operations have priority over construction activities. When construction activities may occur on and adjacent to the railroad tracks within 12 feet horizontally of the nearest rail, a Railroad flag person will be required. At the direction of the Railroad flag person, upon approach of a train, and when trains are present on tracks, tracks must be cleared (i.e., no construction equipment, materials or personnel within 12 feet, or as directed by

Railroad's Designated Representative, from the tracks). Conditional Work Windows may be available for this Project.

2. **Absolute Work Window:** An Absolute Work Window is a period of time that construction activities are given priority over railroad operations. During this time frame the designated railroad track(s) will be inactive for train movements and may be fouled by the Contractor. At the end of an Absolute Work Window the railroad tracks and/or signals must be completely operational for train operations and all Railroad, California Public Utilities Commission (CPUC) and Federal Railroad Administration (FRA) requirements, codes and regulations for operational tracks must be complied with. In the situation where the operating tracks and/or signals have been affected, Railroad will perform inspections of the work prior to placing that track back into service. Railroad flag persons will be required for construction activities requiring an Absolute Work Window. **Absolute Work Windows requests will require a detailed explanation for Railroad review and may or may not be granted by Railroad.**

### **3.03 RIGHT OF ENTRY, ADVANCE NOTICE AND WORK STOPPAGES**

- A. Prior to beginning any work on or over the property of, or affecting the facilities of, Railroad, Contractor shall execute the Contractor's Endorsement that is a part of the Railroad Right of Entry Agreement signed by Railroad and Agency. Contractor shall submit a copy of the executed agreement and insurance policies, binders, certificates and endorsements set forth therein to Railroad and Agency prior to commencing work on Railroad property. The right of entry agreement shall specify working time frames, flagging and inspection requirements, and any other items specified by Railroad.
- B. Contractor shall give advance notice to Railroad as required in the Right of Entry Agreement before commencing work in connection with construction upon or over Railroad Right-of-Way and shall observe Railroad rules and regulations with respect thereto.
- C. All work upon Railroad Right-of-Way shall be done at such times and in such manner so as not to interfere with or endanger the operations of Railroad. Whenever work may affect the operations or safety of trains, the method of doing such work shall first be submitted to Railroad's Designated Representative for approval, but such approval shall not relieve the Contractor from liability. Any work to be performed by Contractor, which requires flagging and/or inspection service, shall be deferred until the flagging protection required by Railroad is available at the job site. See Section 1.03 for railroad flagging requirements.
- D. Contractor shall make requests in writing for both Absolute and Conditional Work Windows, at least two weeks in advance of any work. The written request must include:
  1. Exactly what the work entails.
  2. The days and hours that work will be performed.
  3. The exact location of work, and proximity to the tracks.
  4. The type of window requested and the amount of time requested.
  5. The designated contact person.

Contractor shall provide a written confirmation notice to Railroad at least 48 hours before commencing work in connection with approved work windows when work will be performed within **12 feet from the nearest rail**. All work shall be performed in accordance with previously approved work plans.

- E. Should a condition arising from, or in connection with the work, require that immediate and unusual provisions be made to protect operations and property of Railroad, Contractor shall make such provisions. If in the judgment of Railroad's Designated Representative such provisions are insufficient, Railroad's Designated Representative may require or provide such

provisions as deemed necessary. In any event, such provisions shall be at Contractor's expense and without cost to Railroad. Railroad or Agency shall have the right to order Contractor to temporarily cease operations in the event of an emergency or, if in the opinion of the Railroad's Designated Representative, Contractor's operations could endanger Railroad operations. In the event such an order is given, Contractor shall immediately notify Agency of the order.

### **3.04 INSURANCE**

Contractor shall not begin work upon or over Railroad Right-of-Way until Railroad has been furnished the insurance policies, binders, certificates and endorsements required by the Railroad Right-of-Entry Agreement and Railroad's Designated Representative has advised Agency that such insurance is in accordance with the Agreement. Required insurance shall be kept in full force and effect during the performance of work and thereafter until Contractor removes all tools, equipment, and material from Railroad property and cleans the premises in a manner reasonably satisfactory to Railroad.

### **3.05 RAILROAD SAFETY ORIENTATION**

**All personnel employed by the Contractor and all subcontractors must complete The Sacramento Regional Transit District (RT) on track safety course "Orientation for Contractor's Safety", prior to working on Railroad property.**

### **3.06 COOPERATION**

Railroad will cooperate with Contractor so that work may be conducted in an efficient manner, and will cooperate with Contractor in enabling use of Railroad right-of-way in performing the work.

### **3.07 MINIMUM CONSTRUCTION CLEARANCES FOR FALSEWORK AND OTHER TEMPORARY STRUCTURES**

Contractor shall abide by the following minimum temporary clearances during the course of construction:

- A. 12' – 0" Horizontally from centerline of nearest track
- B. 19' – 2" Vertically from top of track

For construction clearance less than listed above, additional Railroad review and approval is required which may take up to 4 weeks to complete.

### **3.08 APPROVAL OF REDUCED CLEARANCES**

- A. The minimum track clearances to be maintained by the Contractor during construction are specified in Section 3.07 herein.
- B. Any proposed infringement on the specified minimum clearances due to the Contractor's operations shall be submitted to Railroad's Designated Representative through Agency at least 30 days in advance of the work and shall not be undertaken until approved in writing by Railroad's Designated Representative.
- C. No work shall commence until the Contractor receives in writing assurance from State's Resident Engineer that arrangements have been made for flagging protection service, as may be necessary and receives permission to proceed with the work.

### **3.09 CONSTRUCTION AND AS-BUILT SUBMITTALS**

Construction and AS-Built Submittals are to be directed to Agency.

### **3.10 APPROVAL OF DETAILS**

The details of the construction affecting Railroad tracks and property not already included in the Contract Plans shall be submitted to Railroad's Designated Representative through Agency for Railroad's review and written approval before such work is undertaken. Review and approval of

these submittals will require a minimum of four (4) weeks in addition to the Agency's review time as stated elsewhere in these bid documents.

### **3.11 MAINTENANCE OF RAILROAD FACILITIES**

- A. Contractor shall be required to maintain all ditches and drainage structures free of silt or other obstructions which may result from Contractor's operations; to promptly repair eroded areas within Railroad's right of way and to repair any other damage to the property of Railroad, or its tenants.
- B. All such maintenance and repair of damages due to the Contractor's operations shall be done at Contractor's expense.
- C. Contractor must submit a proposed method of erosion control and have the method reviewed by Railroad prior to beginning any grading on the Project Site. Erosion control methods must comply with all applicable local, state and federal regulations.

### **3.12 SITE INSPECTIONS BY RAILROAD'S DESIGNATED REPRESENTATIVE**

- A. In addition to the office reviews of construction submittals, site inspections may be performed by Railroad's Designated Representative ***if deemed necessary by Railroad*** at significant points during construction.
- B. Site inspection is not limited to the events listed above. Site visits to check progress of the work may be performed at any time throughout the construction as deemed necessary by Railroad.
- D. A detailed construction schedule, including any proposed temporary horizontal and vertical clearances and construction sequence for all work to be performed, shall be provided to the Agency for submittal to Railroad for review prior to commencement of work. This schedule shall also include the anticipated dates when the above listed events will occur. This schedule shall be updated for the above listed events as necessary, but at least monthly so that site visits may be scheduled.

### **3.13 RAILROAD REPRESENTATIVES**

- A. Railroad representatives, conductors, flag persons or watch persons will be provided by Railroad at the expense of Agency or Contractor (as stated elsewhere in these bid documents) to protect Railroad facilities, property and movements of its trains, engines or other equipment. In general, Railroad will furnish such personnel or other protective services railroad determines to be applicable as follows:
  - 1. When any part of any equipment is standing or being operated within 12 feet, measured horizontally, from centerline of any track on which trains may operate, or when any object is off the ground and any dimension thereof could extend inside the 12 foot limit, or when any erection or construction activities are in progress within such limits, regardless of elevation above or below track.
  - 2. For any excavation below elevation of track subgrade if, in the opinion of Railroad's Designated Representative, track or other Railroad facilities may be subject to settlement or movement.
  - 3. During any clearing, grubbing, excavation or grading in proximity to Railroad facilities, which, in the opinion of Railroad's Designated Representative, may endanger Railroad facilities or operations.

4. During any contractor's operations when, in the opinion of Railroad's Designated Representative, Railroad facilities, including, but not limited to, tracks, buildings, signals, wire lines, or pipe lines, may be endangered.
5. The Contractor shall arrange with the Railroad Designated Representative to provide the adequate number of flag persons to accomplish the work.

### **3.14 WALKWAYS**

Walkways are applicable to this Highway Project for excavations exceeding one foot in depth.

### **3.15 COMMUNICATIONS AND SIGNAL LINES**

Relocation/Protection of Railroad Facilities by Railroad are anticipated on this Highway Project.

### **3.16 TRAFFIC CONTROL**

Contractor's operations that control traffic across or around Railroad facilities shall be coordinated with and approved by Railroad's Designated Representative.

### **3.17 CONSTRUCTION EXCAVATIONS**

- A. Contractor shall be required to take special precaution and care in connection with excavating and shoring. Excavations for construction of footings, piers, columns, walls or other facilities that require shoring SHALL comply with requirements of OSHA, AREMA and RT "Guidelines for Temporary Shoring".
- B. Contractor SHALL contact Railroad's "Call Before Your Dig" at least 48 hours prior to commencing work at 1-800-336-9193 during normal business hours (6:30 a.m. to 8:00 p.m. central time, Monday through Friday, except holidays - also a 24 hour, 7 day a week number for emergency calls) to determine location of fiber optics. If a telecommunications system is buried anywhere on or near Railroad property, Contractor will co-ordinate with Railroad and the Telecommunication Company (ies) to arrange for relocation or protection of the system prior to beginning any work on or near Railroad property.

### **3.18 RAILROAD FLAGGING PROTECTION**

Performance of any work by the Contractor in which person(s) or equipment will be within twenty-five (12) feet of any track, or will be near enough to any track that any equipment extension (such as, but not limited to, a crane boom) will reach within twenty-five (12) feet of any track, ***may*** require railroad flagging services or other protective measures. Contractor shall give the advance notice to Railroad as required in the "Contractor's Right of Entry Agreement" before commencing any such work, so that the Railroad may determine the need for flagging or other protective measures to ensure the safety of Railroad's operations. Contractor shall comply with all other requirements regarding flagging services covered by the "Contractor's Right of Entry Agreement". Any costs associated with failure to abide by these requirements will be borne by the Contractor.

### **3.19 CLEANING OF RIGHT-OF-WAY**

Contractor shall, upon completion of the work to be performed by Contractor upon the premises, over or beneath the tracks of Railroad, promptly remove from the Right-of-Way of Railroad all of Contractor's tools, implements, and other materials whether brought upon the Right-of-Way by Contractor or any subcontractors, employee or agent of Contractor or of any subcontractor, and leave the Right-of-Way in a clean, presentable and operable condition to satisfaction of Railroad.

**RT METRO** Red Tag Request

Date: \_\_\_\_\_

Requesting Agency: \_\_\_\_\_

Address: \_\_\_\_\_

Contact Person: \_\_\_\_\_

Word Phone: \_\_\_\_\_

Home Phone: \_\_\_\_\_

Dates For Requested Work: Beginning: \_\_\_\_\_ / \_\_\_\_\_  
Date Hours  
Ending: \_\_\_\_\_ / \_\_\_\_\_  
Date Hours

Nature of Work	Location of Work
_____	_____
_____	_____
_____	_____
_____	_____

	Yes	No
Power-Off	<input type="checkbox"/>	<input type="checkbox"/>
Ground Strap	<input type="checkbox"/>	<input type="checkbox"/>
Flagmen	<input type="checkbox"/>	<input type="checkbox"/>
Barricades	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>

**RT Use Only**

AUTHORIZED WORK AREA: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Substation De-Feeder	Breakers Opened Red Tag #	Special Instructions
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____
4. _____	_____	_____
5. _____	_____	_____

Signed By: Contractor X: \_\_\_\_\_ Date: \_\_\_\_\_  
SRTD X: \_\_\_\_\_ Date: \_\_\_\_\_  
Metro Control X: \_\_\_\_\_ Date: \_\_\_\_\_

# LIGHT RAIL TRACK WARRANT

*(Must be submitted at least twelve (12) hours in advance)*

Company Name: \_\_\_\_\_ Phone: \_\_\_\_\_

Contract Person: \_\_\_\_\_ Phone: \_\_\_\_\_

Location: \_\_\_\_\_

Nature of Work: \_\_\_\_\_

## THIS TRACK WARRANT IS SUBJECT TO THE PROVISIONS INITIALED BELOW:

Initial		Date	Start Time	End Time	Log Time	Supervisor Number	Authorization Number	Confirmation Time
_____	Sunday							
_____	Monday							
_____	Tuesday							
_____	Wednesday							
_____	Thursday							
_____	Friday							
_____	Saturday							

## TRACK WARRANT CONDITIONS

- \_\_\_\_\_ 1. Personal and equipment to be clear of the nearest rail by 10' maximum.
- \_\_\_\_\_ 2. High visibility vest must be worn at all times.
- \_\_\_\_\_ 3. No person/equipment will be within 10' of an overhead wire.
- \_\_\_\_\_ 4. Notify METRO Control of condition affecting train service.
- \_\_\_\_\_ 5. Audible required:      Horn      Gong
- \_\_\_\_\_ 6. Slow Order: \_\_\_\_\_ mph from \_\_\_\_\_ to \_\_\_\_\_
- \_\_\_\_\_ 7. Flag protection required.
- \_\_\_\_\_ 8. Impassable track:     From: \_\_\_\_\_ To: \_\_\_\_\_
- \_\_\_\_\_ 9. Will place and remove barricades in track(s).  
Other specific \_\_\_\_\_
- \_\_\_\_\_ 10. conditions: \_\_\_\_\_
- \_\_\_\_\_ 11. Track Warrant may be extended/revised/annulled by METRO Control only.

Representative's  
Signature: \_\_\_\_\_ Time: \_\_\_\_\_ Date: \_\_\_\_\_

Approved by: \_\_\_\_\_ Time: \_\_\_\_\_ Date: \_\_\_\_\_

Revised by: \_\_\_\_\_ Time: \_\_\_\_\_ Date: \_\_\_\_\_

Annulled by: \_\_\_\_\_ Time: \_\_\_\_\_ Date: \_\_\_\_\_

# INSTRUCTIONS FOR TRACK WARRANTS

Your responsibilities as a holder of a Track Warrant are as follows:

- You **MUST** verify your Track Warrant for each scheduled day of work immediately before beginning work **EACH** day.
- You may do this by telephoning METRO Control at 648-8415. This office is open 24 hours a day.
- When you call, you will receive an authorization number for your warrant. Your Track Warrant is **NOT VALID** without this number.
- You must notify METRO Control of **ANY** changes in your work times or conditions immediately.
- The Track Warrant or a copy must be kept at **EACH** job site and presented upon demand to authorized personnel.
- Failure to abide by these regulations can result in immediate revocation of this warrant.
- Your workers and/or sub-contractor working under this warrant **MUST**
- comply with all conditions and instructions.

**SERVICE DISRUPTION BOND**

WE HEREBY CERTIFY THAT: \_\_\_\_\_ as Principal, hereinafter called "Principal," and \_\_\_\_\_, a corporation, duly organized under the laws of the State of \_\_\_\_\_, having its principal place of business at \_\_\_\_\_ in the State of \_\_\_\_\_, and authorized as a surety in the State of California, hereinafter called "Surety," are hereby held and firmly bound unto Sacramento Regional Transit District, hereinafter called "Obligee" in the Penal Sum of \$50,000.00 lawful money of the United States of America, for which payment well and truly to be made, we bind ourselves, our heirs, executors, administrators, representatives, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered into or is about to enter into a certain written agreement with the above-mentioned Obligee, for construction of the «TitleTitlecase», Project No. «ProjectNo», hereinafter "Contract," which Contract documents are incorporated herein by reference as if fully set forth herein.

WHEREAS, said Principal is required to furnish a bond in connection with said Contract, to secure payment of costs of service disruptions to Obligee's bus and/or light rail system as a result of work under said Contract.

NOW, THEREFORE, if said Principal, or its heirs, executors, administrators, representatives, successors, assigns, or subcontractors cause disruption to the revenue operations of Obligee's light rail system, the aforesaid Surety will pay Obligee the sum of \$5,000 per hour for every hour of disruption or portion thereof, unless such disruption is solely caused by Obligee; however, in no event will the amount owed by said Surety exceed the amount of this bond.

Said Surety, for value received, hereby stipulates and agrees that, in accordance with the terms of the Contract, no change, extension of time, alteration or addition to the terms of the Contract, or to the work to be performed there-under, or to the specifications accompanying the same will in any way affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the work or to the specifications.

In the event that an action is brought to enforce this bond or for a declaration of the rights and duties of the parties pursuant to this bond, the prevailing party in any such action will recover its costs and attorney fees from the other party.

IN WITNESS WHEREOF, the above bound parties have executed this instrument under their seals the \_\_\_\_ day of \_\_\_\_\_, 201\_ the name and corporate seal of each corporate party being affixed thereto, and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

\_\_\_\_\_  
(Seal)

\_\_\_\_\_  
PRINCIPAL  
By \_\_\_\_\_

(Seal)

\_\_\_\_\_  
SURETY

Bond No. \_\_\_\_\_

By \_\_\_\_\_

## EXHIBIT A

### RT PROJECT SPECIAL CONDITIONS

#### 1. General

In general, the specifications herein apply to all PROJECT work related to, or affecting, RT FACILITIES (hereinafter "WORK"). All contractors performing WORK must comply with the Project Technical Specifications and Special Provisions, the latest Caltrans's Standard Specifications for Public Construction ("Standard Specifications"), and all applicable specifications in this Exhibit A. In the event the Caltrans's Standard Specifications and the specifications herein conflict, the parties shall meet and confer regarding those specifications that shall apply to the WORK.

##### 1.01 Definitions

RT FACILITY: Light rail tracks, switch equipment, signal systems, communications ductbanks, overhead contact system, traction power feeder conduits and cables, and stations, including all appurtenant furnishings and equipment.

PROJECT: Natoma OCS Widening Project

#### 2. Service Disruption Bond

The PROJECT contractor shall provide to Caltrans, in a form approved by RT, a Service Disruption Bond in the amount of \$50,000 prior to commencement of PROJECT construction covering costs incurred by RT from any disruption to RT's light rail service. The surety on the Service Disruption Bond must be authorized to do business in California and must be either a current Treasury Listed Surety (Federal Register); and either a current A.M Best AIV rated surety OR one having a current Standard and Poors (S&P) rating of A. The bond must be submitted with the following: The original, or a certified copy of the unrevoked appointment, power of attorney, bylaws, or other instrument entitling or authorizing the person who executed the bond to do so.

#### 3. Pre-Construction Meeting

A pre-construction meeting will be held at a time and place to be designated by notice from the Caltrans. At this meeting, detailed procedures will be discussed for handling the following items pertaining to the WORK:

- Authorized Representative
- Correspondence
- Notices
- Change requests and change notices
- Contract change orders
- Submittals
- Approvals
- Schedules
- Community relations
- Safety training
- Inspection plans

- Requests for information (RFI)
- PubliCaltrans Releases
- Other pertinent agenda items
- QA/QC

#### **4. Safety Program Requirements**

##### **4.01 INTENTIONALLY OMITTED**

##### **4.02 RT'S ON TRACK SAFETY TRAINING**

Employees of the contractors scheduled or expected to perform work on the PROJECT within ten feet (10') of RT tracks are required to have successfully completed RT's current Safety Rules and Procedures training program. Contractor(s) shall keep records of those individuals successfully completing the course. Caltrans shall require that all workers performing construction work complete RT's "On Track Safety Program" prior to commencement of the work and that all such workers exercise Program and other applicable safety precautions while performing work. The Program provides information on safety precautions needed while working on or near light rail tracks and the high voltage Overhead Contact System (OCS), the use of Track Warrants and High Voltage Red Tag procedures. Caltrans contractors are responsible for scheduling training sessions with RT's Safety Department. RT will retain training records and sign up sheets for a period of three years.

##### **4.03 CONTRACTOR SAFETY PROGRAM**

Caltrans shall require that construction contractors establish, implement and maintain an effective "Safety Program" to assure that local, state and federal safety, health, fire, security, and environmental requirements are met throughout all phases of the work. Caltrans shall require all contractors comply with Safety Program elements. In addition to the Caltrans requirements, the Contractor's Safety Program shall include, at a minimum:

- Policy statement on program elements.
- Designation of an on-site person responsible for implementation, monitoring, and compliance of the Safety Program elements.
- Disciplinary action procedure for infractions and non-compliance.
- Manager and supervisor accountability for program elements and how performance will be monitored, assessed and communicated to them.
- Initial employee safety training and orientation.
- Training and qualifications or certifications for work force required to perform specific job functions.

- Method of handling anonymous reports and statements of non-reprisal for reporting safety, security, environmental or harassment incidents.

Caltrans's contractor shall submit its Safety Program to Caltrans after a Notice to Proceed is issued. Contractor may not commence WORK in the vicinity of the RT light rail system until RT accepts Contractor's Safety Program by returning it with the notation "REVIEWED/NO EXCEPTIONS TAKEN." Once returned by RT with the notation "REVIEWED/NO EXCEPTIONS TAKEN," no further changes or alterations to the Contractor Safety Plan shall be made without approval by RT.

#### **4.04 ON-SITE SAFETY REPRESENTATIVE**

Contractor must assign a Safety Representative to the PROJECT who will have the authority to take action on all safety issues. The Safety Representative will not be given any other responsibilities that could conflict or compete with proper exercise of judgment on safety elements.

The Safety Representative must be fully qualified by both experience and education to perform the designated duties and the responsibilities of the position. The Safety Representative's qualifications will be a formal contract submittal reviewed by the Engineer and RT.

The Safety Representative must coordinate, train, monitor, audit, and report on safety program activities of the Contractor Safety Program. The safety representative will maintain a daily activity log indicating all major activities that were performed by the safety representative in conjunction with PROJECT implementation. The Safety Representative will submit a monthly status report to the Engineer on the performance of the Safety Program. The Safety Representative will review plans, submittals, RFIs, change orders, and critical WORK permits for conformity with the Contractor Safety Program.

#### **4.05 FLAGGING**

Caltrans's contractor shall comply with the following flagging requirements:

- A. All flagging required by RT during approved Red Tags and Track Warrants must be provided by contractor at contractor's sole cost and expense.
- B. RT will determine the number of flaggers required for each Red Tag and Track Warrant.

#### **4.06 TESTING AND ACCEPTANCE FUNCTIONS**

Caltrans's contractor must provide acceptance and testing documentation on all WORK to Caltrans and RT. The documentation must include a description of the test, reference the contract specifications applicable to the test, test conditions, acceptance criteria, personnel and equipment used for the test, and test results. Test reports are to be filed with the Caltrans within twenty-four (24) hours after such reports are received by the contractor. Signed field notes meeting the requirements set out above may be substituted for formal reports for a period of up to thirty (30) days from the date of test.

Caltrans's contractor shall investigate any test that fails to meet the acceptance criteria, identify and document the cause of the failure, and retest or submit a corrective action plan to the Caltrans for review and approval.

#### **4.07 INSPECTION AND AUDITS**

Caltrans shall require that contractor provide access to the WORK job site to RT and that it provide all documentation to RT necessary to audit and inspect the WORK. RT will report WORK deficiencies to the Caltrans and contractor, using a deficiency correction report. Contractor shall prepare and submit a corrective action plan to Caltrans within twenty-four (24) hours of notification of the deficiency, for review and approval by RT.

RT safety personnel may issue contractor(s) a stop work order with respect to RT FACILITIES if RT believes a condition exists that is immediately dangerous to life or health. The WORK must not be resumed until RT is satisfied that the condition is corrected and releases the order. No schedule relief will be allowed for delays associated with a stop WORK order of this type. Cost associated with reinspection, rework, job site monitoring or special conditions for resuming WORK shall be back charged to the Contractor. Contractor must submit to Caltrans within a reasonable time any other document relating to health and safety reasonably requested in writing by RT or Caltrans.

RT has right to deny access to RT FACILITIES to any contractor, its subcontractors, agents, or employees if such action is justified on the basis of safety, health, fire, security and environmental protection. No schedule relief will be allowed for delay this action may create.

Notwithstanding RT's rights set forth above, Contractor acknowledges that RT has no duty to ensure Contractor's or its Subcontractors' compliance with a safety requirement, per the Standard Specifications.

### **5. Security**

Caltrans shall require the PROJECT contractor to provide all security at the WORK site necessary to protect the WORK, material and equipment and any additional security measures necessary to respond to a terrorist threat level condition issued by the federal Office of Homeland Security (OHS) or as appropriate to implement FTA recommended threat level protective measures in response to an OHS threat level condition. Additionally, RT may provide or cause a third party to provide additional security measures at the WORK site in response to a terrorist threat level condition issued by OHS or as appropriate to implement FTA recommended threat level protective measures in response to an OHS threat level condition. Caltrans and Caltrans's contractor shall fully cooperate with RT to facilitate the implementation of security measures at the WORK site.

## **6. Submittal of Plans and Specifications**

Caltrans must submit PROJECT drawings, plans and specifications related to RT FACILITIES, and all changes thereto, for RT approval, which approval must be granted before WORK is allowed to commence on RT FACILITIES.

Working and Shop Drawings consist of drawings, diagrams, schedules, or other data prepared by Contractor, or any subcontractor of any tier, manufacturer, supplier or distributor, as are necessary to adequately control the Work or to illustrate or detail some portion of the WORK.

Working Drawings for any part of the permanent WORK shall include, but not be limited to: stress sheets, anchor bolt layouts, shop details, erection plans, equipment lists and any other information specifically required elsewhere in the Contract.

Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams, or other information furnished by Contractor to illustrate materials, products, systems, or equipment for some portion of the WORK.

Samples are physical examples that illustrate materials, equipment, or workmanship, and establish standards by which the WORK shall be judged.

Working Drawings and Shop Drawings, Product Data, Samples, and similar submittals shall not modify any Contract requirement, except as expressly allowed by this Contract. The purpose of their submittal is to demonstrate, for those portions of the WORK for which submittals are required, the way Contractor proposes to comply with Contract requirements.

Contractor must review, approve, and submit to Caltrans all Working and Shop Drawings, Product Data, Samples, or similar submittals required by this Contract, or that are necessary for its proper completion, in a sequence that causes no delay in the WORK, or in the work or operations of RT or any other RT contractor except as otherwise provided herein. Caltrans must provide copies to RT of all Working and Shop Drawings, Product Data, Samples, or similar submittals for the WORK required by this Contract.

By approving and submitting Working and Shop Drawings, alternative construction methods, Product Data, Samples, or similar submittals, Contractor represents that it has determined and verified all related materials, measurements, and construction criteria, and that it has checked and coordinated the information contained within its submittals with the requirements of the WORK and this Contract.

Contractor will not be relieved of responsibility for any deviation from the requirements of this Contract by Caltrans's (and RT's if applicable) approval of Shop and Working Drawings, Product Data, Samples, plans, programs, schedules, or similar submittals unless Contractor has specifically informed the Caltrans (and RT if applicable) at the time of submittal in writing of the deviation and Caltrans (and RT if applicable) has given written approval of the specific deviation. Contractor will not be relieved of responsibility for errors or omissions in Working and Shop Drawings, Product Data, Samples, plans,

programs, schedules or similar submittals by Caltrans's (and RT's if applicable) review of the submittal. Contractor will not deviate from working and shop drawings, product data, samples, or similar submittals as to which no exception has been taken without RT's and Caltrans's written approval.

Contractor may not commence any portion of the Work requiring submission of Shop or Working Drawings, Product Data, Samples, or similar submittals until the required submittal has been reviewed by Caltrans (and RT if applicable) and no exceptions taken.

Contractor must direct specific attention, in writing or on resubmitted Shop and Working Drawings, Product Data, Samples, or similar submittals, to revisions other than those required by Caltrans (and RT if applicable) on previous submittals.

Specific requirements for the submittal of shop and Working Drawings, Product Data and Samples are contained in this Section and other sections of these contract documents.

#### **6.01 BORING**

Casings or bores must be a minimum of 12" from any RT facility unless otherwise approved by RT.

### **7 Contractor Quality Control Program (CQCP) General Requirements**

#### **7.01 GENERAL REQUIREMENTS**

##### **7.01A CONTRACTOR REQUIREMENTS**

Contractor must provide Quality Control (QC) for all items of WORK performed within this Contract, including all Subcontractors and Suppliers both on-site and off-site. All costs concerning the CQCP are deemed to be incidental to the WORK.

Contractor must place emphasis on specifying appropriate verification activities by inspections and tests, verification of contract requirements, and Contractor must produce documented QC records for validation that the Contract requirements are met.

For purposes of this contract, QC is to be performed by the Contractor and is understood as the techniques, activities and inspections that sustain process and product control and measure the performance characteristics of a material, component, fabrication, installation, or system against specific contract acceptance criteria during WORK in-progress. QC will refer to the act of taking measurements, testing, and inspecting a process or product to ensure that it meets contract requirements. QC includes the process of documenting all of these actions.

For purposes of this contract, Quality Assurance (QA) is understood as the review, monitoring, observation, audit, and inspection or testing of WORK for assurance or verification purposes which will be performed by the Caltrans or its representative.

Contractor will assure that the WORK is performed in accordance with the applicable codes, standards, specifications or other special contractual requirements using qualified personnel and/or equipment.

Whenever there is a choice in types of materials or in application, fabrication or installation methods, preparation of surfaces, or process control which will effect the overall outcome of the quality of the product, the premium grades and the best and highest level of quality and practices will be used for all WORK in this Contract.

A Contractor QA or QC plan is not required for submittal and will not be reviewed by RT. All of the Elements of the CQCP General Requirements will be adhered to and implemented by the Contractor as the QC Plan for this Contract.

### **7.01B CALTRANS REQUIREMENTS**

Caltrans shall require contractor to comply with quality control requirements of Caltrans's Standard Specifications.

Caltrans must assign a Quality Control Manager (QCM) to this project who will be responsible for managing all quality matters for the contract and have the authority to act in all issues related to quality for the Contractor, Subcontractors and Suppliers.

The QCM must be fully qualified by experience and technical training to manage and perform the necessary quality activities specific to the WORK and requirements of this contract. The resume of the QCM must include a description of relevant duties, responsibilities undertaken by the QCM and the QC record of assignments for the preceding 10 year period which establishes the candidate's Quality Management experience. The QCM will have a minimum of 5 years of continuous experience in QC.

Caltrans must submit a resume of the QCM and agreement for review by RT within 10 days after Notice to Proceed (NTP). Caltrans must use qualified and certified personnel for QC. Caltrans must assign QC personnel to this Contract that will be responsible for performing QC activities that have demonstrated experience for the scope of this Contract.

### **7.02 CONTRACTOR AND CALTRANS QUALITY CONTROL SUBMITTALS**

Contractor and Caltrans will take notice of the required submittals, as stated in this section. If the Contractor fails to submit the items listed below within the prescribed time, RT may stop work. No schedule relief will be allowed for such delay.

- Resume of QCM – 10 Days after NTP
- Technical Submittal List – 15 days after NTP
- Plan for Source Inspections of off-site Subcontractors and Suppliers – 25 days after NTP
- List of Pre-Job Meetings - 30 days after NTP
- Within five (5) calendar days after completion of Inspection/Tests, submit test reports of such tests to RT (see Section 7.05)

The QCM must prepare separate Daily Reports indicating all activities related to the management of quality that has taken place on the PROJECT (on-site or off-site). Each Daily Report must be personally signed and dated within 24 hours and kept as quality records. The Daily Report will be a separate page or pages for each day. Each Daily Report must include the following:

- Company Name, Daily Quality Report
- Contract Name and Number
- Contractor Name
- Environmental Conditions (temperature, rain, etc.)
- Location (job site, manufacturer's site, etc.)
- Inspection and Test Activities and /or Observations, Reviews, Audits, QC Meetings Performed by the QCM (detailed narrative descriptions)
- Deficiencies and Non-conformances Noted and follow-up when corrected.
- Signed and Dated by QCM

The QCM must attend all weekly progress meetings and any additional meetings required by RT. The CQCM must report and discuss quality issues for all contract WORK including that of subcontractors and suppliers. Weekly QC reporting is to include all of the following.

Scheduling of pre-job meetings, source inspections, FAI's, FAT's, etc.

- Inspection and Test Status
- NCR and deficient WORK status
- Two week look ahead inspection testing planned

The QCM must submit a Monthly Report to RT for review. The CQC monthly report must contain a summary for all QC activities and of the items listed below, which will be included as back-up. The CQC Monthly Report must include the following:

- Monthly summary (narrative description) for QC Management of the Contract.
- Copies of QC Daily Reports
- Inspection and Test Logs of Inspections and Tests Performed
- Next Months Tests Planned
- Logs of Deficiencies and Non-conformance items found
- Source Inspection Reports Performed
- FAI Reports Performed
- Next Months Source Inspections Planned
- Any Inspection & Test Plan Revisions
- Status of As-built Drawings
- Receiving Inspection Materials Logs
- Contract Review, Control of Work and Follow-up Inspection Forms

The due date for the QC Monthly Report will be the last working day of the month. Contractor must submit the QC Monthly Report to RT within five (5) calendar days following the due date.

### **7.03 CONTRACT REVIEW, CONTROL OF WORK, & FOLLOW-UP INSPECTION**

Contractor must implement QC activities that will emphasize an early proactive approach, which will directly improve the chances that QC actions will result in a product that meets contract requirements

Contractor must practice a three phased approach to the QC of WORK under this contract.

1. Contract Review
2. Control of Work
3. Follow-up Inspections

This three phased approach is intended to be a proactive process for constructability and development of procedures, inspections and tests that are required prior to fabrication, construction or installation WORK. The Contract WORK will be broken down into separate WORK features that are distinct from other WORK features that have separate control requirements. The three phased approach will apply to all on-site and off-site WORK. Each phase will be thoroughly documented and will have a hold point to clear all outstanding items. The three phased approach will be developed as follows:

#### Contract Review

A preparatory phase will be applied to every WORK feature (*i.e.* concrete foundations, utility relocation, OCS installation, Instrument House Fabrication and Testing, Rail Welding, Track Work, etc.). This contract review phase will commence with actions in advance of construction. All preparatory phases will be documented. Items that will be completed are (as a minimum):

- Review of Contract Documents
- Verify that all Submittals are Approved
- RFI's are Completed and Answered
- Verification of Correct Materials to be used
- Identify Inspections and Tests to be Performed
- Identify any Hold Points, FAT's or FAI's
- Inspection Checklists or Control Sheets Developed
- Work Instructions Developed
- Required Training Performed

After Contractor has performed the aforementioned items, a Pre-Job meeting will then be performed to discuss these issues for each specific feature of WORK. Contractor, Subcontractors, Caltrans, RT, inspection personnel and all interested organizations will attend the Pre-Job meetings. At the Pre-job meetings, the items defined above will be discussed along with expected WORK progression and clarification of personnel responsibilities. Contractor must prepare a list of Pre-Job meetings that will be submitted to Caltrans and RT for review 30 days after NTP. Contractor must coordinate pre-job meetings with Caltrans and RT and must be listed on Contractor's weekly schedule.

#### Control of Work

Initial inspections of in-process WORK will be performed to assess if the WORK complies with the contract requirements. The standards of workmanship are established and potential differences of opinion in the interpretation of contract requirements will be resolved so that there is agreement by the Contractor, Subcontractor, and RT when the WORK is completed. This initial inspection phase will be conducted by qualified QC personnel and is a practice of performing proactive QC in reaching agreements in advance. First Article Inspections (FAI) will be conducted in this phase. All in-process WORK of this phase will be documented.

#### Follow-up Inspections

Follow-up inspections and testing will be conducted throughout in-process WORK to completion of WORK. Inspections and tests will be performed at a frequency to determine the continuation of compliance of WORKmanship standards and requirements that were established in the first two phases. All follow-up inspections and tests will be documented. Incomplete Work or Deficiency Lists will then be developed.

### **7.04 DESIGN CONTROL/AS-BUILT DRAWINGS**

Caltrans shall require contractor to maintain a set of “as-built” drawings on the WORK site which shall be updated and made available to RT on a daily basis during performance of the WORK. **These drawings will only be used for as-built drawing purposes.**

On a daily basis Contractor must maintain project redlined marked-up and dated plans/drawings. As-built drawings must include a color-coded marking scheme and information from an RFI, Design Change Notice, Field Change, or any other pertinent information to be recorded onto the drawings. All site measurements must be made using three axis coordinates for exact location. The As-Built drawings must be made available at the site of construction for RT’s review on a daily basis. The as-built drawings are the responsibility of Contractor, who must control these drawings. As-built drawing records must be maintained on a full size set of contract drawings that have been issued for construction. These drawings will only be used for as-built drawing purposes.

A Master index of Drawings that includes drawing number, description of change and any associated documents (i.e. RFI, DCN, etc.) must be developed and maintained with the drawings by Contractor. The following color marking scheme will be used on as-built drawings:

- Field changes made in “RED”
- Engineering Design Changes made in “Green”
- Deletions made in “Black”

A “bore log” must be included with the “Record Drawings” showing conduit depths at a minimum every 12 feet.

### **7.05 DOCUMENT CONTROL**

All project documents will be protected from damage or loss by a disaster control plan. All electronic data will be backed up on a daily basis. All backed up data will be stored off-site on a weekly basis.

Documents reviewed and accepted by Caltrans may not be changed or altered without prior written approval by Caltrans.

Contractor must establish a document control system that ensures that the latest approved drawing and/or specification is available prior to the start of the WORK effort and that the WORK was in fact performed in compliance with the latest approved document.

Document control procedures must be developed and implemented to assure the following:

- Distribution to appropriate personnel
- Review by appropriate personnel
- Establishment of filing indices
- Thorough tracking of documents
- Safely secured storage and reliable retrieval
- Elimination of obsolete documents
- Control of document changes
- Proper reproduction of controlled documents

### **Submittal Management**

Contractor must develop a technical submittal list of anticipated submittals by the Contractor and transmit it for RT review within 15 days after NTP. The contract documents, technical specifications, drawings, and all other contract required documents will be used to develop the submittal list.

Contractor must establish and maintain submittal schedules to ensure that rejected submittals will not impact the quality, cost, or schedule of the WORK to be performed due to incorrect submittal management, by overseeing submittal due dates. Submittals must be scheduled to allow for a review period of at least one re-submittal. Experience dictates that at least 60 days lead-time is necessary to maintain adequate control. The QCM may not be involved with any efforts in the development, review and processing of technical submittals to RT or from subcontractors and suppliers. The CQCM may only be involved in submittal management and verification WORK performed for contract compliance.

## **7.06 INSPECTION AND TESTING**

Contractor is responsible for ensuring that all WORK meets contract specifications and plans before submitting WORK for QA inspection or testing.

Caltrans is required to perform all Quality Control Inspection and Testing of all WORK, which includes all materials, supplies, fabrication, construction, and functional tests in accordance with these contract documents.

All costs associated with Inspection and Testing are deemed to be included with the related item of WORK in the contract bid, or incidental to the WORK.

The Testing Agency and personnel qualifications are subject to the approval of the District.

All inspections and tests must be completely documented in clear and concise format and maintained as quality records. Documented evidence of detailed inspections performed and the individual responsible for performing inspections is required. Identify drawing and specification numbers as appropriate.

Contractor must contact RT Engineering at least 10 days in advance to arrange for inspection of bore setup prior to beginning to bore.

### **INSPECTION AND TESTING PLAN**

An Inspection and Testing Plan (ITP) of inspections and tests must be developed for all inspections and testing identified in the Technical Specifications, Drawings and Contract Documents for the WORK. The ITP must be in matrix format and submitted to RT for review within 20 days after NTP.

Contractor's ITP must include the inspection and test type, requirements, acceptance/rejection criteria, and test frequencies. The list must give the inspection and test name, specification paragraph containing the inspection or test requirements and identify if the Contractor, Subcontractor, Supplier or organization that is responsible for each type of inspection and test. The ITP must be in spreadsheet format. During the life of the contract, the contractor must update the ITP to identify completion of inspection and tests that have been performed.

The QCM is responsible for coordinating all inspection, sampling and testing activities with the appropriate personnel, laboratories, the Contractor and RT. The QCM must provide RT with a 48 hour written notification of Contractor inspection, sampling or testing activities that are required by RT onsite and thirty (30) calendar days written notification for source inspections and tests that are off-site.

Personnel that perform inspections and tests may not perform fabrication or construction activities. All inspection and testing personnel must be qualified and certified per industry standards for inspection and tests performed and must report to the QCM and not to manufacturing/construction project management or personnel that are responsible to progress the WORK. The Caltrans must provide RT or its designee the opportunity to witness all inspections and tests.

Caltrans must maintain detailed inspection and testing procedures for all WORK that is identified in the technical specifications and drawings. Contractor's inspection and testing procedures must include test requirements, acceptance criteria and test conditions. Procedures must at a minimum:

- Identify the characteristics to be inspected, examined, and tested at each activity point

- Specify inspection and test procedures and acceptance criteria to be used
- All test reports and forms will indicate either Pass or Fail
- Include inspection checklists

### **SOURCE INSPECTION**

Contractor must provide all necessary facilities, equipment and personnel at the Subcontractors and/or Suppliers Plant to facilitate source inspection and testing requirements. Any deficiencies noted during source inspections must be remedied prior to shipping.

Contractor must ensure that Caltrans, RT and their designees have the right to visit facilities of the Contractor and any subcontractors or suppliers to conduct audits and perform source inspection and/or testing at all times; before WORK has commenced, when WORK is in progress, and when WORK has been completed. Upon request by RT's QA personnel, all project records will be made available for review. In addition to RT source inspection requirements, Contractor must ensure that RT or its designee has the right to perform Quality Program audits of Contractor, subcontractors, or suppliers to assess Quality Program and technical specification compliance.

**In order to identify equipment and materials that will be needed for this Contract, Contractor must develop a list of suppliers for Caltrans's review within 25 days after NTP.** Additionally, inspections will be conducted upon receipt of all products. Random sampling plans will be developed.

### **RT Quality Assurance ("QA") Inspection/Testing**

RT reserves the right to sample and/or inspect/test any WORK item or materials at any time for QA verification that the materials and workmanship conform to Caltrans and RT Specifications. RT may use or direct any test as deemed necessary to determine the quality of the WORK. Caltrans shall ensure that its contractor and subcontractors and suppliers make available all WORK to RT or its designee at all times. Following such inspection and testing, RT will issue an NCR or deficiency list to the contractor identifying those items that fail to comply with Caltrans or RT Specifications. RT will then state the disposition of the deficient work as either rejected (scrap), requires correction (repair/rework) or use-as-is of defective material, workmanship, or any other nonconformance. If the work disposition is "rejected" or "correction required" contractor will correct or remove the deficiency within five (5) work days. The rejected or corrected work must be remedied, removed, or replaced by contractor in a manner acceptable to RT and Caltrans. If contractor fails to comply promptly with any such reasonable notice by RT, RT may cause the nonconforming WORK to be removed, replaced, or remedied.

Caltrans's or RT's or their designee's QA observations, monitoring, source inspections and/or audits do not take the place of the Contractor's QC and neither Caltrans, nor RT nor their designees assume any responsibility for quality of the WORK by taking such actions.

### **Inspections and Tests Performed**

Within five (5) calendar days after completion of inspection and testing performed with respect to the WORK, Contractor and/or Caltrans must submit reports of such tests to RT. If tests have failing results, Contractor and/or Caltrans must clearly identify all failing data and provide a remediation or retest plan within ten (10) calendar days.

All test reports must include the following:

- Name of organization and personnel performing test, including dates.
- Environmental conditions.
- Actual test results compared to contractual requirement criteria.
- Identify if pass or fail.
- Equipment Calibration Certificates.

## **Testing**

Testing laboratories and/or personnel must provide inspection and testing services in accordance with standard practices as identified in the Caltrans's Standard Specifications, and the Caltrans's Plans and Technical Specifications. Certification must be obtained for all test methods to be performed by the testing laboratory per industry standards. The Testing Laboratory must have AASHTO accreditation, Cal Trans Certification, or provide certified documentation that it complies with ASTM E329 and E548. The Testing Laboratory personnel must be qualified and certified (as applicable: ASNT, ACI, AWS, NACE, etc.) with field testing capabilities for soil, concrete, asphalt, welding, Non Destructive Examination (NDE) procedures for metals, paint coatings, and materials testing, etc.

An AWS CWI with current certification must perform all welding inspection and testing. All Non-Destructive Examination (NDE) personnel must be qualified as Level II to ASNT-SNT-TC-1A. All paint coating inspection must be performed by a NACE Certified Coating Inspector.

The scope of testing must include, but not be limited to on-site Inspections, Tests and Sampling, Laboratory Materials Testing, and off-Site Inspections and Testing. Logs must be maintained for all testing activities and must show detail in test date, location, requirements, tests results, applicable specification, acceptance criteria, actual results, pass or fail, and if re-test correlated to original test. All actual test reports must be available onsite to backup test logs. All documentation, forms, and logs, when appropriate will be produced in ink or by computer generated format.

Contractor and/or Caltrans shall submit certifications of test lab and inspection/testing personnel to be used on this contract with 10 days after NTP..

## **7.07 MEASURING AND TESTING EQUIPMENT**

The Contractor and/or Caltrans is responsible to control, calibrate, and maintain inspection, measuring, and test equipment that are used on-site and off-site.

Control sheets and logs must be implemented to assure tools and inspection equipment is calibrated. Calibrations and adjustments must be performed at prescribed intervals. Calibration standards must be traceable to the National Institute of Standards and

Technology (NIST), or authorized equivalent. Calibration status must be labeled on the controlled item and recorded to assure adherence to calibration schedules. Calibration labels must identify the date of current calibration, by whom calibrated, and when the next calibration is due. A calibration log must be maintained and all calibration certificates must be maintained in an orderly manner.

The inspection and test equipment must have a sufficient accuracy ratio for the measurement being made and the tolerance of the inspected or tested item. All test gauges must be selected in a manner that the resultant reading expected is between 25% - 75% of the gauge (example, if 5,000 psi is an expected test result then use a 10,000 psi gauge, and not a 6,000 psi gauge or a 100,000 psi gauge). The accuracy range of any electrical analog measuring instrument must also be in the 30% to 70% range. Digital instruments must have a range calibration matrix showing various values of scale with corresponding instrument results.

## **7.08 INSPECTION AND TEST STATUS**

Contractor is responsible for identifying the inspection and test status of products and items of WORK. Contractor must identify the completion status of items of WORK by inspection of WORK in accordance with the contract requirements.

### **Individual Products and Items of Work**

The Contractor is responsible for identifying the inspection and test status of a product to assure that it has been accepted before it is used or installed.

Test and inspection status must be identified by means of markings, stamps, tags, labels, routing cards, process control documents, inspection records, test software, which are attached to the item. Inspection or test status must provide identification to indicate the conformance or non-conformance with regard to inspection or test criteria. The inspection and test status must be identified on all submittals. If tests have failing results the contractor must clearly identify all failing data and provide a remediation or retest plan.

### **Completion of Products and Items of Work**

Contractor must develop an Incomplete Work List (IWL) when approaching completion of a definable feature or designated section of WORK prior to final inspection by RT. Items that will be listed on the IWL must include items of WORK that are yet to be completed, deficient, damaged or items requiring specific corrective action. The IWL must be coordinated and managed as a tool to identify all outstanding WORK to be completed in compliance with the contract documents. The IWL must be initially developed as soon as the WORK is approximately 75% complete or as agreed upon by RT.

## **7.09 HANDLING, STORAGE, PACKAGING, PRESERVATION AND DELIVERY**

The following requirements apply to RT property:

## **Receipt of Materials**

Receiving inspections must be performed to identify if materials and products meet contract requirements and are not damaged. Random sampling plans must be developed.

Upon receipt purchase documents must be reviewed and logs must be maintained of the following:

- Identification by serial number or lot number
- Date received
- Quantity Received
- Verification of receipt of supporting documentation, such as a Certificate of Material Test Report or a Certificate of Compliance
- Quality control acceptance sign-off

## **Storage of Materials**

Contractor is responsible for storage and handling of all materials and products, which includes the following:

- Protection from damage, deterioration and loss
- All materials and products will be stored to protect it from the adverse effects of the environment for the length of the contract regardless of any delays in schedule
- Inspection and maintenance during storage and handling
- Repair of damage due to handling or storage location
- Utilization of special storage and handling facilities, as required
- All materials will be kept on dunnage and protective covers will be kept on materials as applicable

## **Incorporation into the Work**

All equipment entering the fabrication area must be inspected, including their supporting documentation, for the verification that Subcontractor's and Suppliers have met the quality requirements of the Contract Documents. Certificates of compliance and/or conformance must be submitted for equipment, as required in the various sections of the specifications and on the contract drawings.

Purchased material and equipment must be clearly marked so that it can easily be identified without excessive handling or opening of crates and boxes.

## **7.10 NON-CONFORMANCES**

The Contractor is responsible for reporting all nonconforming WORK conditions and materials to RT in writing via the Caltrans within 24 hours of identification (on-site or off-site).

The Contractor is responsible for documenting, identifying, recording, controlling and correcting non-conforming items or services including provisions for re-inspecting and re-testing repaired and reworked items. It is the Contractor's responsibility to promptly identify and segregate items detrimental to quality to prevent inadvertent use.

The Contractor must investigate the root cause of non-conformance and take appropriate corrective actions to prevent recurrence. The identification, care and corrective action planned and taken will be documented on a non-conformance report.

Upon observations, audits or inspections/tests by RT or its designee, if WORK is found to be nonconforming to contract documents and requirements a Non Conformance Report (NCR) will be issued. The contractor must correct and provide a written Corrective Action to RT for all non-conformances issued by RT personnel or its designee. NCR's or CAR's must be corrected within 30 calendar days after issuance or as agreed upon by Caltrans and RT. Nonconforming WORK is considered as deficient or not acceptable per contract requirements.

All repair procedures must adhere to the requirements of the original contract inspection & test criteria.

Corrective Action Requests (CAR) must be issued for multiple non-conformances (NCR) or for procedural or contractual deficiencies. RT issued NCR's and CAR's serve as notices of contract WORK that is deficient.

Incomplete WORK lists and/or punch lists for incomplete, deficient, or nonconforming WORK which have been generated by RT or its designee must be maintained by the Contractor and the items on the list must be corrected within 30 calendar days after development or issuance of such lists.

## **7.11 QUALITY RECORDS**

Contractor is responsible for performing activities necessary to collect, index, file, store, and disposition quality records. Quality records apply to records generated as part of all inspections, tests and in-process documentation. The Contractor must maintain quality records as evidence that all of its activities and those of its Subcontractors and Suppliers comply with the requirements of the contract documents. Copies of all completed records must be available for review by RT on a daily basis. The contractor must maintain Quality Records for a minimum of seven (7) years.

Copies of all quality records must be organized with separate sections and in chronological order in a PROJECT Closeout binder (or binders) and be submitted to RT (via the Caltrans) at the completion of the Contract. The final payment and any previously withheld payments, for contract WORK, will not be made until RT reviews the closeout documents. If Contractor fails to provide a complete copy of organized closeout documents, the final payment and any previously withheld payments will be forfeited.

The Quality Records that must be maintained and provided as closeout documents are, at a minimum, the following:

- Test logs and test reports, which indicate all tests have passed
- Nonconformance logs and reports, which have been resolved
- Corrective actions logs and reports, which have been resolved

- Material receiving inspection logs
- Incomplete WORK lists, Punch lists and/or deficiency lists, which identify final completion
- Final Submittal Log (completed)
- Completed As-Built Drawings
- Contract Review, Control of Work and Follow-up Inspection Forms

## **7.12 RT QA AUDITS**

RT QA personnel or its designee may observe and audit the Contractor's activities systematically during the course of the Contract. Audits will be conducted to monitor adherence to the contract documents. An Audit Finding Report (AFR) or Corrective Action Request (CAR) will be issued for contractual items that are not adhered to. The AFR or CAR is notification that WORK is considered as deficient or not acceptable per contract requirements.

## **8. Coordination with RT Light Rail Operations-Hours of Work.**

Caltrans shall require its contractor to coordinate all WORK with revenue service operations of the RT Light Rail System ("RT Light Rail Operations"). RT Light Rail Operations operating conditions are in effect and light rail vehicles ("LRVs") will be in revenue service daily from approximately 5:00 a.m. continuous until approximately 1:00 a.m. the next day, seven days a week. LRVs generally run at 15-minute intervals, each direction, with the exception of evening hours and weekend mornings, which are scheduled for 30-minute intervals each direction. Contractor must obtain and be familiar with the current "Daily RT Light Rail Operations Light Rail Schedule" and any revisions issued during performance of the WORK.

Caltrans shall require its contractor to cause all WORK to be performed with regard to time, place and manner so that RT Light Rail Operations scheduled revenue service is not disrupted unless expressly provided otherwise herein. All WORK performed by Contractor or its subcontractors within 10' of the existing LRT track and facilities must be in accordance with RT Light Rail Operations Instructions for Track Warrants. Track Warrants will require that the Contractor dedicates a watchman for all areas where WORK may occur within 10' of the centerline of light rail tracks. No construction equipment or personnel is allowed work within 10' of the nearest rail without the Contractor Watchman on duty.

RT Lookouts must be scheduled at least one week in advance by sending an email request to [lookoutrequest@sacrt.com](mailto:lookoutrequest@sacrt.com) containing the requestors company name, when, where, and how long the lookout will be needed. Any directions regarding track safety given by the Lookout or Watchman MUST be followed IMMEDIATELY. The ENTIRE work party MUST have a MANDATORY briefing with the Lookout PRIOR to beginning work within 10' of the track. The briefing only takes a few moments. If someone comes to the work area after work has begun, they MUST also have the MANDATORY briefing with the Lookout BEFORE going to work in the area. If the work area spreads out and the Lookout, at his/her sole discretion, concludes a satisfactory level of safety cannot be provided, work in the outlying areas must STOP immediately.

All personnel must attend RT's On Track Safety class prior to fouling tracks.

A Red Tag is required when working within 10' of the overhead contact system (OCS). A single red tag request constitutes a request to power off, at a single time of day, one (1) or more substations adjacent to the WORK site described in the Red Tag permit.

It is Contractor's responsibility to apply for and secure the Track Warrant and/or Red Tag for each and every shift of Limited or Full Access construction, as defined below. If Contractor fails to comply with this requirement, and/or if Contractor or its subcontractors violate the terms of the Track Warrants and/or Red Tags, RT will issue a Stop Work Order to Contractor. The Stop Work Order will be in effect until such time as a Track Warrant or Red Tag is secured and/or the violation is corrected. Any delays or costs associated with this requirement must be borne by Contractor.

During hours of revenue service, Contractor and/or its subcontractors will be allowed Limited Access to any track area with RT Light Rail Operations revenue service operations through the construction site. Limited Access construction is defined as WORK to be performed within 6' of the centerline of the operating track, or any WORK that includes equipment capable of coming in contact with the overhead catenary system. Limited Access construction must be coordinated daily with RT Light Rail Operations through the Track Warrant procedure.

During the hours when RT Light Rail Operations is not in operation, approximately 9:00 a.m. to 4:30 a.m. daily, Contractor and/or its subcontractors of any tier will be permitted Full Access to the existing track and facilities in the construction area. Any WORK performed on the existing track structure and facilities during Full Access will be restored by Contractor to complete operating conditions prior to the resumption of scheduled revenue service. Full Access will be coordinated each and every time with RT Light Rail Operations through the Track Warrant and Red Tag procedures.

Contractor and its subcontractors, regardless of tier, must not perform any WORK that will require an unscheduled disruption of service at any time. All WORK must be performed with sufficient labor, materials, and standby equipment to ensure that unscheduled service disruptions do not occur.

Contractor must submit a WORK Plan detailing hours of WORK, construction methods and activities to the Caltrans for the RT's approval. The WORK Plan must indicate the means to ensure conformance to this special condition. Contractor must not do any WORK until Contractor receives written approval of the WORK Plan from RT.

## **9. Cooperation with RT Light Rail Operations.**

All communications and/or correspondence relating to inspection and coordination between Contractor and RT Light Rail Operations must be given to RT via the Caltrans, unless otherwise specifically authorized by RT and Caltrans in writing.

Contractor must provide notice to RT when uncovering any RT FACILITIES, in order to allow RT the opportunity to repair or replace any deteriorated facilities prior to Contractor completing WORK.

RT will communicate directly with contractor if conditions deemed to be an emergency exist. Under emergency conditions, life or property must be in immediate danger of loss. Should an emergency condition occur, contractor must follow the directions of the RT Light Rail Operations staff without hesitation.

The application for issuance of Track Warrants and Red Tags must be coordinated directly between contractor and RT Light Rail Operations staff. Contractor must maintain the Track Warrant or Red Tag documentation at the WORK site. Failure to produce the required documentation when requested will result in the cessation of WORK until the documentation is produced. No exceptions will be allowed, and time for completion will not be extended if WORK is stopped for the foregoing reason.

Red Tags will be provided by RT at the rate of \$750.00 per Red Tag. The cost for the Red Tag must be paid to RT at the time of submitting the application for the Red Tag. Call Michael Cormia, Wayside Maintenance Superintendent at (916) 648-8422 to arrange for the Red Tag permit. Red Tags will only be given for the hours between 1:00 a.m. and 4:00 a.m. Application for a Red Tag must be made at least 7 calendar days prior to the date requested.

## **10. Scheduled Interruptions**

Certain interruptions to RT Light Rail Operations may be necessary to enable the changeover from construction to operations (“cut-over”) of the OCS, wayside signal, track, and station systems, as applicable. In that event, RT will permit one scheduled interruption of RT Light Rail Operations. Contractor must arrange to perform the cut-over in accordance with the provisions herein.

Based on Contractor’s detailed Work Plan, which must be submitted to RT not less than thirty (30) calendar days prior to performing the cut-over WORK and must be in form acceptable to RT not less than fourteen (14) calendar days prior to performing such WORK. By the completion time set for all service interruptions, Contractor must finish all WORK on the RT track, stations, OCS and signal systems, as applicable, in order that RT Light Rail Operations may resume normal service, and Contractor must finish all WORK necessary to complete all street crossings, traffic signals, and striping, as applicable, in order to allow normal operation of public vehicular traffic and pedestrian crossings.

Contractor’s representative must remain on site during RT’s testing of the new systems and shall be prepared to correct any deficient items during this “proof-of-performance” testing. Contractor will be relieved of its maintenance responsibility with respect to the cut-over trackage and related systems upon RT’s determination that the track and system testing is satisfactory. Relief of maintenance has the meaning set forth in Section 7-1.15 of the State of California Department of Transportation Standard Specifications (2006).

If more than one scheduled interruption of Light Rail Operations is necessary to perform the WORK, Contractor must submit its request to RT for such scheduled interruption(s) as part of the Work Plan and CPM schedule. Contractor’s request must thoroughly

document the activity required, the time of interruption, and the reason for the interruption and why it could not otherwise be accommodated. RT will evaluate each request for additional scheduled interruptions for impact on construction and revenue service. RT reserves the right to reject any or all such requests based upon its evaluation. RT approval of contractor's request for additional scheduled interruptions may be conditioned upon the contractor's reimbursement of RT's costs to provide alternative passenger service.

## **11. Disruptions in Service**

Contractor's failure to either complete the scheduled activities by the planned time or to put in place an approved contingency plan may adversely impact RT's light rail service. Except to the extent RT's active negligence is the cause of such service disruption, if RT's light rail service is disrupted by Contractor's action or failure to act, RT will incur damages, including but not limited to costs to transport passengers by bus, overtime wages for crew and flagperson(s), and costs for additional dispatching. Such damages are extremely difficult or impractical to quantify. The parties therefore agree that in the event of such disruption, Contractor is liable for liquidated damages in the sum of two thousand five hundred dollars (\$2,500) per train that RT light rail service is disrupted. The Caltrans must deduct the amount of such liquidated damages from any payment to the Contractor that is due under the Contract. If RT's active negligence is a proximate cause of the service disruption, Contractor will be liable for liquidated damages proportionate to its comparative fault.

## **12. Compliance with California Public Utilities Commission Orders.**

In the performance of this Contract, contractor, including all subcontractors, shall comply with all General Orders of the California Public Utilities Commission pertaining to safety that are applicable to RT or Contractor, including, without limitation, those requirements set out in General Orders Nos. 26-D, 72-B, 75-C, 95, 88-A, 118, 128, 135, 143-A, 164-A. Contractor shall be responsible for any civil penalty imposed by the California Public Utilities Commission under California rail safety laws and regulations arising from or related to Contractor's and its subcontractors, performance or non-performance of any WORK to be performed by Contractor under this Contract.

## **13. Contract Requirements And Technical Submittals**

### **13.01 CONTRACT SUBMITTAL DELIVERABLES**

Contractor must submit to Caltrans for RT review all submittals required by the Technical Specifications allowing the time for review thereof set forth therein. All submittals must further conform to the following:

Contractor must develop a Contract Deliverable Requirement List (CDRL) that identifies each submittal for all items to be designed, supplied, or installed under this Contract. Contractor's CDRL must include submittals for product data, installation layouts and details, installation procedures, detailed circuit plans, equipment adjustment procedures, calculations, test procedures, cut-over procedures, equipment service manuals, test reports, as-built documentation and any other submittal required by the

Contract Documents. Each submittal must be assigned a tracking number. Contractor must update the CDRL monthly and must submit it to RT with the contract schedule. Contractor's failure to list a submittal in the CDRL that is required by the Contract Documents will not relieve Contractor of its obligation to provide that submittal to the Caltrans and RT.

All submittals must further conform to the following:

### **13.02 DRAWINGS AND SUBMITTALS**

Contractor must prepare Working and Shop Drawings as required for the performance of the WORK. Drawings must be prepared on a reproducible sheet measuring 24"x 36", unless otherwise approved. Each drawing sheet must have a blank area 5"x 5" minimum, located above the title block, for the acceptance stamp. Facsimile submittals will not be accepted. The title block on all submittals (drawings or text) must display the following:

- Contract number and name.
- Number and title of drawing.
- Date of drawing or revision.
- Name of Contractor and Subcontractor originating drawing.
- Clear identification of contents and location of WORK.
- Referenced Technical Specifications.
- Structural calculations signed and sealed by a California licensed civil engineer.

Contractor must maintain an accurate and up-to-date record of all submittals, design documents, engineering calculations, test records, and as-built documentation at Contractor's job site facility. Contractor must organize these documents for easy identification and retrieval. Contractor must prepare and maintain a detailed printed log of all these documents and must keep the log with the documents. Contractor must make these documents and the log available for review during normal working hours at Contractor's job site facility.

### **13.03 DETAIL DRAWINGS**

Contractor must furnish detail drawings for temporary WORK and method of proposed construction for the safe and successful completion of the Work.

### **13.04 SUBMITTAL COVER LETTER**

Submittals must be accompanied by a "Submittal Cover Letter" form neatly and properly filled out.

### **13.05 COPIES OF DRAWINGS**

Contractor must submit 2 reproducible and 6 legible copies of complete and detailed Working and Shop Drawings, which must be suitable for microfilming, to Caltrans for review by RT where applicable. Such drawings must include but not be limited to:

- Fabrication and erection drawings, schedule drawings and manufacturer's scale drawings. If requested by RT through the Caltrans, Contractor must furnish calculations and information substantiating the details shown on the drawings satisfactory to RT.
- Plans for temporary structures, and for such other WORK as may be required for construction, which does not become an integral part of the completed project. Contractor must submit 2 copies of calculations and other information needed to describe in detail the temporary structures or systems and their intended use.

All submittals for electrical equipment must conform to the provisions of the appropriate technical specifications of the Contract. All electrical materials must be tagged in conformance with the provisions of **Certificates of Compliance and Testing** before delivery to the WORK site. Untagged electrical materials will be rejected.

### **13.06 TIME FOR SUBMITTAL**

Contractor must make submittals to Caltrans sufficiently in advance of construction requirements to permit up to **10 business days** for review and appropriate action by RT. Contractor must also submit 2 copies of supporting data such as manufacturers literature for all items.

The review of submittals will be general and must not be construed as:

- Permitting any departure from contract requirements;
- Offering relief from the responsibility for any errors, or omissions including details, dimensions, and materials; or
- Approving departures from details furnished by Caltrans, except as otherwise provided in the Technical Specifications.

### **13.07 VARIATIONS/DEVIATIONS**

If drawings show variations from contract requirements because of standard shop practice or for any other reasons, such deviations must be described in the letter of submittal. RT may reject any or all variations. If variations result in an adjustment to the contract price or time for performance, the adjustment must be subject to approval by Caltrans. Failure to describe variations must not relieve Contractor from the responsibility of executing the WORK in accordance with the Contract, even though such drawings have been approved.

### **13.08 CORRECTIONS**

If a submittal is returned and is marked "REVIEWED/NO EXCEPTIONS TAKEN," then Contractor is not required to correct the submittal. If a submittal is returned and is marked "REVIEWED/MAKE CORRECTIONS AS NOTED AND RESUBMIT," then RT will provide an explanation of the corrections that are required and Contractor must also correct and resubmit the corrected submittal to District. The process set out in this Section is applicable to drawings submitted by Contractor; provided, however, that each print will be marked in the manner described above and, if a correction is noted by

Caltrans, Contractor must return 1 print and 1 reproducible copy of the corrected print to Caltrans.

Resubmittals will be handled in the same manner as first submittals, and the same **30 calendar day** review time will apply.

- Specific attention must be directed to revisions other than those requested by Caltrans on previous submittals by an accompanying letter or on the resubmitted drawings.
- If any corrections shown on the drawings constitute a change of contract requirements, Caltrans must be notified, as previously specified.
- Work indicated on drawings marked "REVIEWED/MAKE CORRECTIONS AS NOTED AND RESUBMIT," may not be carried out before resubmittal and final issuance of REVIEWED/ NO EXCEPTIONS TAKEN.

### **]13.09 CHANGES**

When Working and Shop Drawings have been completed to the satisfaction of Caltrans, the construction must be carried out in accordance with such drawings, and no changes must be made thereon except upon written direction from Caltrans.

During execution of the WORK, Contractor must use only drawings that are stamped "REVIEWED/NO EXCEPTIONS TAKEN" and bear Caltrans's signature.

### **13.10 DAMAGES**

Contractor bears the risk and all costs and expenses associated with any WORK that must be redone by proceeding with WORK before issuance by Caltrans of REVIEWED/NO EXCEPTIONS TAKEN.

### **13.11 DISTRICT DAMAGES FOR RE-REVIEW OF SHOP DRAWINGS AND PRODUCT DATA**

If Contractor improperly submits incomplete Shop Drawings or Manufacturer's Product Data submittals for re-review, RT may sustain damages, including the costs of re-reviewing drawings which are difficult to quantify in each such case. In that event, RT may recover by way of back charging liquidated damages in the sum of \$1,000 to defray the costs of re-reviewing such submittals in each case where:

- (1) The Contractor resubmits a submittal without all the information previously required by comments or corrections noted on the submittal as previously submitted, or;
- (2) The Contractor resubmits a submittal without having incorporated all the corrections required by comments on the submittal as previously submitted.

### **13.12 SAMPLES**

Contractor must furnish samples as specified and requested by RT as soon as possible after request. Unless otherwise indicated, not less than 2 identical samples of each type required must be submitted.

Shipping charges on samples must be prepaid by Contractor. Products for which samples are requested must not be used until approved in writing by RT. Each sample must be labeled to indicate:

- Name of project and Contract number
- Name of Contractor and Subcontractor or supplier, if applicable
- Material or equipment represented
- Source
- Name of producer and brand (if any)
- References to the parts of the Technical Specifications and the Plans which are applicable to the sample
- Location of WORK

Certain samples may be tested by RT. Approved samples not destroyed in testing may be retained by RT. RT will return a disapproved sample to Contractor at Contractor's expense if Contractor requests, in writing, when the sample is submitted to RT, that it be returned to Contractor.

### **13.13 SHIPMENT LETTER**

A letter must be mailed under separate cover submitting each shipment of samples and detailing the information required in the preceding paragraph. A copy of the letter must be enclosed with the shipment.

### **13.14 TEST RESULTS**

Documents such as certificates, reports, and test results specified in the Technical Specifications must be submitted to Caltrans for review by RT and must comply with the following:

- Three copies of each required must be submitted, unless specified otherwise.
- Notice for testing of WORK must be submitted to the Caltrans, for transmittal to RT, **ten working days** before testing date.

### **13.15 PAYMENT**

Full compensation for conforming to the requirements specified in Section "Contract Requirements and Technical Submittals" shall be considered as included in the unit prices paid for the various Contract pay items deemed most appropriate.

## **14. Final Inspection and Acceptance of all the Work**

When Contractor considers that all of the WORK, or any discrete portion of the WORK covered under this Contract has reached final completion, Contractor shall so inform

Caltrans in writing. RT will prepare a punchlist covering any part of the WORK that fails to pass the acceptance tests or inspections or is otherwise unacceptable and will reject such WORK. Contractor shall proceed immediately to correct or replace unsatisfactory, incomplete or unacceptable WORK and complete such WORK within thirty (30) days. For items of WORK not completed by contractor within thirty (30) days, RT may proceed to have the items corrected or completed using RT or third party forces. Caltrans will reimburse RT for its reasonable costs and deduct such costs from compensation otherwise due Contractor.

Unless otherwise stipulated, title to such rejected WORK and risk of loss shall remain with contractor, and contractor shall have the responsibility and bear all costs to correct all defects or damage. All acceptance testing of WORK which has been rejected previously shall be performed at contractor's expense and Caltrans will reimburse RT for reasonable costs incurred by RT to perform such re-tests and will deduct such costs from compensation otherwise due contractor.

Final acceptance of all of the WORK or the particular discrete portion deemed complete will occur after successful completion of all testing and punchlist items and the correction of all defects and damaged WORK, and RT's determination that the WORK conforms in all respects to all the Contract requirements. RT will inform Contractor of such acceptance of the WORK by issuing a final certificate to the Contractor stating that the WORK has been completed in accordance with the Contract requirements and is accepted under the terms and conditions thereof. After RT has accepted the WORK by issuing a final acceptance certificate, Caltrans and contractor will be relieved of any duty to maintain and protect the accepted WORK and Caltrans and contractor shall be relieved of any responsibility for injury to persons or property or damage to the WORK which occurs after final acceptance by RT. Such final acceptance of the WORK shall not relieve contractor from responsibility for errors, improper fabrication, non-conformance to a Contract requirement, latent defects, or for deficiencies within contractor's control. Unless otherwise stipulated, all warranties begin with the date of such final acceptance. Coincident with such final acceptance, RT a Notice of Completion will be filed.

## **15 Final Inspection and Acceptance of a Portion of the Work**

RT has the right to direct Contractor to complete a portion of the Work at a time different than that specified in the Contract or reflected in the currently approved progress schedule. Such direction will be in writing and will provide for an equitable adjustment in the compensation to be paid to Contractor, if any. If such direction modifies the amount of compensation or time required for the completion of the Work, an appropriate change order will be issued. The following will apply if RT accepts, pays for, takes title to and occupies the portion of the Work so accepted:

- Contractor will be relieved of maintenance responsibility for that portion of the Work.
- Contractor's warranty on that portion of the Work will commence.

## **Section 16 Certificates of Compliance and Testing**

### **16.01 General**

Whenever the specifications provide an option between two (2) or more tests, RT will determine the test to be used.

Whenever a reference is made in the specifications to a specification, manual, or test designation either of the American Society of Testing and Materials, the American Association of State Highway and Transportation Officials, Federal Specifications, or any other recognized national organization, and the number or other identification representing the year of adoption or latest revision is omitted, it shall mean the specification, manual, or test designation in effect on the day the Notice to Bidders is dated.

Whenever said specification manual or test designation provides for test reports (such as certified mill test reports) from the manufacturer, copies of such reports, identified as to the lot of material, shall be furnished to RT. When material which cannot be identified with specific test reports is proposed for use, RT may, at its discretion, select random samples from the lot for testing. Test specimens from the random samples, including those required for retest, shall be prepared in accordance with the referenced specification and furnished by Contractor at his/her expense. The number of such samples and test specimens shall be entirely at the discretion of RT.

When requested by RT, Contractor shall furnish, without charge, samples of all materials entering into the WORK, and no material shall be used prior to approval by RT, except as provided in this Section "Certificates of Compliance and Testing". Samples of materials from local sources shall be taken by or in the presence of RT, otherwise the samples will not be considered for testing.

### **16.02 CERTIFICATES OF COMPLIANCE**

When so authorized in the Contract or when permitted by RT, the use of certain materials or assemblies shall be allowed if accompanied by a Certificate of Compliance. RT reserves the right to refuse to permit the use of material on the basis of a Certificate of Compliance. If such use is permitted, the form of the Certificate of Compliance and its disposition shall be as directed by RT. The certificate shall be signed by the manufacturer of the material or the manufacturer of assembled materials and shall be furnished with each lot of material delivered to the Work and the lot so certified must be clearly identified in the Certificate.

All materials used on the basis of a Certificate of Compliance may be sampled and tested by RT at any time. The fact that material is used on the basis of a Certificate of Compliance shall not relieve Contractor of responsibility for incorporating material in the Work which conforms to the requirements of the Contract and any such material not conforming to such requirements will be subject to rejection whether in place or not.

Contractor must provide 3 hard copies of the certificate of compliance of installed bore conduit and/or casing to RT Engineering within 30 days of Project completion.

## **16.03 TESTING.**

The Contractor will be responsible for controlling the quality of the material entering the WORK and of the WORK performed, and shall perform testing as necessary to ensure control. All on-site material sampling and testing shall be performed by testing laboratories, testers, or inspectors engaged by the Contractor if not engaged by Caltrans. In addition, RT (or its representative) shall have the right to perform materials sampling and testing to verify on-site material sampling and testing performed by testing laboratories selected by the Contractor. The test methods and frequencies used for quality control testing shall be as specified in the Technical Specifications. The test laboratory and personnel qualifications and the results of the testing shall be in accordance with GC 6.13 and shall be maintained as quality records. All tests results shall be made available for RT review within 5 days of test. Full compensation for performing and documenting quality control tests and making the results available to RT shall be considered as included in the bid line item for the product, material or WORK to be tested.

## **Section 17 Warranty**

### **17.01 Warranty**

The Contractor's Warranty as provided in Article 22 of the Agreement between Caltrans and Contractor is hereby modified as follows:

The Contractor warrants that all materials and equipment (hereinafter "Work") supplied under this Contract shall be of new, high quality, free from any defective materials, equipment, or Workmanship, fit for RT's intended use, and shall conform to the specifications, samples and other descriptions set forth in the RT-approved Contract Documents. If required by RT, Contractor must furnish satisfactory evidence as to the type and quality of the materials and equipment supplied. Specifying a brand name shall not relieve the Contractor from compliance with these warranty provisions.

This warranty will be effective for a period of one (1) year (or such longer period of time as may be specified elsewhere in the Contract) from the date of written final acceptance of the Work. A warranty claim for any defect in the Work or non-conformance of the Work to the Contract Documents will be made by RT in writing addressed to the Caltrans as set forth in the Project Agreement for written communications to Caltrans.

Contractor's personnel and contractors may be permitted to use RT facilities and special equipment to perform warranty WORK, provided that such WORK is conducted during normal hours, does not interfere with other RT activities, and is performed in accordance with RT policies and directions. Damage to RT property caused by Contractor's representatives shall be the sole responsibility of the Contractor, and shall be corrected at the Contractor's expense.

The Caltrans must perform such tests as RT may require to verify that such corrective actions, including, without limitation, redesign, repairs, and replacements, comply with the requirements of these General Specifications and the Technical Specifications. All

costs associated with such corrective actions and testing, including the removal, replacement, and reinstatement of equipment and materials necessary to gain access, must be borne by the Caltrans. The security, control, shipping, and disposition of Contractor-owned parts is the responsibility of the Contractor. Caltrans must reimburse RT for RT's actual cost to inspect Caltrans's efforts to repair or replace the defective Work.

If the Caltrans fails to adequately repair or replace all defective WORK to RT's satisfaction within a reasonable period of time, RT may cause such defective Work to be repaired or replaced using RT's forces and/or another contractor at Caltrans's expense. Contractor must reimburse RT for RT's actual costs to repair or replace the defective Work within thirty (30) days from the date of submittal of an invoice. The rights and remedies of RT provided in this Section are in addition to and do not limit any rights and remedies afforded by this Contract or by law. This warranty does not apply to defects in the Work caused by RT's misuse or neglect.

All warranties and guarantees of subcontractors, suppliers and manufacturers with respect to any portion of the Work, whether express or implied, are deemed to be obtained by the Contractor for the benefit of RT, regardless whether such warranties and guarantees have been transferred or assigned to RT by separate agreement. The Contractor must enforce such warranties and guarantees on behalf of RT, provided, however, that if directed by RT, the Contractor must require such subcontractors, manufacturers and suppliers to execute such warranties and guarantees directly to RT. Within fifteen (15) days of RT's request, Contractor must supply copies of the warranties provided by subcontractors, manufacturers and suppliers. If any such warranty or guarantee becomes void due to the Contractor's negligence in incorporating material or equipment into the Work, the Contractor must nonetheless correct such defect and related damage to the product.

In the event of an emergency constituting an immediate hazard to the health, safety or welfare of the public, RT employees, its property or that of its licensee; RT may undertake, at the Contractor's expense and without prior notice, all WORK necessary to correct such condition when caused by a defect in the Work which is covered by this warranty.

### **17.02 Warranty on Replaced Parts**

Any defective materials, parts or components that are replaced during the initial warranty period must be warranted for the total original warranty period from the date of replacement.

### **17.03 Systematic Failures.**

If, during the warranty period, repairs or modifications necessitated by defective design, material, or Workmanship occur to an extent in excess of ten percent (10%) of the components used for the same function in the same assembly or subsystem purchased under this Contract, Contractor must promptly furnish all necessary labor and material to effect such repairs and modifications for every system delivered under the Contract, including systems in which the item has not yet failed.

**CONTRACT FORM 5.4**

**SERVICE DISRUPTION BOND**

WE HEREBY CERTIFY THAT: \_\_\_\_\_ as Principal, hereinafter called "Principal," and \_\_\_\_\_, a corporation, duly organized under the laws of the State of \_\_\_\_\_, having its principal place of business at \_\_\_\_\_ in the State of \_\_\_\_\_, and authorized as a surety in the State of California, hereinafter called "Surety," are hereby held and firmly bound unto Sacramento Regional Transit District, hereinafter called "Obligee" in the Penal Sum of \$50,000.00 lawful money of the United States of America, for which payment well and truly to be made, we bind ourselves, our heirs, executors, administrators, representatives, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered into or is about to enter into a certain written agreement with the above-mentioned Obligee, for construction of the «TitleTitlecase», PROJECT No. «PROJECTNo», hereinafter "Contract," which Contract documents are incorporated herein by reference as if fully set forth herein.

WHEREAS, said Principal is required to furnish a bond in connection with said Contract, to secure payment of costs of service disruptions to Obligee's bus and/or light rail system as a result of WORK under said Contract.

NOW, THEREFORE, if said Principal, or its heirs, executors, administrators, representatives, successors, assigns, or subcontractors cause disruption to the revenue operations of Obligee's light rail system, the aforesaid Surety will pay Obligee the sum of \$5,000 per hour for every hour of disruption or portion thereof, unless such disruption is solely caused by Obligee; however, in no event will the amount owed by said Surety exceed the amount of this bond.

Said Surety, for value received, hereby stipulates and agrees that, in accordance with the terms of the Contract, no change, extension of time, alteration or addition to the terms of the Contract, or to the WORK to be performed there-under, or to the specifications accompanying the same will in any way affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the WORK or to the specifications.

In the event that an action is brought to enforce this bond or for a declaration of the rights and duties of the parties pursuant to this bond, the prevailing party in any such action will recover its costs and attorney fees from the other party.

IN WITNESS WHEREOF, the above bound parties have executed this instrument under their seals the \_\_\_\_ day of \_\_\_\_\_, 20\_\_ the name and corporate seal of each corporate party being affixed thereto, and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

**LIGHT RAIL TRACK WARRANT**

*(To be obtained from RT Metro, 2700 Academy Way, by each subcontractor)*

**RED TAG REQUEST**



Project I. D. #: \_\_\_\_\_

# Line Clearance • Red Tag Request

Requesting Agency: \_\_\_\_\_ Date: \_\_\_\_\_

Address: \_\_\_\_\_

Contact Person: \_\_\_\_\_

Phone # Work: \_\_\_\_\_ Home: \_\_\_\_\_

Description of Project: \_\_\_\_\_

Location of Work: \_\_\_\_\_

***Description of Service***

<b>Substation</b>	<b>Feeder Breakers</b>	<b># of Grounds:</b> _____
_____ # _____ #	_____ # _____ #	Located at: _____
_____ # _____ #	_____ # _____ #	Located at: _____
_____ # _____ #	_____ # _____ #	<b># of Barricades:</b> _____
_____ # _____ #	_____ # _____ #	Located at: _____
_____ # _____ #	_____ # _____ #	Located at: _____

**Substations Off Line:**  
**Meet Contractor at:**  
 Time: \_\_\_\_\_  
 Location: \_\_\_\_\_

day 1)	_____ / _____ / _____
day 2)	_____ / _____ / _____
day 3)	_____ / _____ / _____
day 4)	_____ / _____ / _____
day 5)	_____ / _____ / _____
	DATE                  HOURS                  LINEMAN

**Substations On Line:**  
**Meet Contractor at:**  
 Time: \_\_\_\_\_  
 Location: \_\_\_\_\_

1)	_____ / _____ / _____
2)	_____ / _____ / _____
3)	_____ / _____ / _____
4)	_____ / _____ / _____
5)	_____ / _____ / _____
	DATE                  HOURS                  LINEMAN

Special Instructions:                  **PAYMENT DUE UPON SUBMISSION OF APPLICATION**  
**PLEASE MAKE CHECK PAYABLE TO SACRAMENTO REGIONAL TRANSIT DISTRICT**

**Estimated Charge for Manpower & Equipment:**                  \$750.00

Signed By:  
 Wayside Superintendent: x \_\_\_\_\_ Date: \_\_\_\_\_  
 Metro Control: x \_\_\_\_\_ Date: \_\_\_\_\_

The undersigned company or persons agree to pay the total amount of the RED TAG and will incur all costs for damages to Regional Transit's property due to negligence.

Contractor: x \_\_\_\_\_ Date: \_\_\_\_\_

# ASBESTOS AND LEAD-CONTAINING PAINT SURVEY



**PREPARED FOR:**

**CALIFORNIA DEPARTMENT OF TRANSPORTATION – DISTRICT 3  
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. S9300-06-91  
TASK ORDER NO. 91, EA 03-1C1201**

**JANUARY 2010**



Project No. S9300-06-91  
January 13, 2010

Rajive Chadha, Task Order Manager  
Caltrans District 3  
703 B Street/P.O. Box 911  
Marysville, California 95901

Subject: STATE ROUTE 50 (SAC-50) BRIDGES  
SACRAMENTO COUNTY, CALIFORNIA  
CONTRACT NO. 03A1368  
TASK ORDER NO. 91, EA NO. 03-1C1201  
ASBESTOS AND LEAD-CONTAINING PAINT SURVEY REPORT

Dear Mr. Chadha:

In accordance with California Department of Transportation Contract No. 03A1368 and Task Order No. 91, we performed asbestos and lead-containing paint surveys of two bridge spans on State Route 50 in Sacramento County, California. The scope of services included surveying Bridges 24-0318 (65<sup>th</sup> Street Bridge) and 24-0120 (Natoma Overhead Bridge) for suspect asbestos-containing materials and lead-containing paint, collecting bulk samples, and submitting the samples for laboratory analysis.

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.**

Chris Giuntoli, CAC  
Senior Project Scientist

John E. Juhrend, PE, CEG  
Project Manager

JAG:JEJ:krh

(5 + 3 CDs) Addressee

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1. Summary of Asbestos Analytical Results

### APPENDIX

- A. Analytical Laboratory Report and Chain-of-custody Documentation

# ASBESTOS AND LEAD-CONTAINING PAINT SURVEY REPORT

## 1.0 INTRODUCTION

This asbestos and lead-containing paint (LCP) survey report was prepared by Geocon Consultants, Inc. under Caltrans Contract No. 03A1368, Task Order No. 91.

### 1.1 Project Description

The project consists of Bridges 24-0318 (65<sup>th</sup> Street Bridge) and 24-0120 (Natoma Overhead Bridge) located along State Route 50 (SAC-50) in Sacramento County, California. The bridge locations are depicted on the Vicinity Map, Figure 1, and Site Plans, Figures 2-1 and 2-2.

### 1.2 General Objectives

The purpose of the scope of services outlined in Task Order 91 was to determine the presence and quantity of asbestos and deteriorated LCP at the project locations prior to renovation activities. 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 not 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. HUD protocol generally requires a very extensive sampling strategy that includes sampling of paint on each surface type (e.g., wall, ceiling, window sill, window frame, door frame, molding, etc.) in each room.*

## 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 may make it cost ineffective to do so. Contractors are responsible for segregating and characterizing waste streams prior to disposal.

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

## **2.2 Lead Paint**

Construction activities (including demolition) that disturb materials or paints containing *any* amount of lead are subject to certain requirements of the Cal/OSHA lead standard contained in Title 8, CCR, Section 1532.1. Deteriorated paint is defined by Title 17, CCR, Division 1, Chapter 8, §35022 as a surface coating that is cracking, chalking, flaking, chipping, peeling, non-intact, failed, or otherwise separating from a component. Demolition of a deteriorated LCP component would require waste characterization and appropriate disposal. 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 concentrations) is the primary factor considered for waste classification since waste generated during the construction activities would not likely warrant testing for ignitability or other criteria. Waste that is classified as either California hazardous or RCRA hazardous requires management as a hazardous waste.

Potential hazards exist to workers who remove or cut through LCP coatings during demolition. Dust containing hazardous concentrations of lead may be generated during scraping or cutting materials coated with 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 the Title 8, CCR, Section 1532.1.

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

Caltrans did not provide architectural drawings of the subject bridges for our review.

## **3.0 SCOPE OF SERVICES**

Mr. Joshua Goodwin, a California-Certified Asbestos Consultant (CAC), certification No. 05-3754 (expiration June 16, 2010), and Certified Lead Paint Inspector/Assessor with the California Department of Public Health (DPH), certification number I-19737 (expiration June 7, 2010), performed the asbestos and LCP survey at the project location on June 15, 2009.

### **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 14 bulk asbestos samples representing 8 material types were collected.

Our procedures for inspection and sampling in accordance with Task Order 91 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 under chain-of-custody protocol 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). 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 3-workday 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 Figures 2-1 and 2-2. Materials represented by the samples collected are shown in the attached photographs.

### **3.2 Lead Paint**

We did not observe suspect LCP at Bridges 24-0318 (65<sup>th</sup> Street Bridge) or 24-0120 (Natoma Overhead Bridge) during our survey activities.

## **4.0 INVESTIGATIVE RESULTS**

### **4.1 Asbestos Analytical Results**

Chrysotile asbestos at a concentration of 50% was detected in a sample representing nonfriable sheet packing used as shims on the barrier rail systems of Bridge 24-0318 (65<sup>th</sup> Street Bridge). We were not able to quantify the amount of sheet packing due to safety concerns (i.e., traffic).

Chrysotile asbestos at a concentration of 50% was detected in samples representing nonfriable sheet packing used as shims on the barrier rail systems of Bridge 24-0120 (Natoma Overhead Bridge). We were not able to quantify the amount of sheet packing due to safety concerns (i.e., traffic).

Chrysotile asbestos at a concentration of 3% was detected in a sample representing nonfriable thread compound used on the barrier rail systems of Bridge 24-0120 (Natoma Overhead Bridge). We were not able to quantify the thread compound due to safety concerns (i.e., traffic).

No asbestos was detected in samples of the remaining 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**

We did not observe painted surfaces on either bridge during our surveys; therefore, samples were not collected for lead analysis.

## 5.0 RECOMMENDATIONS

Based on our findings, we recommend the following:

### 5.1 Asbestos

NESHAP regulations do not require that asbestos-containing sheet piling or thread compound (Category I nonfriable/nonhazardous materials) identified during our survey be removed prior to demolition or be treated as hazardous waste. However, the disturbance of these materials is still covered by the Cal/OSHA asbestos standard (Title 8, CCR Section 1529). We recommend that a licensed contractor registered with Cal/OSHA for asbestos-related work perform any activities that would disturb the materials. Contractors are responsible for informing the landfill of the contractor's intent to dispose of asbestos waste. Some landfills may require additional waste characterization. Contractors are responsible for segregating and characterizing waste streams prior to disposal.

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

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

### 5.2 Lead Paint

LCP was not identified during our surveys as both bridges were concrete structures and void of painted surfaces.

## 6.0 REPORT LIMITATIONS

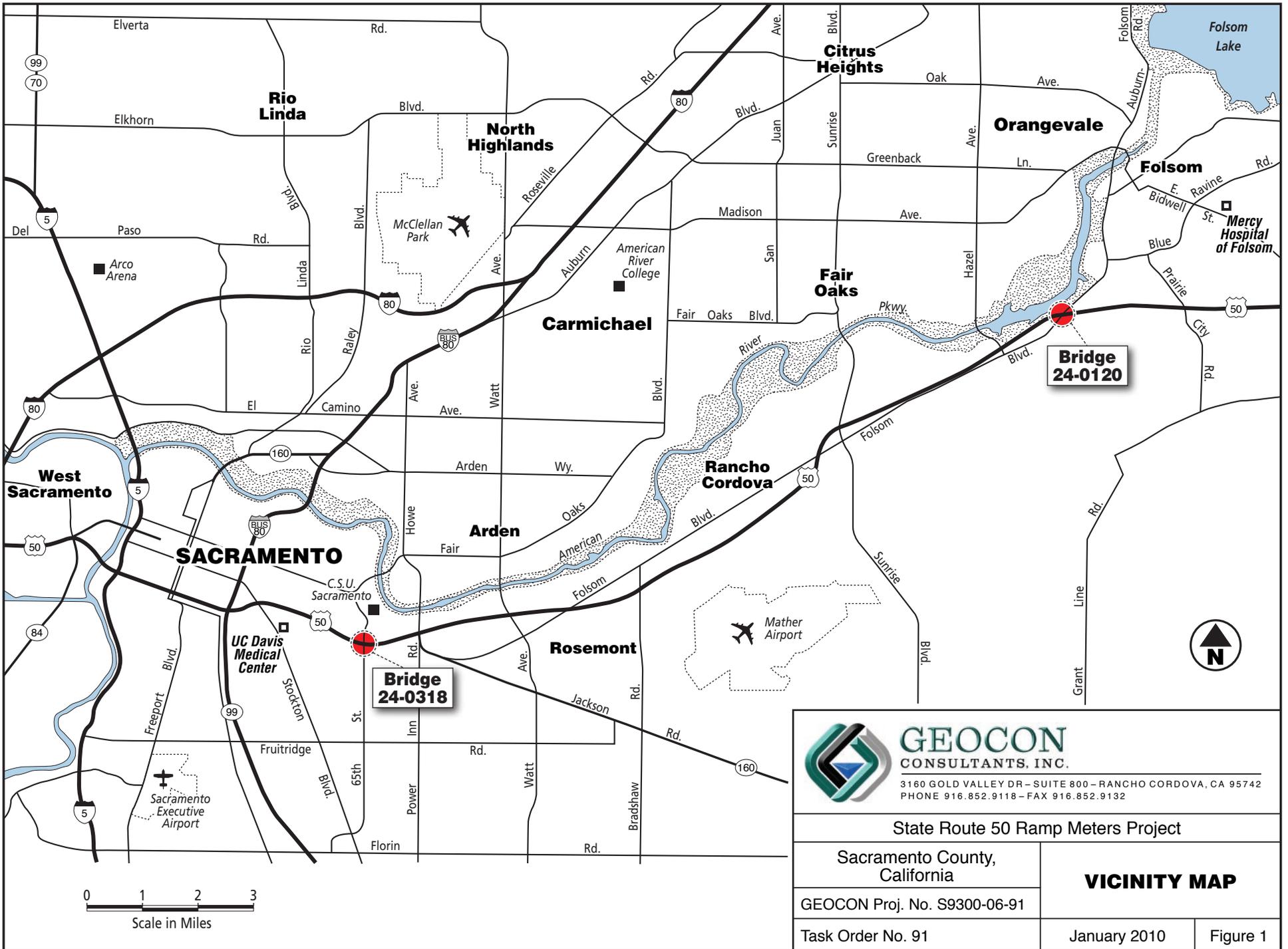
This asbestos and LCP survey was conducted in conformance with generally accepted standards of practice for identifying and evaluating asbestos and LCP in structures. The survey addressed only those structures identified in Section 1.1. Due to the nature of structure surveys, asbestos and LCP use, and 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 structures 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

State Route 50 Ramp Meters Project

Sacramento County,  
California

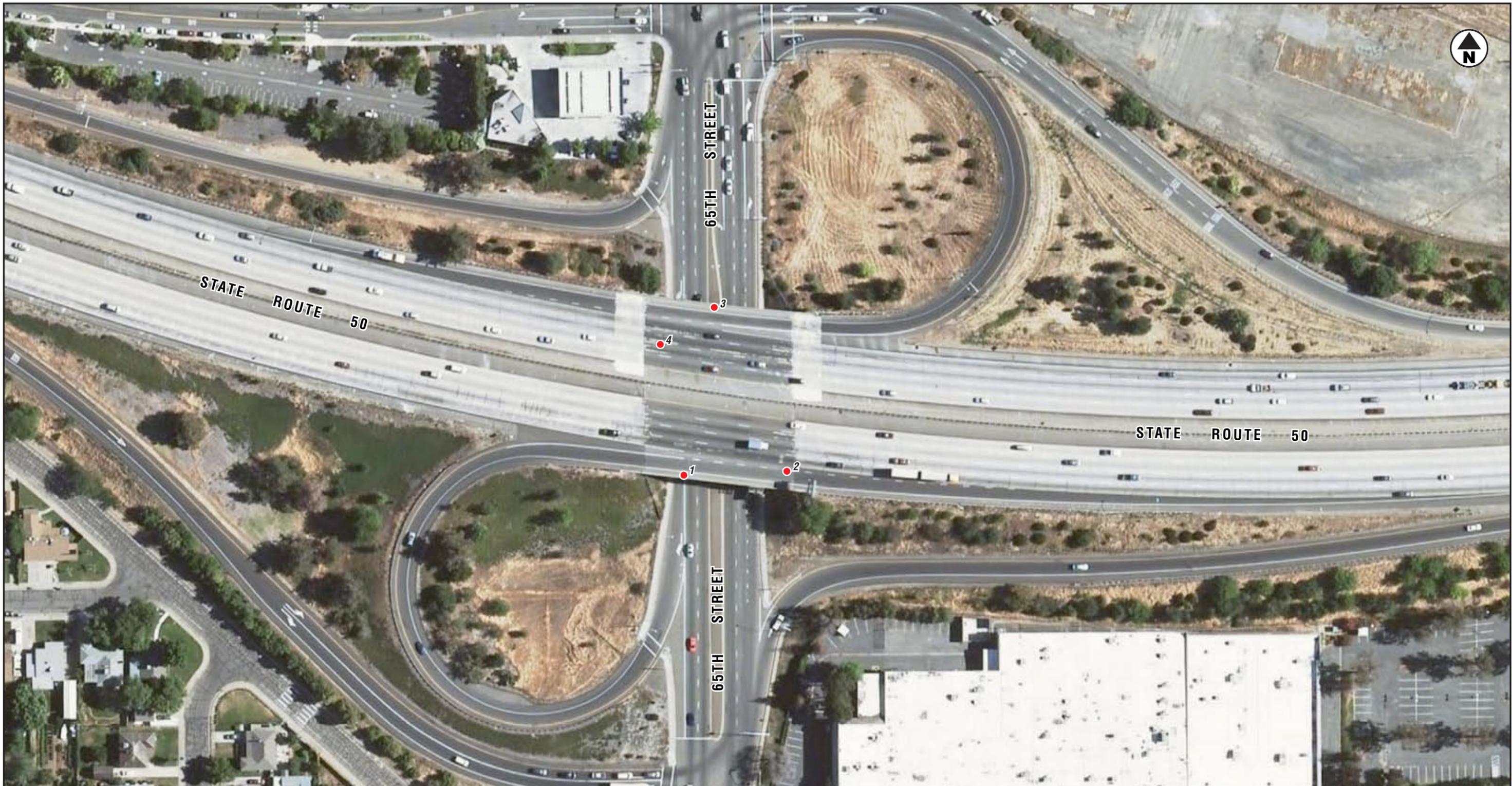
**VICINITY MAP**

GEOCON Proj. No. S9300-06-91

Task Order No. 91

January 2010

Figure 1



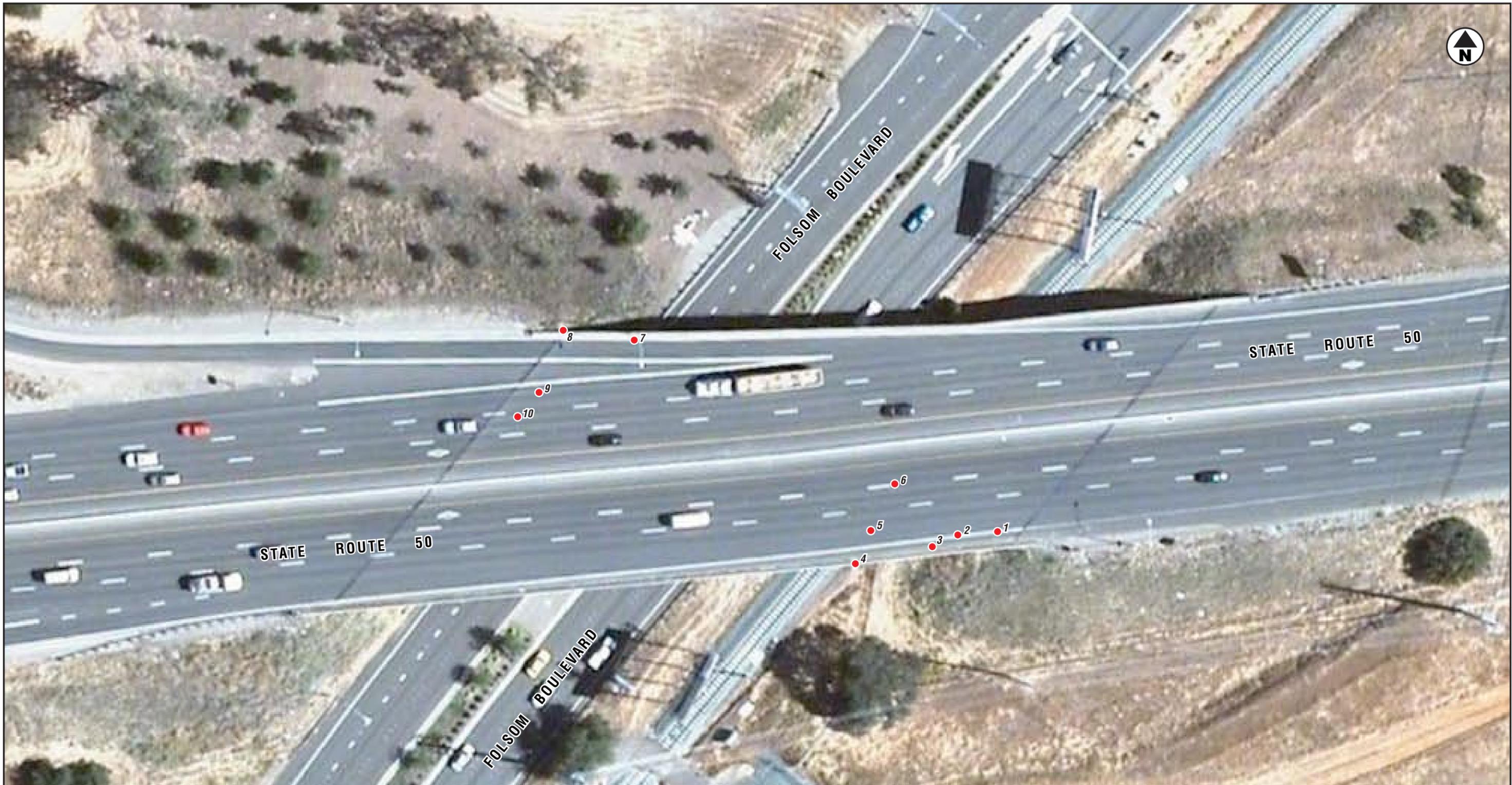
LEGEND:

- Approximate Asbestos Sample Location



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

State Route 50 Ramp Meters Project		
Sacramento County, California		<b>SITE PLAN</b>
GEOCON Proj. No. S9300-06-91		<b>Bridge No. 24-0318</b>
Task Order No. 91	January 2010	Figure 2-1



LEGEND:

- Approximate Asbestos Sample Location



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

State Route 50 Ramp Meters Project		
Sacramento County, California		<b>SITE PLAN</b>
GEOCON Proj. No. S9300-06-91		<b>Bridge No. 24-0120</b>
Task Order No. 91	January 2010	Figure 2-2



**Photo 1 – 65<sup>th</sup> Street Bridge (Bridge 24-0318)**



**Photo 2 – Bridge 24-0318 barrier rail shim (50% chrysotile asbestos)**



**GEOCON**  
CONSULTANTS, INC.

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

**PHOTOGRAPHS 1 & 2**

State Route 50 Bridges  
Sacramento County, California

S9300-06-91

Task Order No. 91

January 2010



**Photo 3 – Bridge 24-0318 expansion joint material**



**Photo 4 – Bridge 24-0318 barrier rail shim (50% chrysotile asbestos)**



**Photo 5 – Bridge 24-0318 expansion joint material**



**Photo 6 – Bridge 24-0318 approach**



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CONSULTANTS, INC.

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

**PHOTOGRAPHS 5 & 6**

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**Photo 7 – Natoma Overhead Bridge (Bridge 24-0120)**



**Photo 8 – Bridge 24-0120 abutment**



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PHONE 916.852.9118 – FAX 916.852.9132

**PHOTOGRAPHS 7 & 8**

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**Photo 9 – Bridge 24-0120 barrier rail shim (50% chrysotile asbestos)**



**Photo 10 – Bridge 24-0120 expansion joint fill material (brown)**



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PHONE 916.852.9118 – FAX 916.852.9132

**PHOTOGRAPHS 9 & 10**

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**Photo 11 – Bridge 24-0120 thread compound**



**Photo 12 – Bridge 24-0120 bearing material**



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PHONE 916.852.9118 - FAX 916.852.9132

**PHOTOGRAPHS 11 & 12**

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**Photo 13 – Bridge 24-0120 drain pipe**



**Photo 14 – Bridge 24-0120 expansion joint fill material (brown)**



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PHONE 916.852.9118 - FAX 916.852.9132

**PHOTOGRAPHS 13 & 14**

State Route 50 Bridges  
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**Photo 15 – Bridge 24-0120 thread compound (3% chrysotile asbestos)**



**Photo 16 – Bridge 24-0120 bearing material**



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

**PHOTOGRAPHS 15 & 16**

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**Photo 17 – Bridge 24-0120 drain pipe and black sealant material**



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CONSULTANTS, INC.

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

**PHOTOGRAPH 17**

State Route 50 Bridges  
Sacramento County, California

S9300-06-91

Task Order No. 91

January 2010

**TABLE 1**  
**SUMMARY OF ASBESTOS ANALYTICAL RESULTS**  
 STATE ROUTE 50 (SAC-50) BRIDGES - 65th STREET (24-0318) AND NATOMA OVERHEAD (24-0120)  
 CALTRANS CONTRACT 03A1638, TASK ORDER NO. 91, EA 03-1C1201  
 SACRAMENTO COUNTY, CALIFORNIA

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

Bridge No.	Sample No.	Description of Material	Approximate Quantity	Friable	Site Photo	Asbestos Content
24-0318	24-0318-1	Sheet Packing (barrier rail shims)	Unable to safely quantify	No	2	50%
	24-0318-2	Expansion joint fill material	NA	NA	3	ND
	24-0318-3	Sheet Packing (barrier rail shims)	Unable to safely quantify	No	4	50%
	24-0318-4	Expansion joint fill material	NA	NA	5	ND
24-0120	24-0120-1	Sheet Packing (barrier rail shims)	Unable to safely quantify	No	9	50%
	24-0120-2	Expansion joint fill material	NA	NA	10	ND
	24-0120-3	Thread compound	NA	NA	11	ND
	24-0120-4	Bearing material	NA	NA	12	ND
	24-0120-5	Drain Pipe	NA	NA	13	ND
	24-0120-6	Expansion joint fill material	NA	NA	14	ND
	24-0120-7	Thread compound	Unable to safely quantify	No	15	3%
	24-0120-8	Bearing material	NA	NA	16	ND
	24-0120-9	Drain Pipe	NA	NA	17	ND
	24-0120-10	Black sealant material	NA	NA	17	ND

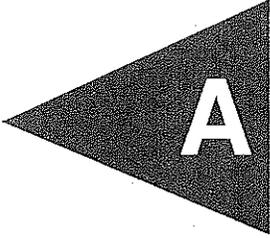
Notes:

NA = Not applicable (no asbestos detected)

ND = Not detected

█ = Sample reported with asbestos

# APPENDIX





**EMSL Analytical, Inc**

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

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

Attn: **Josh Goodwin**  
**Geocon Consultants**  
**3160 Gold Valley Drive**  
**Suite 800**  
**Rancho Cordova, CA 95742**

Customer ID: GECN80  
Customer PO: S9300-06-91  
Received: 06/16/09 11:00 AM  
EMSL Order: 090904607

Fax: (916) 852-9132 Phone: (916) 852-9118  
Project: **S9300-06-91**

EMSL Proj: S9300-06-\*\*  
Analysis Date: 6/19/2009

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

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
24-0120-1-Rail shim <i>090904607-0001</i>	East bound	Black Fibrous Homogeneous		50% Non-fibrous (other)	<b>50% Chrysotile</b>
24-0120-2-EB Joint material <i>090904607-0002</i>	East bound	Brown Fibrous Homogeneous	25% Cellulose	75% Non-fibrous (other)	<b>None Detected</b>
24-0120-3-EB Thread compound <i>090904607-0003</i>	East bound	Gray Non-Fibrous Homogeneous	3% Cellulose	97% Non-fibrous (other)	<b>None Detected</b>
24-0120-4-EB Joint material <i>090904607-0004</i>	East bound under styrofoam	Brown Fibrous Homogeneous	20% Cellulose	80% Non-fibrous (other)	<b>None Detected</b>
24-0120-5-Drain pipe <i>090904607-0005</i>	Under East end	Brown Fibrous Homogeneous	20% Cellulose	80% Non-fibrous (other)	<b>None Detected</b>
24-0120-6-Joint material <i>090904607-0006</i>	Under East end	Brown Fibrous Homogeneous	50% Cellulose	50% Non-fibrous (other)	<b>None Detected</b>

Analyst(s)

*Kelly Favero (14)*

Baojia Ke, Laboratory Manager  
or other approved signatory

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected may require additional testing by TEM to confirm asbestos quantities. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted.  
Samples analyzed by EMSL Analytical, Inc San Leandro 2235 Polvorosa Ave , Suite 230, San Leandro CA NVLAP Lab Code 101048-3, MA AA000201, WA C2007



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EMSL Order: 090904607

Fax: (916) 852-9132 Phone: (916) 852-9118  
Project: **S9300-06-91**

EMSL Proj: S9300-06-\*\*  
Analysis Date: 6/19/2009

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

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
24-0120-7-Thread compound <i>090904607-0007</i>	West bound	Gray Non-Fibrous  Homogeneous		97% Non-fibrous (other)	<b>3% Chrysotile</b>
24-0120-8-Joint material <i>090904607-0008</i>	West bound under styrofoam	Brown Fibrous  Homogeneous	20% Cellulose	80% Non-fibrous (other)	<b>None Detected</b>
24-0120-9-Drain pipe <i>090904607-0009</i>	Under West end	Brown Fibrous  Heterogeneous	10% Cellulose	90% Non-fibrous (other)	<b>None Detected</b>
24-0120-10-Crack sealant <i>090904607-0010</i>		Black Non-Fibrous  Homogeneous		100% Non-fibrous (other)	<b>None Detected</b>
24-0318-1-EB Rail shim <i>090904607-0011</i>	East bound	Gray Fibrous  Homogeneous		50% Non-fibrous (other)	<b>50% Chrysotile</b>
24-0318-2-Joint material <i>090904607-0012</i>	Under East end	Brown Fibrous  Homogeneous	35% Cellulose	65% Non-fibrous (other)	<b>None Detected</b>

Analyst(s)

*Kelly Favero (14)*

Baojia Ke, Laboratory Manager  
or other approved signatory

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EMSL Proj: S9300-06-\*\*  
Analysis Date: 6/19/2009

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

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
24-0318-3-WB Rail shim <i>090904607-0013</i>	West bound	Various Fibrous  Homogeneous		50% Non-fibrous (other)	<b>50% Chrysotile</b>
24-0318-4-Joint material <i>090904607-0014</i>	Under West end	Brown Fibrous  Homogeneous	50% Cellulose	50% Non-fibrous (other)	<b>None Detected</b>

Analyst(s)  

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*Kelly Favero (14)*

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Baojia Ke, Laboratory Manager  
or other approved signatory

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected may require additional testing by TEM to confirm asbestos quantities. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted.  
Samples analyzed by EMSL Analytical, Inc San Leandro 2235 Polvorosa Ave , Suite 230, San Leandro CA NVLAP Lab Code 101048-3, MA AA000201, WA C2007

90904607



## Chain of Custody Asbestos Lab Services

EMSL Analytical, Inc.  
Suite 230  
2235 Polvorosa Ave  
San Leandro,  
CA 94577  
Phone: (510) 895-  
3675 (888) 455-3675  
Fax: (510) 895-3680  
<http://www.emsl.com>

Please print all information legibly.

<b>Company:</b>	Geocon Consultants, Inc.	<b>Bill To:</b>	Geocon Consultants, Inc.
<b>Address1:</b>	3160 Gold Valley Drive, Suite 800	<b>Address1:</b>	3160 Gold Valley Drive, Suite 800
<b>Address2:</b>		<b>Address2:</b>	
<b>City, State:</b>	Rancho Cordova, CA	<b>City, State:</b>	Rancho Cordova, CA
<b>Zip/Post Code:</b>	95742	<b>Zip/Post Code:</b>	95742
<b>Country:</b>	USA	<b>Country:</b>	USA
<b>Contact Name:</b>	Josh Goodwin	<b>Attn:</b>	Josh Goodwin
<b>Phone:</b>	916-852-9118	<b>Phone:</b>	916-852-9118
<b>Fax:</b>	916-852-9132	<b>Fax:</b>	916-852-9132
<b>Email:</b>	goodwin@geoconinc.com	<b>Email:</b>	goodwin@geoconinc.com
<b>EMSL Rep:</b>	Daniel Kocher	<b>P.O. Number:</b>	
<b>Project Name/Number:</b> S9300-06-91			

MATRIX			TURNAROUND			
<input type="checkbox"/> Air	<input type="checkbox"/> Soil	<input type="checkbox"/> Micro-Vac	<input type="checkbox"/> 3 Hours	<input type="checkbox"/> 6 Hours		<input type="checkbox"/> 24 Hours (1 day)
<input checked="" type="checkbox"/> Bulk	<input type="checkbox"/> Drinking Water		<input type="checkbox"/> 48 Hours (2 days)	<input type="checkbox"/> 72 Hours (3 days)	<input type="checkbox"/> 96 Hours (4 days)	<input checked="" type="checkbox"/> 120 Hours (5 days)
<input type="checkbox"/> Wipe	<input type="checkbox"/> Wastewater		<input type="checkbox"/> 144+ hours (6-10 days)			

TEM AIR, 3 hours, 6 hours, Please call ahead to schedule. There is a premium charge for 3-hour tat, please call 1-800-220-3675 for price prior to sending samples. You will be asked to sign an authorization form for this service.

<b>PCM - Air</b> <input type="checkbox"/> NIOSH 7400(A) Issue 2: August 1994 <input type="checkbox"/> OSHA w/TWA <input type="checkbox"/> Other:	<b>TEM Air</b> <input type="checkbox"/> AHERA 40 CFR, Part 763 Subpart E <input type="checkbox"/> NIOSH 7402 <input type="checkbox"/> EPA Level II	<b>TEM WATER</b> <input type="checkbox"/> EPA 100.1 <input type="checkbox"/> EPA 100.2 <input type="checkbox"/> NYS 198.2
<b>PLM - Bulk</b> <input checked="" type="checkbox"/> EPA 600/R-93/116 <input type="checkbox"/> EPA Point Count <input type="checkbox"/> NY Stratified Point Count <input type="checkbox"/> PLM NOB (Gravimetric) NYS 198.1 <input type="checkbox"/> NIOSH 9002: <input type="checkbox"/> EMSL Standard Addition:	<b>TEM BULK</b> <input type="checkbox"/> Drop Mount (Qualitative) <input type="checkbox"/> Chatfield SOP - 1988-02 <input type="checkbox"/> TEM NOB (Gravimetric) NYS 198.4 <input type="checkbox"/> EMSL Standard Addition:	<b>TEM Microvac/Wipe</b> <input type="checkbox"/> ASTM D 5755-95 (quantative method) <input type="checkbox"/> Wipe Qualitative
<b>SEM Air or Bulk</b> <input type="checkbox"/> Qualitative <input type="checkbox"/> Quantitative	<b>PLM Soil</b> <input type="checkbox"/> EPA Protocol Qualitative <input type="checkbox"/> EPA Protocol Quantitative <input type="checkbox"/> EMSL MSD 9000 Method fibers/gram	<b>XRD</b> <input type="checkbox"/> Asbestos <input type="checkbox"/> Silica NIOSH 7500  <b>OTHER</b> <input type="checkbox"/>

90904607



## Chain of Custody

### Asbestos Lab Services

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 Suite 230  
 2235 Polvorosa Ave  
 San Leandro,  
 CA 94577  
 Phone: (510) 895-  
 3675 (888) 455-3675  
 Fax: (510) 895-3680  
<http://www.emsl.com>

Please print all information legibly.

Client Sample # (a) 24-0120-1 - 24-0318-4Total Samples #: 14Relinquished: John Wood Date: 6/15/09Time: 1600Received: Shree Date: 6/16/09Time: 19:00 WPS

Relinquished: \_\_\_\_\_ Date: \_\_\_\_\_

Time: \_\_\_\_\_

Received: \_\_\_\_\_ Date: \_\_\_\_\_

Time: \_\_\_\_\_

SAMPLE NUMBER	SAMPLE DESCRIPTION/LOCATION	VOLUME (if applicable)
24-0120-1	East Bound Rail Shim	
24-0120-2	EB Joint Material	
24-0120-3	EB Thread Compound	
24-0120-4	EB Joint Material <sup>under</sup> styrafoam	
24-0120-5	Drain pipe (under <del>the</del> East end)	
24-0120-6	Joint Material (under E. end)	
24-0120-7	West Bound Thread Compound	
24-0120-8	WB Joint Material <sup>under</sup> styrafoam	
24-0120-9	Drain Pipe under W. end	
24-0120-10	Crack Sealant (Black)	
24-0318-1	EB Rail Shim	
24-0318-2	Joint Material under E. end	
24-0318-3	WB. Rail Shim	
24-0318-4	Joint Material under W. End	

# AERIALLY DEPOSITED LEAD AND BRIDGE SURVEY SITE INVESTIGATION REPORT



## State Route 50 Ramp Meters Project Sacramento County, California

**PREPARED FOR:**

**CALIFORNIA DEPARTMENT OF TRANSPORTATION – DISTRICT 3  
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. S9300-06-91  
TASK ORDER NO. 91, EA 03-1C1201**

**JANUARY 2010**



Project No. S9300-06-91  
January 13, 2010

Mr. Rajive Chadha  
California Department of Transportation - District 3  
Environmental Engineering Office  
P.O. Box 911  
Marysville, California 95901

Subject: STATE ROUTE 50 (SAC-50) RAMP METERS PROJECT  
SACRAMENTO COUNTY, CALIFORNIA  
CONTRACT NO. 03A1368, TASK ORDER NO. 91, EA 03-1C1201  
AERIALY DEPOSITED LEAD AND BRIDGE SURVEY SITE INVESTIGATION  
REPORT

Dear Mr. Chadha:

In accordance with California Department of Transportation (Caltrans) Contract No. 03A1368, Task Order Number 91, and Expense Authorization 03-1C1201, Geocon Consultants, Inc. has performed environmental engineering services for the subject project. The Site consists of Caltrans onramps along State Route 50 from Post Miles 0.6 to 16.9 in Sacramento County, California. The accompanying report summarizes the services performed, including the advancement of 96 direct-push and 50 hand-auger borings for soil sampling for aerially deposited lead testing, traffic stripe paint sampling, and asbestos-containing materials and lead-containing paint surveys.

*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

GGR:JEJ:krh

(5 + 3 CDs) Addressee

John E. Juhrend, PE, CEG  
Project Manager



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# AERIALLY DEPOSITED LEAD SITE INVESTIGATION REPORT

## 1.0 INTRODUCTION

This Aerially Deposited Lead (ADL) Site Investigation report for the State Route 50 (SAC-50) Ramp Meters project was prepared by Geocon Consultants, Inc. under California Department of Transportation (Caltrans) Contract No. 03A1368, Task Order (TO) Number 91, and Expense Authorization (EA) 03-1C1201.

### 1.1 Project Description and Proposed Improvements

The project area consists of eight onramps along eastbound (EB) SAC-50 between Stockton Boulevard and Folsom Boulevard located between Post Miles (PM) 0.6 to 16.9 (the Site), in Sacramento County, California. Caltrans proposes to improve the existing roadway, and eight onramps will be affected including those at Stockton Boulevard, 65<sup>th</sup> Street, Bradshaw Road, Hazel Avenue and Folsom Boulevard. The approximate project location is depicted on the Vicinity Map, Figure 1. The approximate sample locations are depicted on the Site Plans, Figures 2-1 through 2-5.

### 1.2 General Objectives

The purpose of the scope of services outlined in TO No. 91 was to evaluate whether impacts due to aerial lead deposition from motor vehicle exhaust exist in the surface and near surface soils within the project boundaries and to evaluate the yellow paint stripe for lead content. We also performed asbestos-containing material (ACM) and lead-containing paint (LCP) surveys on Bridges 24-0318 (65<sup>th</sup> Street Bridge) and 24-0120 (Natoma Overhead Bridge) located along SAC-50. The *Asbestos and Lead-containing Paint Survey Report* is presented in Appendix A.

The investigative results will be used by Caltrans to inform the construction contractor(s) if lead-impacted soil is present within the project boundaries for health, safety and soil management/disposal purposes.

## 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 Potential Lead-based Traffic Stripe Paint Impacts

Yellow traffic stripe paint utilized by Caltrans may contain lead. The potential presence of elevated lead requires sampling and analytical testing of the paint stripe materials to determine appropriate health and safety procedures and proper management and disposal practices. Disposal of removed

traffic stripe paint materials is dependent on the method utilized to remove these materials (i.e. focused stripe removal vs. pavement grinding).

### **2.3 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.

## 2.4 DTSC Variance

The DTSC issued a statewide Variance effective July 1, 2009, regarding the reuse of ADL-impacted soils within Caltrans right-of-way. Under the Variance, soil that is classified as a non-RCRA hazardous waste, based primarily on ADL content, may be suitable for reuse within Caltrans right-of-way. ADL soil that is classified as a RCRA hazardous waste is not eligible for reuse under the Variance and must be disposed of as a RCRA hazardous waste (Caltrans Type Z3).

ADL soil reused under the Variance must always be at least 5 feet above the highest groundwater elevation and, depending on lead concentrations, must be covered with at least one foot of non-hazardous soil or a pavement structure. The ADL soil may not be placed in areas where it might contact groundwater or surface water (such as streams and rivers), and must be buried in locations that are protected from erosion that may result from storm water run-on and run-off.

Review of the statewide Variance indicates the following conditions regarding the reuse and management of ADL-impacted soil as fill material for construction and maintenance operations. If ADL soil meets the Variance criteria but is not intended to be reused within Caltrans right-of-way, then the excavated soil must be disposed of as a California hazardous waste (Caltrans Type Z2). A copy of the DTSC Variance is presented in Appendix B.

### **Caltrans Type Y1**

ADL soil exhibiting a total lead concentration less than or equal to 1,411 mg/kg, a soluble lead concentration (based on a modified WET using deionized water as the extractant [DI-WET]) less than or equal to 1.5 mg/l, and a pH value greater than or equal to 5.5 may be reused within the same Caltrans corridor and must be covered with at least one foot of non-hazardous soil.

### **Caltrans Type Y2**

ADL soil exhibiting a total lead concentration less than or equal to 1,411 mg/kg, a DI-WET soluble lead concentration less than or equal to 1.5 mg/l, and a pH value greater than 5 and less than 5.5 may be reused within the same Caltrans corridor and must be covered and protected from infiltration by a pavement structure.

ADL soil exhibiting a total lead concentration less than or equal to 1,411 mg/kg, a DI-WET soluble lead concentration greater than 1.5 mg/l and less than or equal to 150 mg/l, and a pH value greater than 5 may be reused within the same Caltrans corridor and must be covered and protected from infiltration by a pavement structure.

ADL soil exhibiting a total lead concentration greater than 1,411 mg/kg and less than or equal to 3,397 mg/kg, a DI-WET (using deionized water as the extractant) soluble lead concentration less than or

equal to 150 mg/l, and a pH value greater than 5 may be reused within the same Caltrans corridor and must be covered and protected from infiltration by a pavement structure.

### **Caltrans Type Z2**

ADL soil exhibiting a total lead concentration greater than 3,397 mg/kg, a DI-WET soluble lead concentration greater than 150 mg/l, or a pH value less than or equal to 5 is not eligible for reuse under the Variance and must be disposed of as a California hazardous waste.

### **Caltrans Type Z3**

ADL soil exhibiting a TCLP soluble lead concentration greater than or equal to 5.0 mg/l is not eligible for reuse under the Variance and must be disposed of as a RCRA hazardous waste.

## **3.0 SCOPE OF SERVICES**

We performed the following scope of services as requested by Caltrans in TO No. 91:

### **3.1 Pre-field Activities**

- Conducted a TO meeting on May 27, 2009, to discuss the TO scope of services. Caltrans TO Manager Rajive Chadha and Maintenance Supervisor Ben Ramirez and Geocon representative Michael O'Brien attended the meeting. The purpose of the TO meeting was to observe the project boundaries and conditions and identify Caltrans irrigation lines. The project limits were further outlined in white paint for subsequent utility clearance.
- Prepared a *Health and Safety Plan* dated June 5, 2009, 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 (Ticket Nos. 159268, 159301, 159317, 159334, 159355, 377858, 377899 and 377948).
- 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 the samples.

### **3.2 Field Activities**

On June 15 and 16, 2009, we collected 260 soil samples for lead analysis from 96 direct-push borings. The soil borings were excavated to an approximate maximum depth of 3.0 feet. Soil samples were collected at general depths of 0.0 to 1.0 foot, 1.0 to 2.0 feet and 2.0 to 3.0 feet.

Additionally, we performed an ACM and LCP survey of Bridges 24-0318 (65<sup>th</sup> Street Bridge) and 24-0120 (Natoma Overhead Bridge). The *Asbestos and Lead-containing Paint Survey Report* is presented in Appendix A.

We collected eight yellow traffic stripe paint samples (PC1 through PC8) at the Caltrans designated sampling locations.

We performed additional soil sampling on December 22, 2009, along the onramp of EB SAC-50 at Stockton Boulevard and along the slip onramp of EB SAC-50 at 65<sup>th</sup> Street. We collected 50 surface soil samples from a depth interval of 0.0 to 0.5 foot from 50 hand-auger borings.

Following sample collection, the borings were backfilled with the soil cuttings. Details of the field activities are presented in the following sections.

## **4.0 INVESTIGATIVE METHODS**

### **4.1 Boring Location Rationale**

The following soil boring locations were designated by Caltrans in the vicinity of proposed improvements. The approximate boring locations are depicted on Figures 2-1 through 2-5.

- Borings B1 through B12 and HA1 through HA15 were advanced along the onramp of EB SAC-50 at Stockton Boulevard (Figure 2-1);
- Borings B13 through B22 were advanced along the loop onramp of EB SAC-50 at 65<sup>th</sup> Street (Figure 2-2);
- Borings B23 through B31, B33 and HA16 through HA50 were advanced along the slip onramp of EB SAC-50 at 65<sup>th</sup> Street (Figure 2-2);
- Borings B34, B35 through B40 and B53 through B56 were advanced along the loop onramp of EB SAC-50 at Bradshaw Road (Figure 2-3);
- Borings B41 through B45 and B57 through B64 were advanced along the slip onramp of EB SAC-50 at Bradshaw Road (Figure 2-3);
- Borings B46 through B52 and B78 through B82 were advanced along the slip onramp of EB SAC-50 at Hazel Avenue (Figure 2-4);
- Borings B65 through B77 were advanced along the loop onramp of EB SAC-50 at Hazel Avenue (Figure 2-4); and
- Borings B83 through B97 were advanced along the onramp of EB SAC-50 at Folsom Boulevard (Figure 2-5);

Refusal was encountered in several borings at depths between 1.0 and 3.0 feet.

The coordinates of the boring locations 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 3.0 feet. The latitude and longitude of the boring locations are summarized in Table 1.

## **4.2 Aerially Deposited Lead Soil Sampling Procedures**

A total of 310 soil samples were collected from 96 direct-push and 50 hand-auger borings excavated at the Site. Soil samples obtained from the borings were collected in cellulose thermoplastic (acetate) liners driven by the direct-push rig. The acetate liners were cut to separate the sample by depth, then the sample from a particular interval was opened and the soil sample was transferred to a Ziploc<sup>®</sup> re-sealable plastic bag. Soil samples obtained using a hand-auger were transferred directly from the hand-auger to Ziploc<sup>®</sup> 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<sup>™</sup> 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. The decontamination water was discharged to the ground surface away from surface water bodies or storm drain inlets.

## **4.3 ACM and LCP Bridge Surveys**

A total of 14 bulk samples of suspect ACM were collected from the bridges. The samples were collected after the material was wetted with a light mist of water. The samples were then cut from the substrate and transferred to a labeled Ziploc<sup>®</sup> re-sealable plastic bag. Sampling locations were distributed throughout the homogeneous area (spaces where the material was observed).

We did not observe painted surfaces on either bridge during our surveys; therefore, paint samples were not collected for lead analysis. The *Asbestos and Lead-containing Paint Survey Report* is presented in Appendix A.

## **4.4 Traffic Control**

Caltrans provided traffic control, including the use of an attenuator truck, during the field sampling activities.

## **4.5 Laboratory Analyses**

The samples collected within the project boundaries were submitted to ATL and EMSL for laboratory analyses.

#### **4.5.1 Lead**

The soil samples were submitted to ATL for the following analyses under five-day turn-around-time (TAT). The laboratory was instructed to homogenize the soil samples prior to analysis for lead in accordance with Contract 03A1368 requirements.

- Three hundred ten soil samples were analyzed for total lead following United States Environmental Protection Agency (EPA) Test Method 6010B.
- Forty-five 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 under 72-hour TAT.
- Forty-four 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 DI-WET soluble lead by EPA Test Method 7420.
- Six soil samples with total lead concentrations greater than or equal to 1,000 mg/kg (TTLC value for lead) were further analyzed for TCLP soluble lead by EPA Test Method 1311.
- Twenty-two soil samples were analyzed for soil pH following EPA Test Method 9045.
- Eight traffic stripe paint chip samples were analyzed for total lead following United States Environmental Protection Agency (EPA) Test Method 6010B.
- Four traffic stripe paint 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 under standard ten-day TAT.

#### **4.5.2 ACM Bridge Survey Samples**

The 14 samples collected during the bridge survey were analyzed by EMSL for asbestos analysis in accordance with EPA Test Method 600/R-93/116 using polarized light microscopy (PLM) under COC protocol.

#### **4.5.3 Laboratory QA/QC**

QA/QC procedures were performed for each method of analysis with specificity for each analyte listed in the test method's QA/QC. The laboratory 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 C.

## **5.0 FIELD OBSERVATIONS AND INVESTIGATIVE RESULTS**

### **5.1 Soil Conditions**

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

### **5.2 ADL Soil Analytical Results**

A summary of the soil analytical results are presented in Table 2. The laboratory reports and COC documentation are presented in Appendix C.

#### **5.2.1 Stockton Boulevard Onramp**

Total lead was detected in 41 of the 51 soil samples analyzed at concentrations ranging from 5.1 to 520 mg/kg. Twenty-four of the 51 soil samples had reported total lead concentrations greater than 50 mg/kg (ten times the STLC value for lead of 5.0 mg/l).

Thirteen of the 24 samples with reported total lead concentrations greater than 50 mg/kg (ten times the STLC value for lead of 5.0 mg/l) collected in June 2009 were analyzed for WET soluble lead. WET soluble lead was reported for 12 of the 13 soil samples at concentrations ranging from 2.7 to 43 mg/l. Eleven of the 13 soil samples had reported WET soluble lead concentrations greater than the STLC value for lead of 5.0 mg/l.

Eleven of the 24 samples with reported total lead concentrations greater than 50 mg/kg (ten times the STLC value for lead of 5.0 mg/l) collected in December 2009 were analyzed for DI-WET soluble lead. DI-WET soluble lead was not detected in the eleven soil samples analyzed.

Soil pH values ranged from 7.0 to 7.7.

#### **5.2.2 65th Street Onramp – Loop**

Total lead was detected in 20 of the 30 soil samples analyzed at concentrations ranging from 5.0 to 620 mg/kg. Five of the 30 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 reported for each of the five soil samples analyzed at concentrations ranging from 3.8 to 48 mg/l. Four of the five soil samples had reported WET soluble lead concentrations greater than the STLC value for lead of 5.0 mg/l.

Soil pH value for soil sample B16-0 was 7.9.

### **5.2.3 65th Street Onramp – Slip**

Total lead was detected in 58 of the 65 soil samples analyzed at concentrations ranging from 5.0 to 1,500 mg/kg. Forty-one of the 65 soil samples had reported total lead concentrations greater than 50 mg/kg (ten times the STLC value for lead of 5.0 mg/l). Six soil samples had total lead concentrations greater than or equal to the lead TTLC of 1,000 mg/kg.

Eight of the 41 samples with reported total lead concentrations greater than 50 mg/kg (ten times the STLC value for lead of 5.0 mg/l) collected in June 2009 were analyzed for WET soluble lead. WET soluble lead was reported for each of the eight soil samples analyzed at concentrations ranging from 3.2 to 48 mg/l. Seven of the eight soil samples had reported WET soluble lead concentrations greater than the STLC value for lead of 5.0 mg/l.

Thirty-three of the 41 samples with reported total lead concentrations greater than 50 mg/kg (ten times the STLC value for lead of 5.0 mg/l) collected in December 2009 were analyzed for DI-WET soluble lead. DI-WET soluble lead was detected in seven of the 33 soil samples analyzed at concentrations ranging from 0.34 to 0.95 mg/l.

TCLP lead was reported for the six soil samples analyzed at concentrations ranging from 1.3 to 4.5 mg/l, less than the TCLP value for lead of 5.0 mg/l.

Soil pH values ranged from 4.7 to 8.1.

### **5.2.4 Bradshaw Road Onramp – Loop**

Total lead was detected in 25 of the 32 soil samples analyzed at concentrations ranging from 5.5 to 56 mg/kg. One of the 32 soil samples had a reported total lead concentration greater than 50 mg/kg (ten times the STLC value for lead of 5.0 mg/l).

Soil pH value for soil sample B35-0 was 7.5.

### **5.2.5 Bradshaw Road Onramp – Slip**

Total lead was detected in 38 of the 39 soil samples analyzed at concentrations ranging from 5.5 to 85 mg/kg. One of the 39 soil samples had a reported total lead concentration greater than 50 mg/kg (ten times the STLC value for lead of 5.0 mg/l).

Soil pH value for soil sample B42-2 was 8.2.

### **5.2.6 Hazel Avenue Onramp – Slip**

Total lead was detected in 20 of the 26 soil samples analyzed at concentrations ranging from 12 to 390 mg/kg. Sixteen of the 26 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 reported for 15 of the 16 soil samples analyzed at concentrations ranging from 0.53 to 18 mg/l. Five of the 16 soil samples had reported WET soluble lead concentrations greater than the STLC value for lead of 5.0 mg/l.

Soil pH value for soil sample B49-0 was 7.8.

### **5.2.7 Hazel Avenue Onramp – Loop**

Total lead was detected in 31 of the 32 soil samples analyzed at concentrations ranging from 5.7 to 87 mg/kg. Three of the 32 soil samples had reported total lead concentrations greater than 50 mg/kg (ten times the STLC value for lead of 5.0 mg/l).

Soil pH value for soil sample B68-1 was 7.5.

### **5.2.8 Folsom Boulevard Onramp**

Total lead was detected in 31 of the 35 soil samples analyzed at concentrations ranging from 5.4 to 720 mg/kg. Three of the 35 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 reported for each of the three soil samples analyzed at concentrations ranging from 2.0 to 35 mg/l. Two of the three soil samples had reported WET soluble lead concentrations greater than the STLC value for lead of 5.0 mg/l.

## **5.3 Traffic Stripe Paint Analytical Results**

Total lead was detected in five of the eight traffic stripe paint samples at concentrations ranging from 46 to 820 mg/kg, less than the California hazardous waste threshold (TTLC) of 1,000 mg/kg for lead.

Four of the eight traffic stripe paint 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 reported for each of the four traffic stripe paint samples analyzed at concentrations ranging from 0.29 to 7.4 mg/l. Only one of four traffic stripe paint samples (PC4) had a reported WET soluble lead concentration greater than the STLC value for lead of 5.0 mg/l.

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. The analytical results of the traffic stripe paint samples are summarized on Table 3. Laboratory reports and COC documentation are presented in Appendix C.

#### **5.4 ACM Bridge Sample Analytical Results**

Chrysotile asbestos at a concentration of 50% was detected in a sample representing nonfriable sheet packing used as shims on the barrier rail systems of Bridge 24-0318 (65<sup>th</sup> Street Bridge). We were not able to quantify the amount of sheet packing due to safety concerns (i.e., traffic).

Chrysotile asbestos at a concentration of 50% was detected in samples representing nonfriable sheet packing used as shims on the barrier rail systems of Bridge 24-120 (Natoma Overhead Bridge). We were not able to quantify the amount of sheet packing due to safety concerns (i.e., traffic).

Chrysotile asbestos at a concentration of 3% was detected in a sample representing nonfriable thread compound used on the barrier rail systems of Bridge 24-120 (Natoma Overhead Bridge). We were not able to quantify the thread compound due to safety concerns (i.e., traffic).

No asbestos was detected in samples of the remaining suspect materials collected during our survey. The *Asbestos and Lead-containing Paint Survey Report* is presented in Appendix A.

#### **5.5 Laboratory Quality Assurance/Quality Control**

We reviewed the laboratory QA/QC provided with the laboratory reports. Duplicates, Matrix Spikes, and Matrix Spike Duplicates were outside criteria for several samples. However, the analytical batch was validated by the Laboratory Control Sample. The case narrative additionally states that dilution was necessary for several samples due to sample matrix for method 7420. Based on the laboratory QA/QC data, no additional qualification of the data presented herein is necessary, and the data are of sufficient quality for the purposes of this report.

## 5.6 Statistical Evaluation for Lead Detected in Soil Samples

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

- Sample Population 'A' consists of soil samples collected from borings B1 through B12 and HA1 through HA15 located along the Stockton Boulevard onramp.
- Sample Population 'B' consists of soil samples collected from borings B13 through B22 located along the 65<sup>th</sup> Street loop onramp.
- Sample Population 'C' consists of soil samples collected from borings B23 through B31, B33 and HA16 through HA50 located along the 65<sup>th</sup> Street slip onramp.
- Sample Population 'D' consists of soil samples collected from borings B34 through B40 and B53 through B56 located along the Bradshaw Road loop onramp.
- Sample Population 'E' consists of soil samples collected from borings B41 through B45 and B57 through B64 located along the Bradshaw Road slip onramp.
- Sample Population 'F' consists of soil samples collected from borings B65 through B77 located along the Hazel Avenue loop onramp.
- Sample Population 'G' consists of soil samples collected from borings B46 through B52 and B78 through B82 located along the Hazel Avenue slip onramp.
- Sample Population 'H' consists of soil samples collected from borings B83 through B97 located along the Folsom Boulevard onramp.

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 WET 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.

### **5.6.1 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 MRL, a value equal to one-half of the reporting limit was used in the UCL calculation. The bootstrap results for each sample population are included in Appendix D. The calculated UCLs and statistical results are summarized in the following tables:

**Sample Population ‘A’ - Borings B1 through B12 and HA1 through HA15  
(Stockton Boulevard Onramp)**

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 1.0	200.0	210.3	163.5	9.2	520
1.0 to 2.0	32.8	37.6	18.2	2.5	150
2.0 to 3.0	18.7	20.4	12.3	2.5	68

**Sample Population ‘B’ - Borings B13 through B22  
(65<sup>th</sup> Street Onramp - Loop)**

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 1.0	193.1	218.1	126.5	20	620
1.0 to 2.0	7.9	8.5	6.0	2.5	18
2.0 to 3.0	5.1	5.3	4.3	2.5	6.8

**Sample Population ‘C’ - Borings B23 through B31, B33 and HA16 through HA50  
(65<sup>th</sup> Street Onramp - Slip)**

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 1.0	460.3	483.4	376.4	18	1,500
1.0 to 2.0	6.1	6.3	5.2	2.5	8.8
2.0 to 3.0	10.4	11.1	7.6	2.5	24

**Sample Population 'D' - Borings B34 through B40 and B53 through B56  
(Bradshaw Road Onramp - Loop)**

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 1.0	21.7	23.1	16.8	2.5	43
1.0 to 2.0	16.7	17.5	13.3	2.5	24
2.0 to 3.0	17.9	19.8	11.4	2.5	56

**Sample Population 'E' - Borings B41 through B45 and B57 through B64  
(Bradshaw Road Onramp - Slip)**

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 1.0	15.0	15.5	13.4	6.2	22
1.0 to 2.0	22.1	23.9	14.8	2.5	85
2.0 to 3.0	11.8	12.2	10.2	5.5	19

**Sample Population 'F' - Borings B65 through B77  
(Hazel Avenue Onramp - Loop)**

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 1.0	42.2	45.0	33.1	5.7	87
1.0 to 2.0	22.2	23.4	17.9	5.8	41
2.0 to 3.0	15.8	17.0	11.4	2.5	38

**Sample Population 'G' - Borings B46 through B52 and B78 through B82  
(Hazel Avenue Onramp - Slip)**

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 1.0	119.2	124.6	97.8	30	220
1.0 to 2.0	141.5	154.4	85.2	2.5	390
2.0 to 3.0	45.0	50.2	27.1	2.5	92

**Sample Population 'H' - Borings B83 through B97  
(Folsom Boulevard Onramp)**

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 1.0	145.1	160.1	87.2	5.4	720
1.0 to 2.0	14.4	15.2	11.6	2.5	26
2.0 to 3.0	12.0	12.8	9.5	2.5	19

## **5.6.2 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 5.6.1.

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 coefficients* for the Stockton Boulevard onramp, 65<sup>th</sup> Street onramps, Hazel Avenue onramps and Folsom Boulevard onramp were calculated for the ( $x$ ,  $y$ ) data points (i.e., soil samples analyzed for both total lead [ $x$ ] and WET soluble lead [ $y$ ]). A *correlation coefficient* greater than or equal to 0.8 is an acceptable indicator that a correlation exists.

The *correlation coefficients* for Sample Populations A (Stockton Boulevard onramp), B/C (65<sup>th</sup> Street loop/slip onramps), F/G (Hazel Avenue loop/slip onramps) and H (Folsom Boulevard onramp) equaled 0.8489, 0.9119, 0.8486 and 0.9871, respectively, which indicate a good correlation between total lead and WET soluble lead data. To achieve an acceptable correlation for Sample Populations B/C (65<sup>th</sup> Street loop/slip onramps), the total and WET soluble lead data from sample B31-0 (190, 48) were excluded from the regression analysis. The excluded total and WET soluble lead data have the highest squared residual WET soluble lead value (presented in Appendix D). Consequently, excluding this data point from the regression yields an acceptable *correlation coefficient* 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  $y = 0.0952(x)$  for Sample Population A (Stockton Boulevard onramp),  $y = 0.0601(x)$  for Sample Populations B and C (65<sup>th</sup> Street onramps),  $y = 0.0397(x)$  for Sample Populations F and G (Hazel Avenue onramps) and  $y = 0.0498(x)$  for Sample Population H (Folsom Boulevard onramp), where  $x$  represents total lead concentrations and  $y$  represents predicted WET soluble lead concentrations.

Regression line was not determined for Sample Populations D and E (Bradshaw onramps) since the calculated 90% and 95% total lead UCLs for these sample populations are less than 50 mg/kg.

These equations were used to estimate the expected WET soluble lead concentrations for the UCLs calculated in Section 5.6.1. Regression analysis results and a scatter plot depicting the (x, y) data points along with the regression lines are presented in Appendix D. The 90% and 95% UCL-predicted WET soluble lead concentrations are presented in Section 6.0.

## 6.0 CONCLUSIONS AND RECOMMENDATIONS

Hazardous waste classification based on the 90% UCL is considered sufficient to satisfy a good faith effort as discussed in SW-846. Risk assessment characterization is typically based on the 95% UCL in accordance with the Risk Assessment Guidance for Superfund (RAGS) Volume 1 Documentation for Exposure Assessment. Per Caltrans, 90% UCLs are to be used to evaluate onsite reuse, and 95% UCLs are to be used to evaluate offsite reuse or disposal. In addition, the reuse of excavated soil at the Stockton Boulevard and 65<sup>th</sup> Street slip onramps was evaluated, as applicable, based on the DTSC requirements for the statewide Variance.

Based on the TCLP soluble lead result of less than 5.0 mg/l, soil generated at the Site will not require disposal as a RCRA hazardous waste. 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 Stockton Boulevard Onramp – Borings B1 through B12 and HA1 through HA15

The table below summarizes the excavation scenarios, the UCL-predicted WET soluble lead calculations and the waste classification for excavated soil within this area based on the calculated total lead UCLs and the relationship between total and WET soluble lead.

Excavation Depth	90% UCL Total Lead (mg/kg)	90% UCL Predicted WET Lead (mg/l)	95% UCL Total Lead (mg/kg)	95% UCL Predicted WET Lead (mg/l)	Waste Classification
0.0 to 1.0 foot	200.0	<b>19.0</b>	210.3	<b>20.0</b>	<b>Hazardous</b>
<i>Underlying soil (1.0 to 3.0 feet)</i>	<i>25.8</i>	<i>2.5</i>	<i>29.0</i>	<i>2.8</i>	<i>Non-hazardous</i>
0.0 to 2.0 feet	116.4	<b>11.1</b>	124.0	<b>11.8</b>	<b>Hazardous</b>
<i>Underlying soil (2.0 to 3.0 feet)</i>	<i>18.7</i>	<i>1.8</i>	<i>20.4</i>	<i>1.9</i>	<i>Non-hazardous</i>
0.0 to 3.0 feet	83.8	<b>8.0</b>	89.4	<b>8.5</b>	<b>Hazardous</b>

90% UCL applicable for waste classification and onsite reuse; 95% UCL applicable for risk assessment and offsite disposal  
 Predicted WET lead concentrations were calculated using the equation of the regression line:  $y = 0.0952x$

Based on the above table, soil excavated from the surface to 1.0 foot and proposed for onsite reuse would be classified as a California hazardous waste since the 90% UCL-predicted WET lead concentration is greater than the STLC value for lead of 5.0 mg/l. Soil excavated from the surface to 1.0 foot may be reused onsite (as Caltrans Type Y1 material) in accordance with the DTSC Variance and must be covered by at least one foot of non-hazardous soil or a pavement structure since the DI-WET lead levels are less than 1.5 mg/l and the pH values are greater than 5.5. If the top 1.0 foot of excavated soil will not be reused onsite, then the excavated soil should be either (1) managed and

disposed of as a California hazardous waste since the 95% UCL-predicted WET lead concentration is greater than the STLC value for lead of 5.0 mg/l or (2) stockpiled and resampled to confirm waste classification in accordance with specific disposal facility acceptance criteria, if applicable.

Underlying soil (i.e., soil from depths of 1.0 to 3.0 feet) where excavated and managed separately would not be classified as a California hazardous waste and can be reused onsite or disposed of as non-hazardous soil since the 90% and 95% UCL-predicted WET lead concentrations are less than the STLC value for lead of 5.0 mg/l.

## 6.2 65<sup>th</sup> Street Onramp (Loop) – Borings B13 through B22

The table below summarizes the excavation scenarios, the UCL-predicted WET soluble lead calculations and the waste classification for excavated soil within this area based on the calculated total lead UCLs and the relationship between total and WET soluble lead.

Excavation Depth	90% UCL Total Lead (mg/kg)	90% UCL Predicted WET Lead (mg/l)	95% UCL Total Lead (mg/kg)	95% UCL Predicted WET Lead (mg/l)	Waste Classification
0.0 to 1.0 foot	193.1	11.6	218.1	13.1	Hazardous
<i>Underlying soil (1.0 to 3.0 feet)</i>	6.5	0.4	6.9	0.4	<i>Non-hazardous</i>
0.0 to 2.0 feet	100.5	6.0	113.3	6.8	Hazardous
<i>Underlying soil (2.0 to 3.0 feet)</i>	5.1	0.3	5.3	0.3	<i>Non-hazardous</i>
0.0 to 3.0 feet	68.7	4.1	77.3	4.6	Non-hazardous

90% UCL applicable for waste classification and onsite reuse; 95% UCL applicable for risk assessment and offsite disposal  
 Predicted WET lead concentrations were calculated using the equation of the regression line:  $y = 0.0601x$

Based on the above table, soil generated from excavations to 3.0 feet would not be classified as a California hazardous waste since the 90% and 95% UCL-predicted WET soluble lead concentrations are less than the lead STLC of 5.0 mg/l. Consequently, if the top 3.0 feet of soil is excavated as a whole, then soil generated from the top 3.0 feet could be reused or disposed of as non-hazardous soil with respect to lead content.

If excavation is 2.0 feet or shallower in depth, then soil generated from the top 2.0 feet would be classified as a California-hazardous waste since the 90% and 95% UCL-predicted WET soluble lead concentrations are greater than the STLC value for lead of 5.0 mg/l. Consequently, the top 2.0 feet of excavated soil should be either (1) managed and disposed of as a California-hazardous waste or (2) stockpiled and resampled to confirm waste classification in accordance with specific disposal facility acceptance criteria, if applicable.

The reuse of excavated soil from the top 2.0 feet was not evaluated based on the DTSC Variance due to lack of DI-WET soluble lead data for the soil samples collected at this location.

### 6.3 65<sup>th</sup> Street Onramp (Slip) – Borings B23 through B31, B33 and HA16 through HA50

The table below summarizes the excavation scenarios, the UCL-predicted WET soluble lead calculations and the waste classification for excavated soil within this area based on the calculated total lead UCLs and the relationship between total and WET soluble lead.

<b>Excavation Depth</b>	<b>90% UCL Total Lead (mg/kg)</b>	<b>90% UCL Predicted WET Lead (mg/l)</b>	<b>95% UCL Total Lead (mg/kg)</b>	<b>95% UCL Predicted WET Lead (mg/l)</b>	<b>Waste Classification</b>
0.0 to 1.0 foot	460.3	<b>27.7</b>	483.4	<b>29.1</b>	<b>Hazardous</b>
<i>Underlying soil (1.0 to 3.0 feet)</i>	8.3	0.5	8.7	0.5	<i>Non-hazardous</i>
0.0 to 2.0 feet	233.2	<b>14.0</b>	244.9	<b>14.7</b>	<b>Hazardous</b>
<i>Underlying soil (2.0 to 3.0 feet)</i>	10.4	0.6	11.1	0.7	<i>Non-hazardous</i>
0.0 to 3.0 feet	158.9	<b>9.6</b>	166.9	<b>10.0</b>	<b>Hazardous</b>

90% UCL applicable for waste classification and onsite reuse; 95% UCL applicable for risk assessment and offsite disposal  
 Predicted WET lead concentrations were calculated using the equation of the regression line:  $y = 0.0601x$

Based on the above table, soil excavated from the surface to 1.0 foot and proposed for onsite reuse would be classified as a California hazardous waste since the 90% UCL-predicted WET lead concentration is greater than the STLC value for lead of 5.0 mg/l. Soil excavated from the surface to 1.0 foot may be reused onsite (as Caltrans Type Y1 material) in accordance with the DTSC Variance and must be covered by at least one foot of non-hazardous soil or a pavement structure since the DI-WET lead levels are less than 1.5 mg/l and the average pH is 6.3. If the top 1.0 foot of excavated soil will not be reused onsite, then the excavated soil should be either (1) managed and disposed of as a California hazardous waste since the 95% UCL-predicted WET lead concentration is greater than the STLC value for lead of 5.0 mg/l or (2) stockpiled and resampled to confirm waste classification in accordance with specific disposal facility acceptance criteria, if applicable.

Underlying soil (i.e., soil from depths of 1.0 to 3.0 feet) where excavated and managed separately would not be classified as a California hazardous waste and can be reused onsite or disposed of as non-hazardous soil since the 90% and 95% UCL-predicted WET lead concentrations are less than the STLC value for lead of 5.0 mg/l.

**6.4 Bradshaw Road Onramp (Loop) – Borings B34 through B40 and B53 through B56**

Soil materials excavated to the maximum sampling depth of 3.0 feet within this area can be reused onsite or disposed of as non-hazardous soil since the calculated 90% and 95% total lead UCLs are less than 50 mg/kg.

**6.5 Bradshaw Road Onramp (Slip) – Borings B41 through B45 and B57 through B64**

Soil materials excavated to the maximum sampling depth of 3.0 feet within this area can be reused onsite or disposed of as non-hazardous soil since the calculated 90% and 95% total lead UCLs are less than 50 mg/kg.

**6.6 Hazel Avenue Onramp (Slip) – Borings B46 through B52 and B78 through B82**

The table below summarizes the excavation scenarios, the UCL-predicted WET soluble lead calculations and the waste classification for excavated soil within this area based on the calculated total lead UCLs and the relationship between total and WET soluble lead.

Excavation Depth	90% UCL Total Lead (mg/kg)	90% UCL Predicted WET Lead (mg/l)	95% UCL Total Lead (mg/kg)	95% UCL Predicted WET Lead (mg/l)	Waste Classification
0.0 to 1.0 foot	119.2	4.7	124.6	4.9	<i>Non-hazardous</i>
<i>Underlying soil (1.0 to 3.0 feet)</i>	<i>93.3</i>	<i>3.7</i>	<i>102.3</i>	<i>4.1</i>	<i>Non-hazardous</i>
0.0 to 2.0 feet	130.4	<b>5.2</b>	139.5	<b>5.5</b>	<b>Hazardous</b>
<i>Underlying soil (2.0 to 3.0 feet)</i>	<i>45.0</i>	<i>1.8</i>	<i>50.2</i>	<i>2.0</i>	<i>Non-hazardous</i>
0.0 to 3.0 feet	101.9	4.0	109.7	4.4	<i>Non-hazardous</i>

90% UCL applicable for waste classification and onsite reuse; 95% UCL applicable for risk assessment and offsite disposal  
 Predicted WET lead concentrations were calculated using the equation of the regression line:  $y = 0.0397x$

Based on the above table, soil generated from excavations to 3.0 feet would not be classified as a California hazardous waste since the 90% and 95% UCL-predicted WET soluble lead concentrations are less than the lead STLC of 5.0 mg/l. Consequently, if the top 3.0 feet of soil is excavated as a whole, then soil generated from the top 3.0 feet could be reused or disposed of as non-hazardous soil with respect to lead content.

If excavation is 1.0 foot in depth, then soil generated from excavations to 1.0 foot would not be classified as a California-hazardous waste and can be reused onsite or disposed of as non-hazardous soil since the 90% and 95% UCL-predicted WET soluble lead concentrations are less than the STLC value for lead of 5.0 mg/l.

If excavation is 2.0 feet in depth, then soil generated from excavations to 2.0 feet would be classified as a California-hazardous waste since the 90% and 95% UCL-predicted WET soluble lead concentrations are greater than the STLC value for lead of 5.0 mg/l. Consequently, soil generated from excavations to 2.0 feet should be either (1) managed and disposed of as a California-hazardous waste or (2) stockpiled and resampled to confirm waste classification in accordance with specific disposal facility acceptance criteria, if applicable.

The reuse of excavated soil from excavations to 2.0 feet was not evaluated based on the DTSC Variance due to lack of DI-WET soluble lead data for the soil samples collected at this location.

### 6.7 Hazel Avenue Onramp (Loop) – Borings B65 through B77

Soil materials excavated to the maximum sampling depth of 3.0 feet within this area can be reused onsite or disposed of as non-hazardous soil since the calculated 90% and 95% total lead UCLs are less than 50 mg/kg.

### 6.8 Folsom Boulevard Onramp – Borings B83 through B97

The table below summarizes the excavation scenarios, the UCL-predicted WET soluble lead calculations and the waste classification for excavated soil within this area based on the calculated total lead UCLs and the relationship between total and WET soluble lead.

Excavation Depth	90% UCL Total Lead (mg/kg)	90% UCL Predicted WET Lead (mg/l)	95% UCL Total Lead (mg/kg)	95% UCL Predicted WET Lead (mg/l)	Waste Classification
0.0 to 1.0 foot	145.1	7.2	160.1	8.0	Hazardous
<i>Underlying soil (1.0 to 3.0 feet)</i>	<i>13.2</i>	<i>0.7</i>	<i>14.0</i>	<i>0.7</i>	<i>Non-hazardous</i>
0.0 to 2.0 feet	79.8	4.0	87.7	4.4	Non-hazardous
<i>Underlying soil (2.0 to 3.0 feet)</i>	<i>12.0</i>	<i>0.6</i>	<i>12.8</i>	<i>0.6</i>	<i>Non-hazardous</i>
0.0 to 3.0 feet	57.2	2.8	62.7	3.1	Non-hazardous

90% UCL applicable for waste classification and onsite reuse; 95% UCL applicable for risk assessment and offsite disposal  
 Predicted WET lead concentrations were calculated using the equation of the regression line:  $y = 0.0498x$

Based on the above table, soil excavated from the top 2.0 to 3.0 feet would not be classified as a California hazardous waste since the 90% and 95% UCL-predicted WET soluble lead concentrations are less than the lead STLC of 5.0 mg/l. Consequently, the top 2.0 to 3.0 feet of excavated soil could be reused or disposed of as non-hazardous soil with respect to lead content.

If excavation is 1.0 foot or shallower in depth, then soil generated from the top 1.0 foot would be classified as a California-hazardous waste since the 90% and 95% UCL-predicted WET soluble lead

concentrations are greater than the STLC value for lead of 5.0 mg/l. Consequently, the top 1.0 foot of excavated soil should be either (1) managed and disposed of as a California-hazardous waste or (2) stockpiled and resampled to confirm waste classification in accordance with specific disposal facility acceptance criteria, if applicable.

The reuse of excavated soil from the top 1.0 foot was not evaluated based on the DTSC Variance due to lack of DI-WET soluble lead data for the soil samples collected at this location.

## **6.9 Traffic Paint Samples**

The yellow 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.

The highest reported concentration of total lead for the yellow traffic stripe paint samples was 820 mg/kg, less than the TTLC value for lead of 1,000 mg/kg. The yellow traffic stripe paint at the Site will not require disposal as a RCRA hazardous waste. The reported WET soluble lead levels for the traffic stripe paint samples ranged from 0.29 to 7.4 mg/l (PC4). Since one of the traffic stripe paint samples (PC4) collected at the Bradshaw Road loop onramp had a WET soluble lead concentration greater than the STLC value for lead of 5.0 mg/l, the yellow traffic stripe paint may require disposal as a California hazardous waste. Analytical testing of the yellow traffic stripe paint waste stream would be required to determine appropriate disposal options.

## **6.10 ACM Bridge Surveys**

NESHAP regulations do not require that asbestos-containing sheet packing or thread compound (Category I nonfriable/nonhazardous materials) identified during our survey be removed prior to demolition or be treated as hazardous waste. However, the disturbance of these materials is still covered by the Cal/OSHA asbestos standard (Title 8, CCR Section 1529). We recommend that a licensed contractor registered with Cal/OSHA for asbestos-related work perform any activities that would disturb the materials. Contractors are responsible for informing the landfill of the contractor's intent to dispose of asbestos waste. Some landfills may require additional waste characterization. Contractors are responsible for segregating and characterizing waste streams prior to disposal.

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

Written notification to U.S. EPA Region IX and the California Air Resources Board is required ten working days prior to commencement of *any* demolition activity (whether asbestos is present or not). In accordance with Title 8, CCR 341.9, written notification to the nearest Cal/OSHA district office is required at least 24 hours prior to certain asbestos-related work.

### **6.11 Worker Protection**

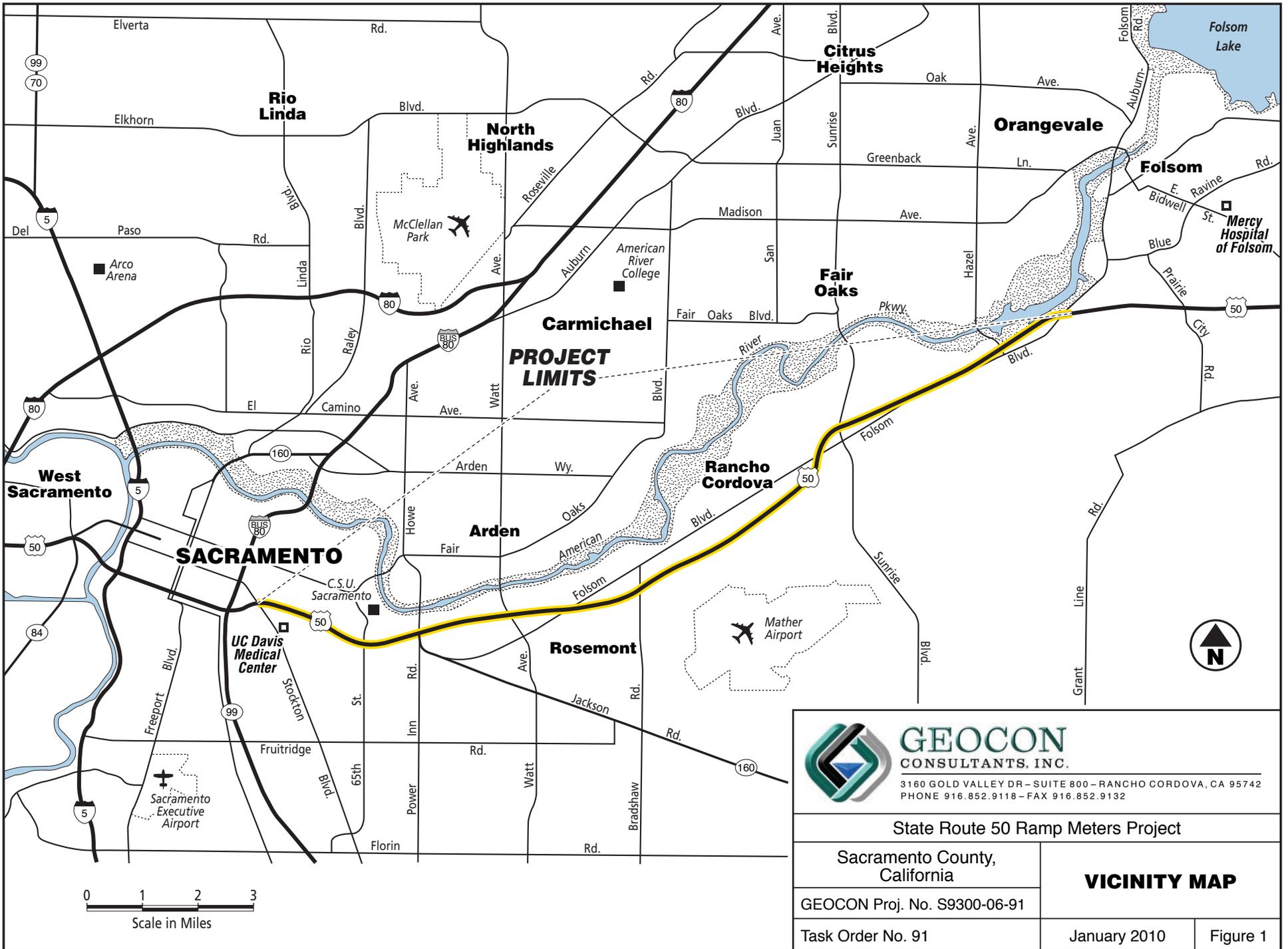
Per Caltrans' requirements, the contractor(s) should prepare a project-specific Lead Compliance Plan (CCR Title 8, Section 1532.1, the "Lead in Construction" standard) to minimize worker exposure to lead-impacted soil. The plan should include protocols for environmental and personnel monitoring, requirements for personal protective equipment, and other health and safety protocols and procedures for the handling of lead-impacted soil.

Since material at the Site contains lead and according to Caltrans, removal of the yellow traffic stripe paint may produce toxic waste materials, we recommend that a health and safety plan be prepared to minimize worker exposure. The health and safety plan should include a discussion of the constituents of concern, routes of exposure, permissible exposure limits, and personal protective measures. The health and safety 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 50 Ramp Meters Project

Sacramento County,  
California

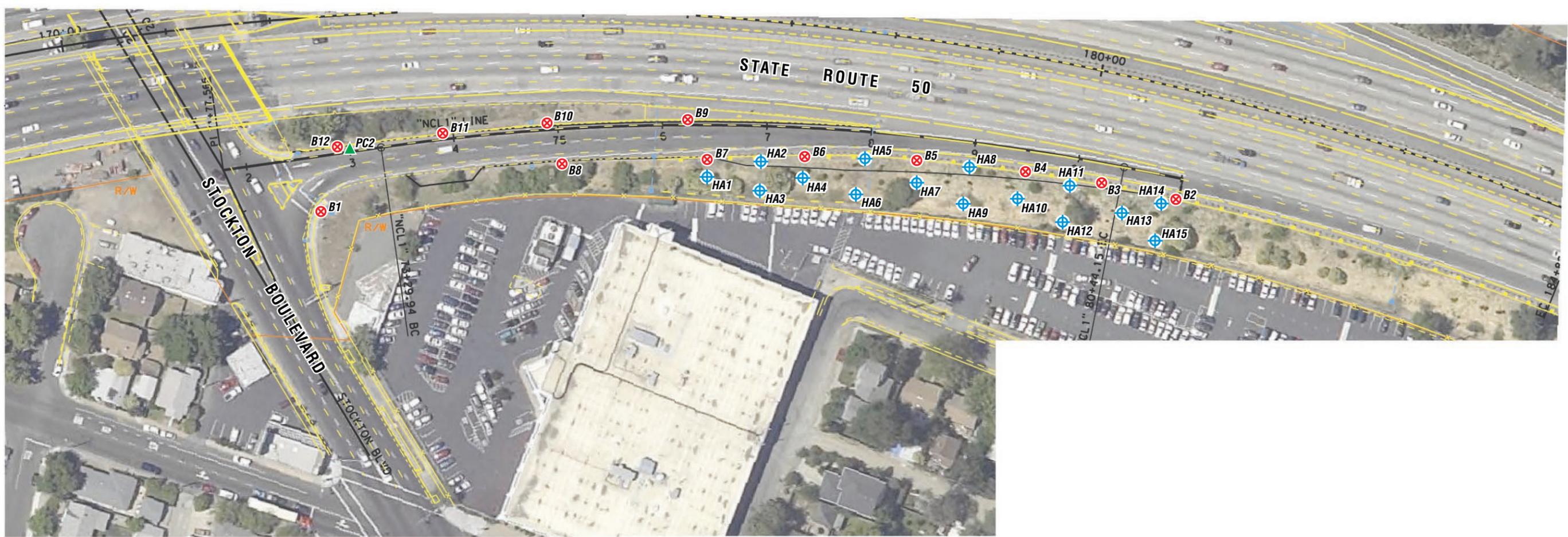
**VICINITY MAP**

GEOCON Proj. No. S9300-06-91

Task Order No. 91

January 2010

Figure 1

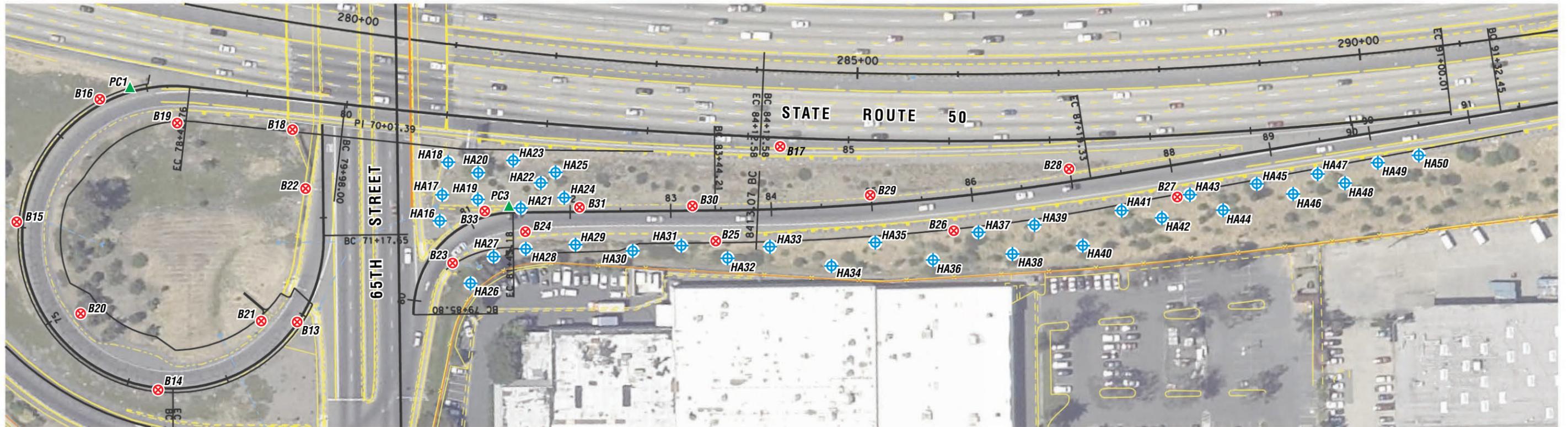


LEGEND:

- HA1 Approximate ADL Boring Location (December 2009)
- B1 Approximate ADL Boring Location (June 2009)
- PC1 Approximate Paint Chip Sample Location



 <p>3160 GOLD VALLEY DR - SUITE 800 - RANCHO CORDOVA, CA 95742 PHONE 916.852.9118 - FAX 916.852.9132</p>	
State Route 50 Ramp Meters Project	
Sacramento County, California	<b>SITE PLAN</b>
GEOCON Proj. No. S9300-06-91	
Task Order No. 91	January 2010
	Figure 2-1



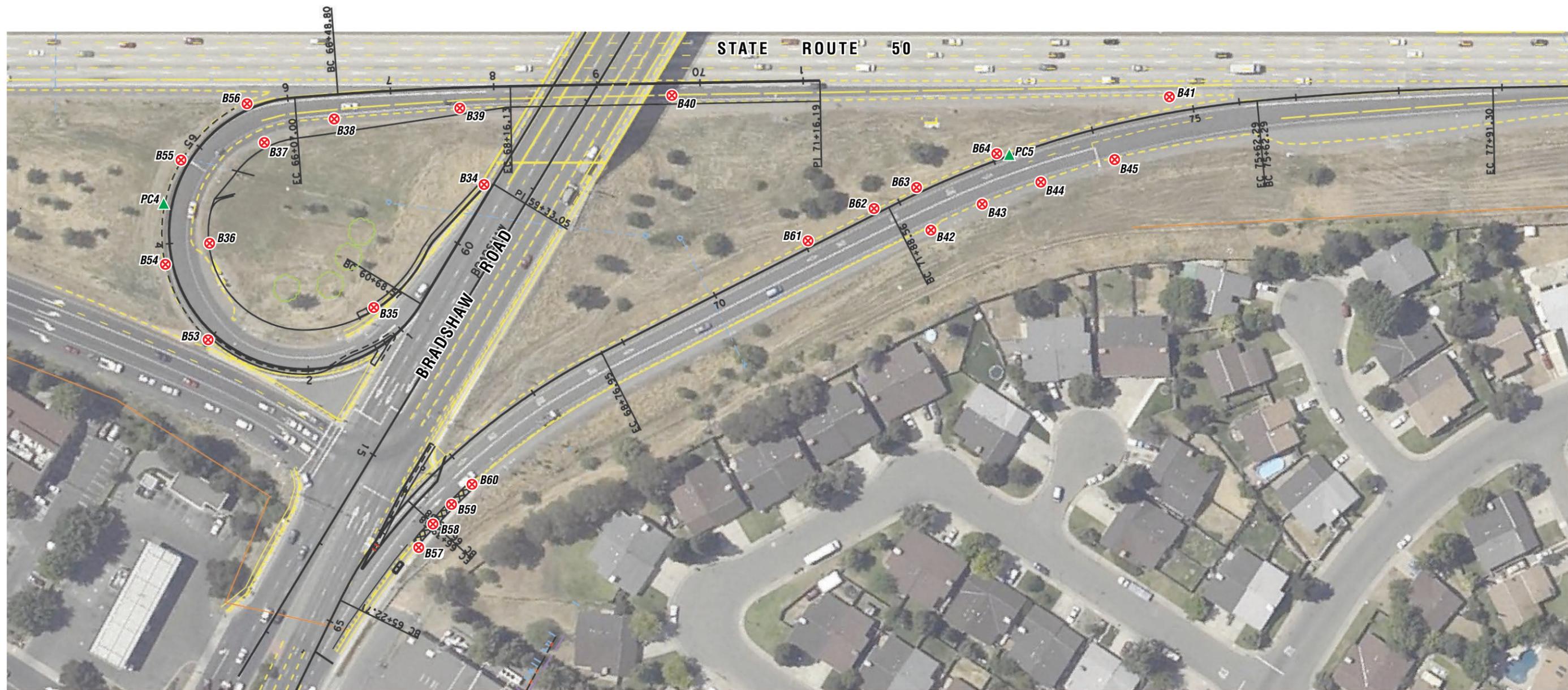
LEGEND:

- HA1 Approximate ADL Boring Location (December 2009)
- B1 Approximate ADL Boring Location (June 2009)
- PC1 Approximate Paint Chip Sample Location



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State Route 50 Ramp Meters Project		
Sacramento County, California		<b>SITE PLAN</b>
GEOCON Proj. No. S9300-06-91		
Task Order No. 91	January 2010	Figure 2-2



LEGEND:

- B1** ⊗ Approximate ADL Boring Location (June 2009)
- PC1** ▲ Approximate Paint Chip Sample Location



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State Route 50 Ramp Meters Project

Sacramento County,  
California

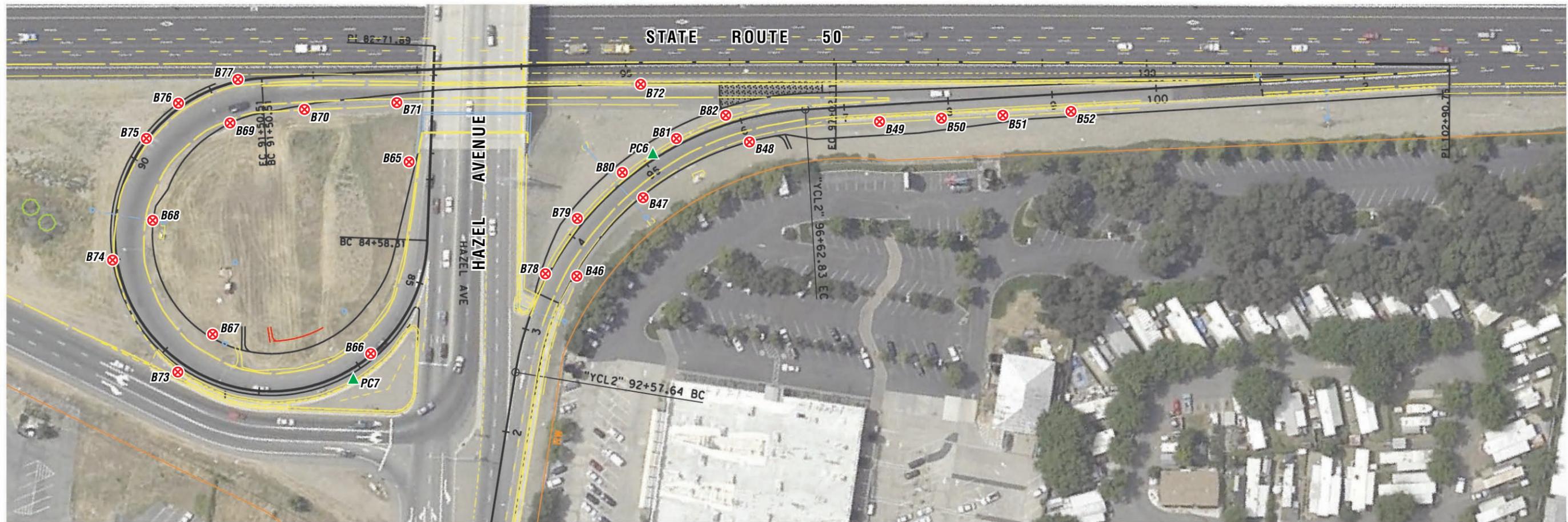
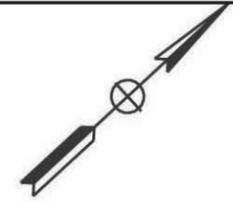
**SITE PLAN**

GEOCON Proj. No. S9300-06-91

Task Order No. 91

January 2010

Figure 2-3

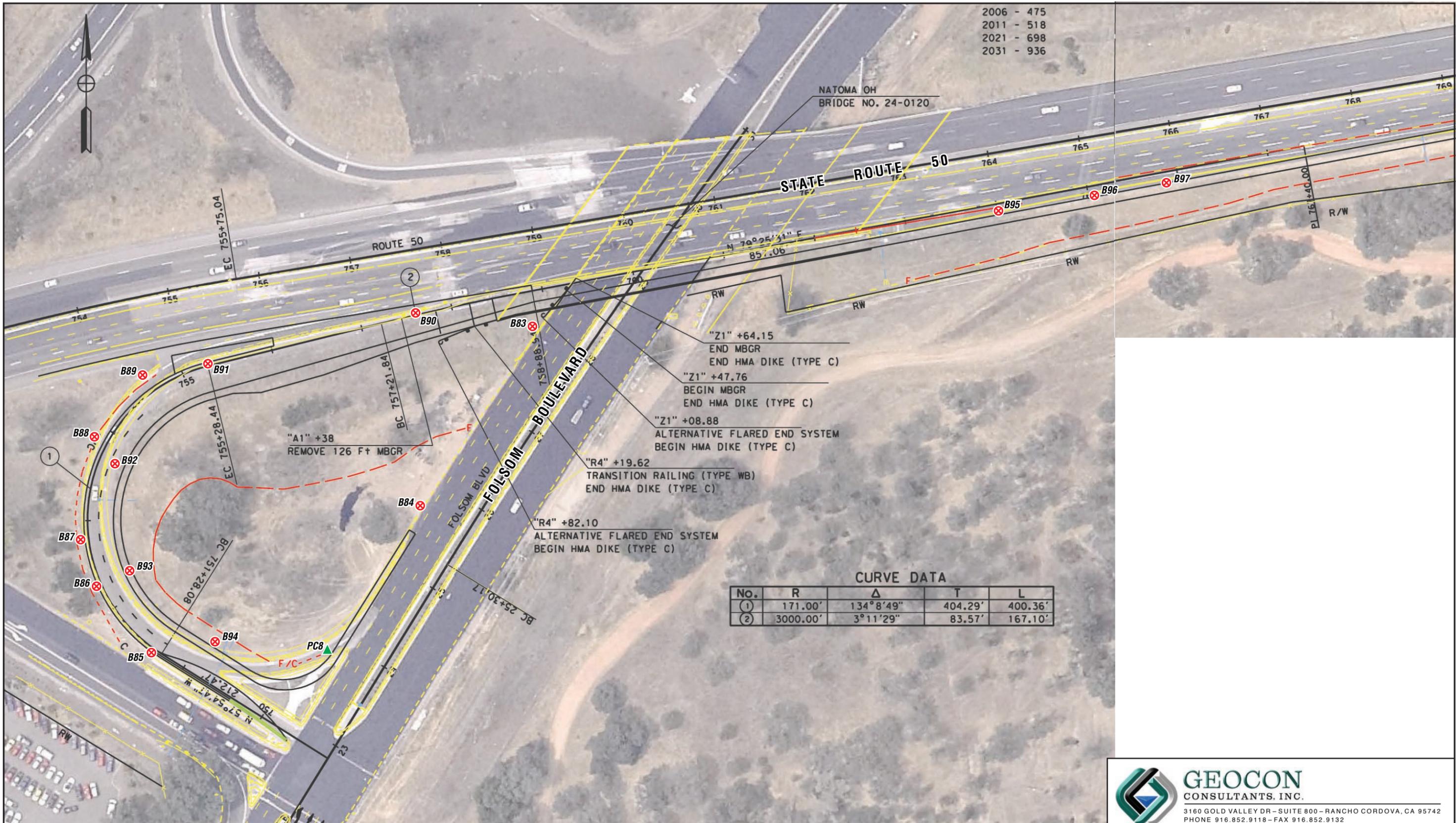


LEGEND:

- B1** ⊗ Approximate ADL Boring Location (June 2009)
- PC1** ▲ Approximate Paint Chip Sample Location



 <p>3160 GOLD VALLEY DR - SUITE 800 - RANCHO CORDOVA, CA 95742 PHONE 916.852.9118 - FAX 916.852.9132</p>		
State Route 50 Ramp Meters Project		
Sacramento County, California		<b>SITE PLAN</b>
GEOCON Proj. No. S9300-06-91		
Task Order No. 91	January 2010	Figure 2-4



2006 - 475  
 2011 - 518  
 2021 - 698  
 2031 - 936

LEGEND:  
 B1 ⊗ Approximate ADL Boring Location (June 2009)  
 PC1 ▲ Approximate Paint Chip Sample Location



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State Route 50 Ramp Meters Project		
Sacramento County, California		<b>SITE PLAN</b>
GEOCON Proj. No. S9300-06-91		
Task Order No. 91	January 2010	Figure 2-5

TABLE 1  
 SUMMARY OF SOIL BORING COORDINATES  
 STATE ROUTE 50 (SAC-50) RAMP METERS PROJECT  
 SACRAMENTO COUNTY, CALIFORNIA

SAMPLE ID	DATE	LATITUDE	LONGITUDE
B1	6/15/2009	38.560389427	-121.462638134
B2	6/15/2009	38.560545533	-121.459984349
B3	6/15/2009	38.560567417	-121.460207078
B4	6/15/2009	38.560583203	-121.460470087
B5	6/15/2009	38.560592402	-121.460707289
B6	6/15/2009	38.560596840	-121.460950783
B7	6/15/2009	38.560577257	-121.461281610
B8	6/15/2009	38.560541756	-121.461918897
B9	6/15/2009	38.560658421	-121.461654623
B10	6/15/2009	38.560640306	-121.461937611
B11	6/15/2009	38.560606532	-121.462235326
B12	6/15/2009	38.560539210	-121.462650374
B13	6/15/2009	38.549760416	-121.428106370
B14	6/15/2009	38.549641654	-121.428462987
B15	6/15/2009	38.549963348	-121.429000046
B16	6/15/2009	38.550453216	-121.428685874
B17	6/15/2009	38.550277382	-121.426330413
B18	6/15/2009	38.550413165	-121.428458800
B19	6/15/2009	38.550149495	-121.428913040
B20	6/15/2009	38.549775471	-121.428743461
B21	6/15/2009	38.549864864	-121.428216010
B22	6/15/2009	38.550133218	-121.428047602
B23	6/15/2009	38.550021729	-121.427440338
B24	6/15/2009	38.550058107	-121.427129179
B25	6/15/2009	38.550064548	-121.426492350
B26	6/15/2009	38.550118035	-121.425628256
B27	6/15/2009	38.550249981	-121.424461687
B28	6/15/2009	38.550231249	-121.425202870
B29	6/15/2009	38.550192984	-121.425643784
B30	6/15/2009	38.550160531	-121.426063668
B31	6/15/2009	38.550140196	-121.426590582
B33	6/15/2009	38.550107852	-121.427428720
B34	6/15/2009	38.565245568	-121.336531207
B35	6/15/2009	38.564717450	-121.336842734
B36	6/15/2009	38.565033939	-121.337286956
B37	6/15/2009	38.565177959	-121.337202655
B38	6/15/2009	38.565256890	-121.337083539
B39	6/15/2009	38.565513885	-121.336636974
B40	6/15/2009	38.565802819	-121.336081042
B41	6/15/2009	38.566444654	-121.334831496
B42	6/15/2009	38.565703151	-121.335283722
B43	6/15/2009	38.565835918	-121.335176244
B44	6/15/2009	38.566009341	-121.335026802
B45	6/15/2009	38.566174661	-121.334860111
B46	6/15/2009	38.630505931	-121.216282030
B47	6/15/2009	38.630705037	-121.216230170
B48	6/15/2009	38.630915414	-121.216086419
B49	6/15/2009	38.631085738	-121.215878537
B50	6/15/2009	38.631219727	-121.215653285
B51	6/15/2009	38.631481499	-121.215216794
B52	6/15/2009	38.631773894	-121.214723425
B53	6/16/2009	38.564622914	-121.337042893
B54	6/16/2009	38.564737841	-121.337278537
B55	6/16/2009	38.564922788	-121.337396973
B56	6/16/2009	38.565220751	-121.337295366
B57	6/16/2009	38.564465429	-121.336023133
B58	6/16/2009	38.564531767	-121.336004129
B59	6/16/2009	38.564609944	-121.335988183

TABLE 1  
 SUMMARY OF SOIL BORING COORDINATES  
 STATE ROUTE 50 (SAC-50) RAMP METERS PROJECT  
 SACRAMENTO COUNTY, CALIFORNIA

SAMPLE ID	DATE	LATITUDE	LONGITUDE
B60	6/16/2009	38.564679362	-121.335962562
B61	6/16/2009	38.565742747	-121.335407268
B62	6/16/2009	38.565891201	-121.335300951
B63	6/16/2009	38.566061468	-121.335147591
B64	6/16/2009	38.566240068	-121.334969205
B65	6/16/2009	38.630378785	-121.216908209
B66	6/16/2009	38.629850127	-121.216849056
B67	6/16/2009	38.629701210	-121.217244393
B68	6/16/2009	38.629928396	-121.217584863
B69	6/16/2009	38.630167683	-121.217586935
B70	6/16/2009	38.630319664	-121.217393877
B71	6/16/2009	38.630458716	-121.217168673
B72	6/16/2009	38.630950846	-121.216259570
B73	6/16/2009	38.629629996	-121.217322999
B74	6/16/2009	38.629763930	-121.217596827
B75	6/16/2009	38.629924357	-121.217698013
B76	6/16/2009	38.630120211	-121.217724975
B77	6/16/2009	38.630318387	-121.217576224
B78	6/16/2009	38.630378514	-121.216369672
B79	6/16/2009	38.630540222	-121.216377728
B80	6/16/2009	38.630688063	-121.216344479
B81	6/16/2009	38.630792496	-121.216299121
B82	6/16/2009	38.630939191	-121.216190942
B83	6/16/2009	38.639514269	-121.197522378
B84	6/16/2009	38.638920575	-121.198005807
B85	6/16/2009	38.638631224	-121.198959999
B86	6/16/2009	38.638767409	-121.199096614
B87	6/16/2009	38.639000388	-121.199195076
B88	6/16/2009	38.639236615	-121.199123893
B89	6/16/2009	38.639446971	-121.198953355
B90	6/16/2009	38.639571365	-121.198074895
B91	6/16/2009	38.639434051	-121.198800566
B92	6/16/2009	38.639244319	-121.199049748
B93	6/16/2009	38.638932321	-121.199090494
B94	6/16/2009	38.638641204	-121.198761596
B95	6/16/2009	38.639882306	-121.195771640
B96	6/16/2009	38.639939943	-121.195424201
B97	6/16/2009	38.640015678	-121.194754477
HA1	12/22/2009	38.560512287	-121.461557781
HA2	12/22/2009	38.560556847	-121.461295636
HA3	12/22/2009	38.560501136	-121.461280935
HA4	12/22/2009	38.560527502	-121.461129314
HA5	12/22/2009	38.560575515	-121.460884676
HA6	12/22/2009	38.560495422	-121.460911464
HA7	12/22/2009	38.560515569	-121.460714164
HA8	12/22/2009	38.560563552	-121.460517427
HA9	12/22/2009	38.560490370	-121.460539172
HA10	12/22/2009	38.560508622	-121.460361671
HA11	12/22/2009	38.560526903	-121.460174098
HA12	12/22/2009	38.560460240	-121.460203293
HA13	12/22/2009	38.560475394	-121.460007727
HA14	12/22/2009	38.560493400	-121.459864462
HA15	12/22/2009	38.560430537	-121.459881645
HA17	12/22/2009	38.550208229	-121.427550689
HA18	12/22/2009	38.550291193	-121.427527647
HA16	12/22/2009	38.550163613	-121.427568895
HA19	12/22/2009	38.550194073	-121.427426414
HA20	12/22/2009	38.550253316	-121.427413684

TABLE 1  
 SUMMARY OF SOIL BORING COORDINATES  
 STATE ROUTE 50 (SAC-50) RAMP METERS PROJECT  
 SACRAMENTO COUNTY, CALIFORNIA

SAMPLE ID	DATE	LATITUDE	LONGITUDE
HA21	12/22/2009	38.550167167	-121.427253685
HA22	12/22/2009	38.550218371	-121.427107509
HA23	12/22/2009	38.550272683	-121.427207596
HA24	12/22/2009	38.550171078	-121.427023037
HA25	12/22/2009	38.550254098	-121.427021272
HA26	12/22/2009	38.549947630	-121.427439273
HA27	12/22/2009	38.550012827	-121.427310314
HA28	12/22/2009	38.550038314	-121.427159027
HA29	12/22/2009	38.550040446	-121.426983586
HA30	12/22/2009	38.550017239	-121.426854380
HA31	12/22/2009	38.550040110	-121.426690267
HA32	12/22/2009	38.550008506	-121.426511986
HA33	12/22/2009	38.550050012	-121.426384029
HA34	12/22/2009	38.550002007	-121.426202514
HA35	12/22/2009	38.550059113	-121.426070396
HA36	12/22/2009	38.550022376	-121.425930189
HA37	12/22/2009	38.550077161	-121.425754941
HA38	12/22/2009	38.550037331	-121.425576730
HA39	12/22/2009	38.550114441	-121.425443904
HA40	12/22/2009	38.550073572	-121.425299001
HA41	12/22/2009	38.550143058	-121.425144777
HA42	12/22/2009	38.550115348	-121.424998134
HA43	12/22/2009	38.550183259	-121.424835569
HA44	12/22/2009	38.550153485	-121.424671339
HA45	12/22/2009	38.550220457	-121.424521723
HA46	12/22/2009	38.550194284	-121.424378247
HA47	12/22/2009	38.550266155	-121.424211512
HA48	12/22/2009	38.550256781	-121.424085900
HA49	12/22/2009	38.550306377	-121.423916877
HA50	12/22/2009	38.550318997	-121.423744000

TABLE 2  
 SUMMARY OF LEAD AND SOIL pH ANALYTICAL RESULTS  
 STATE ROUTE 50 (SAC-50) RAMP METERS PROJECT  
 SACRAMENTO COUNTY, CALIFORNIA

SAMPLE ID	SAMPLE DATE	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	DI-WET LEAD (mg/l)	TCLP LEAD (mg/l)	SOIL pH
<b>STOCKTON BOULEVARD ONRAMP</b>						
B1-0	6/15/2009	79	<b>7.9</b>	---	---	---
B1-1	6/15/2009	19	---	---	---	---
B1-2	6/15/2009	<5.0	---	---	---	---
B2-0	6/15/2009	71	2.7	---	---	---
B2-1	6/15/2009	5.2	---	---	---	---
B2-2	6/15/2009	5.6	---	---	---	7.7
B3-0	6/15/2009	9.2	---	---	---	---
B3-1	6/15/2009	<5.0	---	---	---	---
B3-2	6/15/2009	8.9	---	---	---	---
B4-0	6/15/2009	320	<b>32</b>	---	---	---
B4-1	6/15/2009	<5.0	---	---	---	---
B4-2	6/15/2009	6.1	---	---	---	---
B5-0	6/15/2009	140	<b>14</b>	---	---	---
B5-1	6/15/2009	<5.0	---	---	---	---
B5-2	6/15/2009	5.1	---	---	---	---
B6-0	6/15/2009	60	<b>9.8</b>	---	---	---
B6-1	6/15/2009	<5.0	---	---	---	---
B6-2	6/15/2009	5.5	---	---	---	---
B7-0	6/15/2009	420	<b>29</b>	---	---	---
B7-1	6/15/2009	5.4	---	---	---	---
B7-2	6/15/2009	5.1	---	---	---	---
B8-0	6/15/2009	57	<b>8.1</b>	---	---	---
B8-1	6/15/2009	<5.0	---	---	---	---
B8-2	6/15/2009	19	---	---	---	---
B9-0	6/15/2009	290	<b>42</b>	---	---	---
B9-1	6/15/2009	<5.0	---	---	---	---
B9-2	6/15/2009	<5.0	---	---	---	---
B10-0	6/15/2009	460	<b>36</b>	---	---	---
B10-1	6/15/2009	21	---	---	---	---
B10-2	6/15/2009	<5.0	---	---	---	---
B11-0	6/15/2009	250	<b>39</b>	---	---	---
B11-1	6/15/2009	<5.0	---	---	---	---
B11-2	6/15/2009	17	---	---	---	---
B12-0	6/15/2009	410	<b>43</b>	---	---	---
B12-1	6/15/2009	150	<0.25	---	---	---
B12-2	6/15/2009	68	<b>6.7</b>	---	---	---
HA1-0	12/22/2009	73	---	<0.25	---	---
HA2-0	12/22/2009	520	---	<0.25	---	7.0
HA3-0	12/22/2009	46	---	---	---	---
HA4-0	12/22/2009	48	---	---	---	---
HA5-0	12/22/2009	320	---	<0.25	---	7.2

TABLE 2  
 SUMMARY OF LEAD AND SOIL pH ANALYTICAL RESULTS  
 STATE ROUTE 50 (SAC-50) RAMP METERS PROJECT  
 SACRAMENTO COUNTY, CALIFORNIA

SAMPLE ID	SAMPLE DATE	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	DI-WET LEAD (mg/l)	TCLP LEAD (mg/l)	SOIL pH
HA6-0	12/22/2009	43	---	---	---	---
HA7-0	12/22/2009	60	---	<0.25	---	---
HA8-0	12/22/2009	120	---	<0.25	---	---
HA9-0	12/22/2009	43	---	---	---	---
HA10-0	12/22/2009	67	---	<0.25	---	---
HA11-0	12/22/2009	120	---	<0.25	---	7.2
HA12-0	12/22/2009	52	---	<0.25	---	---
HA13-0	12/22/2009	78	---	<0.25	---	---
HA14-0	12/22/2009	190	---	<0.25	---	---
HA15-0	12/22/2009	67	---	<0.25	---	---
<b>65TH STREET ONRAMP (LOOP)</b>						
B13-0	6/15/2009	36	---	---	---	---
B13-1	6/15/2009	5.7	---	---	---	---
B13-2	6/15/2009	6.3	---	---	---	---
B14-0	6/15/2009	120	<b>8.5</b>	---	---	---
B14-1	6/15/2009	10	---	---	---	---
B14-2	6/15/2009	<5.0	---	---	---	---
B15-0	6/15/2009	34	---	---	---	---
B15-1	6/15/2009	5.9	---	---	---	---
B15-2	6/15/2009	6.4	---	---	---	---
B16-0	6/15/2009	80	3.8	---	---	7.9
B16-1	6/15/2009	<5.0	---	---	---	---
B16-2	6/15/2009	6.2	---	---	---	---
B17-0	6/15/2009	620	<b>48</b>	---	---	---
B17-1	6/15/2009	18	---	---	---	---
B17-2	6/15/2009	<5.0	---	---	---	---
B18-0	6/15/2009	140	<b>5.0</b>	---	---	---
B18-1	6/15/2009	<5.0	---	---	---	---
B18-2	6/15/2009	<5.0	---	---	---	---
B19-0	6/15/2009	45	---	---	---	---
B19-1	6/15/2009	<5.0	---	---	---	---
B19-2	6/15/2009	<5.0	---	---	---	---
B20-0	6/15/2009	20	---	---	---	---
B20-1	6/15/2009	<5.0	---	---	---	---
B20-2	6/15/2009	5.0	---	---	---	---
B21-0	6/15/2009	40	---	---	---	---
B21-1	6/15/2009	<5.0	---	---	---	---
B21-2	6/15/2009	<5.0	---	---	---	---
B22-0	6/15/2009	130	<b>7.9</b>	---	---	---
B22-1	6/15/2009	7.7	---	---	---	---
B22-2	6/15/2009	6.8	---	---	---	---

TABLE 2  
 SUMMARY OF LEAD AND SOIL pH ANALYTICAL RESULTS  
 STATE ROUTE 50 (SAC-50) RAMP METERS PROJECT  
 SACRAMENTO COUNTY, CALIFORNIA

SAMPLE ID	SAMPLE DATE	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	DI-WET LEAD (mg/l)	TCLP LEAD (mg/l)	SOIL pH
<b>65TH STREET ONRAMP (SLIP)</b>						
B23-0	6/15/2009	1,000	<b>48</b>	---	1.3	---
B23-1	6/15/2009	5.3	---	---	---	---
B23-2	6/15/2009	<5.0	---	---	---	---
B24-0	6/15/2009	89	<b>7.9</b>	---	---	---
B24-1	6/15/2009	8.8	---	---	---	---
B24-2	6/15/2009	17	---	---	---	---
B25-0	6/15/2009	130	<b>6.9</b>	---	---	---
B25-1	6/15/2009	5.2	---	---	---	---
B25-2	6/15/2009	<5.0	---	---	---	---
B26-0	6/15/2009	32	---	---	---	---
B26-1	6/15/2009	<5.0	---	---	---	8.1
B26-2	6/15/2009	24	---	---	---	---
B27-0	6/15/2009	360	<b>38</b>	---	---	---
B27-1	6/15/2009	<5.0	---	---	---	---
B27-2	6/15/2009	6.0	---	---	---	---
B28-0	6/15/2009	93	3.2	---	---	---
B28-1	6/15/2009	5.6	---	---	---	---
B28-2	6/15/2009	5.0	---	---	---	---
B29-0	6/15/2009	67	<b>6.4</b>	---	---	---
B29-1	6/15/2009	<5.0	---	---	---	---
B29-2	6/15/2009	<5.0	---	---	---	---
B30-0	6/15/2009	210	<b>12</b>	---	---	---
B30-1	6/15/2009	8.6	---	---	---	---
B30-2	6/15/2009	8.2	---	---	---	---
B31-0	6/15/2009	190	<b>48</b>	---	---	---
B31-1	6/15/2009	5.5	---	---	---	---
B31-2	6/15/2009	<5.0	---	---	---	---
B33-0	6/15/2009	18	---	---	---	---
B33-1	6/15/2009	5.6	---	---	---	---
B33-2	6/15/2009	6.0	---	---	---	---
HA16-0	12/22/2009	1,500	---	0.95	2.1	6.3
HA17-0	12/22/2009	150	---	<0.25	---	---
HA18-0	12/22/2009	220	---	<0.25	---	---
HA19-0	12/22/2009	100	---	<0.25	---	---
HA20-0	12/22/2009	220	---	<0.25	---	---
HA21-0	12/22/2009	150	---	<0.25	---	6.7
HA22-0	12/22/2009	45	---	---	---	---

TABLE 2  
 SUMMARY OF LEAD AND SOIL pH ANALYTICAL RESULTS  
 STATE ROUTE 50 (SAC-50) RAMP METERS PROJECT  
 SACRAMENTO COUNTY, CALIFORNIA

SAMPLE ID	SAMPLE DATE	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	DI-WET LEAD (mg/l)	TCLP LEAD (mg/l)	SOIL pH
HA23-0	12/22/2009	96	---	<0.25	---	---
HA24-0	12/22/2009	330	---	<0.25	---	---
HA25-0	12/22/2009	160	---	<0.25	---	---
HA26-0	12/22/2009	500	---	<0.25	---	4.7
HA27-0	12/22/2009	190	---	<0.25	---	---
HA28-0	12/22/2009	260	---	<0.25	---	---
HA29-0	12/22/2009	280	---	<0.25	---	---
HA30-0	12/22/2009	49	---	---	---	---
HA31-0	12/22/2009	810	---	0.34	---	5.4
HA32-0	12/22/2009	72	---	<0.25	---	---
HA33-0	12/22/2009	240	---	<0.25	---	---
HA34-0	12/22/2009	55	---	<0.25	---	---
HA35-0	12/22/2009	460	---	0.39	---	---
HA36-0	12/22/2009	97	---	<0.25	---	---
HA37-0	12/22/2009	900	---	0.45	---	5.5
HA38-0	12/22/2009	52	---	<0.25	---	---
HA39-0	12/22/2009	590	---	<0.25	---	---
HA40-0	12/22/2009	81	---	<0.25	---	---
HA41-0	12/22/2009	1,200	---	<0.25	3.2	6.0
HA42-0	12/22/2009	76	---	<0.25	---	---
HA43-0	12/22/2009	1,500	---	<0.25	1.4	6.3
HA44-0	12/22/2009	89	---	<0.25	---	6.3
HA45-0	12/22/2009	1,500	---	0.34	4.5	6.7
HA46-0	12/22/2009	97	---	<0.25	---	---
HA47-0	12/22/2009	510	---	<0.25	---	---
HA48-0	12/22/2009	280	---	<0.25	---	6.4
HA49-0	12/22/2009	1,300	---	0.37	4.0	6.6
HA50-0	12/22/2009	590	---	0.34	---	6.6

TABLE 2  
 SUMMARY OF LEAD AND SOIL pH ANALYTICAL RESULTS  
 STATE ROUTE 50 (SAC-50) RAMP METERS PROJECT  
 SACRAMENTO COUNTY, CALIFORNIA

SAMPLE ID	SAMPLE DATE	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	DI-WET LEAD (mg/l)	TCLP LEAD (mg/l)	SOIL pH
<b>BRADSHAW ROAD ONRAMP (LOOP)</b>						
B34-0	6/15/2009	6.1	---	---	---	---
B34-1	6/15/2009	<5.0	---	---	---	---
B34-2	6/15/2009	6.7	---	---	---	---
B35-0	6/15/2009	6.0	---	---	---	7.5
B35-1	6/15/2009	6.2	---	---	---	---
B35-2	6/15/2009	<5.0	---	---	---	---
B36-0	6/15/2009	15	---	---	---	---
B36-1	6/15/2009	24	---	---	---	---
B37-0	6/15/2009	<5.0	---	---	---	---
B37-1	6/15/2009	23	---	---	---	---
B37-2	6/15/2009	<5.0	---	---	---	---
B38-0	6/15/2009	14	---	---	---	---
B38-1	6/15/2009	7.3	---	---	---	---
B38-2	6/15/2009	<5.0	---	---	---	---
B39-0	6/15/2009	43	---	---	---	---
B39-1	6/15/2009	15	---	---	---	---
B39-2	6/15/2009	6.1	---	---	---	---
B40-0	6/15/2009	30	---	---	---	---
B40-1	6/15/2009	7.2	---	---	---	---
B40-2	6/15/2009	5.5	---	---	---	---
B53-0	6/16/2009	7.9	---	---	---	---
B53-1	6/16/2009	<5.0	---	---	---	---
B53-2	6/16/2009	<5.0	---	---	---	---
B54-0	6/16/2009	18	---	---	---	---
B54-1	6/16/2009	24	---	---	---	---
B54-2	6/16/2009	56	---	---	---	---
B55-0	6/16/2009	34	---	---	---	---
B55-1	6/16/2009	23	---	---	---	---
B55-2	6/16/2009	24	---	---	---	---
B56-0	6/16/2009	8.3	---	---	---	---
B56-1	6/16/2009	12	---	---	---	---
B56-2	6/16/2009	5.7	---	---	---	---

TABLE 2  
 SUMMARY OF LEAD AND SOIL pH ANALYTICAL RESULTS  
 STATE ROUTE 50 (SAC-50) RAMP METERS PROJECT  
 SACRAMENTO COUNTY, CALIFORNIA

SAMPLE ID	SAMPLE DATE	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	DI-WET LEAD (mg/l)	TCLP LEAD (mg/l)	SOIL pH
<b>BRADSHAW ROAD ONRAMP (SLIP)</b>						
B41-0	6/15/2009	16	---	---	---	---
B41-1	6/15/2009	6.3	---	---	---	---
B41-2	6/15/2009	6.1	---	---	---	---
B42-0	6/15/2009	7.1	---	---	---	---
B42-1	6/15/2009	8.5	---	---	---	---
B42-2	6/15/2009	7.7	---	---	---	8.2
B43-0	6/15/2009	21	---	---	---	---
B43-1	6/15/2009	6.0	---	---	---	---
B43-2	6/15/2009	5.5	---	---	---	---
B44-0	6/15/2009	13	---	---	---	---
B44-1	6/15/2009	17	---	---	---	---
B44-2	6/15/2009	19	---	---	---	---
B45-0	6/15/2009	22	---	---	---	---
B45-1	6/15/2009	85	---	---	---	---
B45-2	6/15/2009	9.6	---	---	---	---
B57-0	6/16/2009	17	---	---	---	---
B57-1	6/16/2009	13	---	---	---	---
B57-2	6/16/2009	7.5	---	---	---	---
B58-0	6/16/2009	6.2	---	---	---	---
B58-1	6/16/2009	7.9	---	---	---	---
B58-2	6/16/2009	13	---	---	---	---
B59-0	6/16/2009	15	---	---	---	---
B59-1	6/16/2009	11	---	---	---	---
B59-2	6/16/2009	17	---	---	---	---
B60-0	6/16/2009	14	---	---	---	---
B60-1	6/16/2009	9.4	---	---	---	---
B60-2	6/16/2009	16	---	---	---	---
B61-0	6/16/2009	12	---	---	---	---
B61-1	6/16/2009	8.2	---	---	---	---
B61-2	6/16/2009	6.0	---	---	---	---
B62-0	6/16/2009	8.7	---	---	---	---
B62-1	6/16/2009	8.2	---	---	---	---
B62-2	6/16/2009	7.5	---	---	---	---
B63-0	6/16/2009	11	---	---	---	---
B63-1	6/16/2009	9.0	---	---	---	---
B63-2	6/16/2009	12	---	---	---	---
B64-0	6/16/2009	11	---	---	---	---
B64-1	6/16/2009	<5.0	---	---	---	---
B64-2	6/16/2009	5.6	---	---	---	---

TABLE 2  
 SUMMARY OF LEAD AND SOIL pH ANALYTICAL RESULTS  
 STATE ROUTE 50 (SAC-50) RAMP METERS PROJECT  
 SACRAMENTO COUNTY, CALIFORNIA

SAMPLE ID	SAMPLE DATE	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	DI-WET LEAD (mg/l)	TCLP LEAD (mg/l)	SOIL pH
<b>HAZEL AVENUE ONRAMP (SLIP)</b>						
B46-0	6/15/2009	30	---	---	---	---
B46-1	6/15/2009	47	---	---	---	---
B46-2	6/15/2009	12	---	---	---	---
B47-0	6/15/2009	57	2.7	---	---	---
B47-1	6/15/2009	78	<b>5.2</b>	---	---	---
B48-0	6/15/2009	40	---	---	---	---
B49-0	6/15/2009	220	<b>9.9</b>	---	---	7.8
B49-1	6/15/2009	390	<b>18</b>	---	---	---
B49-2	6/15/2009	51	1.0	---	---	---
B50-0	6/15/2009	150	0.53	---	---	---
B50-1	6/15/2009	<5.0	---	---	---	---
B50-2	6/15/2009	<5.0	---	---	---	---
B51-0	6/15/2009	130	0.84	---	---	---
B51-1	6/15/2009	<5.0	---	---	---	---
B51-2	6/15/2009	<5.0	---	---	---	---
B52-0	6/15/2009	51	<0.25	---	---	---
B52-1	6/15/2009	<5.0	---	---	---	---
B52-2	6/15/2009	<5.0	---	---	---	---
B78-0	6/16/2009	54	2.3	---	---	---
B79-0	6/16/2009	170	4.5	---	---	---
B80-0	6/16/2009	120	4.9	---	---	---
B81-0	6/16/2009	87	3.0	---	---	---
B81-1	6/16/2009	99	<b>5.8</b>	---	---	---
B81-2	6/16/2009	92	<b>5.1</b>	---	---	---
B82-0	6/16/2009	64	4.5	---	---	---
B82-1	6/16/2009	60	3.1	---	---	---

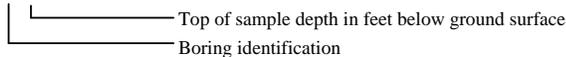
TABLE 2  
 SUMMARY OF LEAD AND SOIL pH ANALYTICAL RESULTS  
 STATE ROUTE 50 (SAC-50) RAMP METERS PROJECT  
 SACRAMENTO COUNTY, CALIFORNIA

SAMPLE ID	SAMPLE DATE	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	DI-WET LEAD (mg/l)	TCLP LEAD (mg/l)	SOIL pH
<b>HAZEL AVENUE ONRAMP (LOOP)</b>						
B65-0	6/16/2009	10	---	---	---	---
B65-1	6/16/2009	14	---	---	---	---
B65-2	6/16/2009	10	---	---	---	---
B66-0	6/16/2009	18	---	---	---	---
B66-1	6/16/2009	41	---	---	---	---
B66-2	6/16/2009	38	---	---	---	---
B67-0	6/16/2009	17	---	---	---	---
B67-1	6/16/2009	8.1	---	---	---	---
B67-2	6/16/2009	6.1	---	---	---	---
B68-0	6/16/2009	5.7	---	---	---	---
B68-1	6/16/2009	5.8	---	---	---	7.5
B68-2	6/16/2009	6.0	---	---	---	---
B69-0	6/16/2009	11	---	---	---	---
B70-0	6/16/2009	32	---	---	---	---
B70-1	6/16/2009	9.1	---	---	---	---
B70-2	6/16/2009	<5.0	---	---	---	---
B71-0	6/16/2009	31	---	---	---	---
B71-1	6/16/2009	21	---	---	---	---
B71-2	6/16/2009	8.1	---	---	---	---
B72-0	6/16/2009	55	---	---	---	---
B72-1	6/16/2009	20	---	---	---	---
B72-2	6/16/2009	18	---	---	---	---
B73-0	6/16/2009	20	---	---	---	---
B73-1	6/16/2009	7.7	---	---	---	---
B74-0	6/16/2009	45	---	---	---	---
B74-1	6/16/2009	24	---	---	---	---
B74-2	6/16/2009	7.6	---	---	---	---
B75-0	6/16/2009	18	---	---	---	---
B76-0	6/16/2009	81	---	---	---	---
B76-1	6/16/2009	28	---	---	---	---
B76-2	6/16/2009	6.2	---	---	---	---
B77-0	6/16/2009	87	---	---	---	---

TABLE 2  
 SUMMARY OF LEAD AND SOIL pH ANALYTICAL RESULTS  
 STATE ROUTE 50 (SAC-50) RAMP METERS PROJECT  
 SACRAMENTO COUNTY, CALIFORNIA

SAMPLE ID	SAMPLE DATE	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	DI-WET LEAD (mg/l)	TCLP LEAD (mg/l)	SOIL pH
<b>FOLSOM BOULEVARD ONRAMP</b>						
B83-0	6/16/2009	45	---	---	---	---
B84-0	6/16/2009	5.4	---	---	---	---
B84-1	6/16/2009	26	---	---	---	---
B84-2	6/16/2009	15	---	---	---	---
B85-0	6/16/2009	35	---	---	---	---
B86-0	6/16/2009	19	---	---	---	---
B86-1	6/16/2009	6.2	---	---	---	---
B86-2	6/16/2009	7.3	---	---	---	---
B87-0	6/16/2009	18	---	---	---	---
B87-1	6/16/2009	7.3	---	---	---	---
B88-0	6/16/2009	43	---	---	---	---
B88-1	6/16/2009	9.5	---	---	---	---
B89-0	6/16/2009	7.3	---	---	---	---
B89-1	6/16/2009	23	---	---	---	---
B89-2	6/16/2009	8.1	---	---	---	---
B90-0	6/16/2009	190	<b>13</b>	---	---	---
B90-1	6/16/2009	5.6	---	---	---	---
B91-0	6/16/2009	31	---	---	---	---
B91-1	6/16/2009	<5.0	---	---	---	---
B91-2	6/16/2009	<5.0	---	---	---	---
B92-0	6/16/2009	26	---	---	---	---
B92-1	6/16/2009	<5.0	---	---	---	---
B92-2	6/16/2009	<5.0	---	---	---	---
B93-0	6/16/2009	23	---	---	---	---
B94-0	6/16/2009	36	---	---	---	---
B94-1	6/16/2009	13	---	---	---	---
B94-2	6/16/2009	19	---	---	---	---
B95-0	6/16/2009	720	<b>35</b>	---	---	---
B95-1	6/16/2009	19	---	---	---	---
B96-0	6/16/2009	62	2.0	---	---	---
B96-1	6/16/2009	6.2	---	---	---	---
B96-2	6/16/2009	7.8	---	---	---	---
B97-0	6/16/2009	48	---	---	---	---
B97-1	6/16/2009	18	---	---	---	---
B97-2	6/16/2009	14	---	---	---	---

Notes: B1-1



mg/kg = Milligrams per kilogram

mg/l = Milligrams per liter

< = Less than the laboratory reporting limit

--- = Not analyzed

WET = Waste Extraction Test

DI-WET = Waste Extraction Test using de-ionized water

TCLP = Toxicity Characteristic Leaching Procedure

Concentrations in **bold** type are greater than or equal to the Soluble Threshold Limit Concentration value for lead of 5.0 mg/l

TABLE 3  
SUMMARY OF TRAFFIC STRIPE PAINT SAMPLE ANALYTICAL RESULTS  
STATE ROUTE 50 (SAC-50) RAMP METERS PROJECT  
SACRAMENTO COUNTY, CALIFORNIA

SAMPLE ID	SAMPLE DATE	LOCATION	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)
PC1	6/15/2009	65TH STREET LOOP ONRAMP	<5.0	---
PC2	6/15/2009	STOCKTON BLVD ONRAMP	<5.0	---
PC3	6/15/2009	65TH STREET SLIP ONRAMP	<5.0	---
PC4	6/15/2009	BRADSHAW ROAD LOOP ONRAMP	700	<b>7.4</b>
PC5	6/16/2009	BRADSHAW ROAD SLIP ONRAMP	820	0.29
PC6	6/16/2009	HAZEL AVENUE SLIP ONRAMP	320	2.1
PC7	6/16/2009	HAZEL AVENUE LOOP ONRAMP	97	2.9
PC8	6/16/2009	FOLSOM BOULEVARD ONRAMP	46	---

## Notes:

mg/kg = Milligrams per kilogram

mg/l = Milligrams per liter

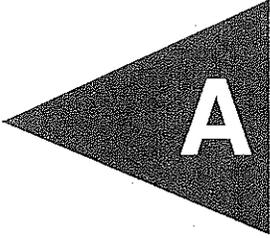
&lt; = Less than the laboratory reporting limit

--- = Not analyzed

WET = Waste Extraction Test

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

APPENDIX



# ASBESTOS AND LEAD-CONTAINING PAINT SURVEY



**PREPARED FOR:**

**CALIFORNIA DEPARTMENT OF TRANSPORTATION – DISTRICT 3  
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. S9300-06-91  
TASK ORDER NO. 91, EA 03-1C1201**

**JANUARY 2010**



Project No. S9300-06-91  
January 13, 2010

Rajive Chadha, Task Order Manager  
Caltrans District 3  
703 B Street/P.O. Box 911  
Marysville, California 95901

Subject: STATE ROUTE 50 (SAC-50) BRIDGES  
SACRAMENTO COUNTY, CALIFORNIA  
CONTRACT NO. 03A1368  
TASK ORDER NO. 91, EA NO. 03-1C1201  
ASBESTOS AND LEAD-CONTAINING PAINT SURVEY REPORT

Dear Mr. Chadha:

In accordance with California Department of Transportation Contract No. 03A1368 and Task Order No. 91, we performed asbestos and lead-containing paint surveys of two bridge spans on State Route 50 in Sacramento County, California. The scope of services included surveying Bridges 24-0318 (65<sup>th</sup> Street Bridge) and 24-0120 (Natoma Overhead Bridge) for suspect asbestos-containing materials and lead-containing paint, collecting bulk samples, and submitting the samples for laboratory analysis.

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.**

Chris Giuntoli, CAC  
Senior Project Scientist

John E. Juhrend, PE, CEG  
Project Manager

JAG:JEJ:krh

(5 + 3 CDs) Addressee

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### TABLE

1. Summary of Asbestos Analytical Results

### APPENDIX

- A. Analytical Laboratory Report and Chain-of-custody Documentation

# ASBESTOS AND LEAD-CONTAINING PAINT SURVEY REPORT

## 1.0 INTRODUCTION

This asbestos and lead-containing paint (LCP) survey report was prepared by Geocon Consultants, Inc. under Caltrans Contract No. 03A1368, Task Order No. 91.

### 1.1 Project Description

The project consists of Bridges 24-0318 (65<sup>th</sup> Street Bridge) and 24-0120 (Natoma Overhead Bridge) located along State Route 50 (SAC-50) in Sacramento County, California. The bridge locations are depicted on the Vicinity Map, Figure 1, and Site Plans, Figures 2-1 and 2-2.

### 1.2 General Objectives

The purpose of the scope of services outlined in Task Order 91 was to determine the presence and quantity of asbestos and deteriorated LCP at the project locations prior to renovation activities. 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 not 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. HUD protocol generally requires a very extensive sampling strategy that includes sampling of paint on each surface type (e.g., wall, ceiling, window sill, window frame, door frame, molding, etc.) in each room.*

## 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 may make it cost ineffective to do so. Contractors are responsible for segregating and characterizing waste streams prior to disposal.

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

## **2.2 Lead Paint**

Construction activities (including demolition) that disturb materials or paints containing *any* amount of lead are subject to certain requirements of the Cal/OSHA lead standard contained in Title 8, CCR, Section 1532.1. Deteriorated paint is defined by Title 17, CCR, Division 1, Chapter 8, §35022 as a surface coating that is cracking, chalking, flaking, chipping, peeling, non-intact, failed, or otherwise separating from a component. Demolition of a deteriorated LCP component would require waste characterization and appropriate disposal. 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 concentrations) is the primary factor considered for waste classification since waste generated during the construction activities would not likely warrant testing for ignitability or other criteria. Waste that is classified as either California hazardous or RCRA hazardous requires management as a hazardous waste.

Potential hazards exist to workers who remove or cut through LCP coatings during demolition. Dust containing hazardous concentrations of lead may be generated during scraping or cutting materials coated with 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 the Title 8, CCR, Section 1532.1.

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

Caltrans did not provide architectural drawings of the subject bridges for our review.

## **3.0 SCOPE OF SERVICES**

Mr. Joshua Goodwin, a California-Certified Asbestos Consultant (CAC), certification No. 05-3754 (expiration June 16, 2010), and Certified Lead Paint Inspector/Assessor with the California Department of Public Health (DPH), certification number I-19737 (expiration June 7, 2010), performed the asbestos and LCP survey at the project location on June 15, 2009.

### **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 14 bulk asbestos samples representing 8 material types were collected.

Our procedures for inspection and sampling in accordance with Task Order 91 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 under chain-of-custody protocol 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). 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 3-workday 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 Figures 2-1 and 2-2. Materials represented by the samples collected are shown in the attached photographs.

### **3.2 Lead Paint**

We did not observe suspect LCP at Bridges 24-0318 (65<sup>th</sup> Street Bridge) or 24-0120 (Natoma Overhead Bridge) during our survey activities.

## **4.0 INVESTIGATIVE RESULTS**

### **4.1 Asbestos Analytical Results**

Chrysotile asbestos at a concentration of 50% was detected in a sample representing nonfriable sheet packing used as shims on the barrier rail systems of Bridge 24-0318 (65<sup>th</sup> Street Bridge). We were not able to quantify the amount of sheet packing due to safety concerns (i.e., traffic).

Chrysotile asbestos at a concentration of 50% was detected in samples representing nonfriable sheet packing used as shims on the barrier rail systems of Bridge 24-0120 (Natoma Overhead Bridge). We were not able to quantify the amount of sheet packing due to safety concerns (i.e., traffic).

Chrysotile asbestos at a concentration of 3% was detected in a sample representing nonfriable thread compound used on the barrier rail systems of Bridge 24-0120 (Natoma Overhead Bridge). We were not able to quantify the thread compound due to safety concerns (i.e., traffic).

No asbestos was detected in samples of the remaining 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**

We did not observe painted surfaces on either bridge during our surveys; therefore, samples were not collected for lead analysis.

## 5.0 RECOMMENDATIONS

Based on our findings, we recommend the following:

### 5.1 Asbestos

NESHAP regulations do not require that asbestos-containing sheet piling or thread compound (Category I nonfriable/nonhazardous materials) identified during our survey be removed prior to demolition or be treated as hazardous waste. However, the disturbance of these materials is still covered by the Cal/OSHA asbestos standard (Title 8, CCR Section 1529). We recommend that a licensed contractor registered with Cal/OSHA for asbestos-related work perform any activities that would disturb the materials. Contractors are responsible for informing the landfill of the contractor's intent to dispose of asbestos waste. Some landfills may require additional waste characterization. Contractors are responsible for segregating and characterizing waste streams prior to disposal.

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

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

### 5.2 Lead Paint

LCP was not identified during our surveys as both bridges were concrete structures and void of painted surfaces.

## 6.0 REPORT LIMITATIONS

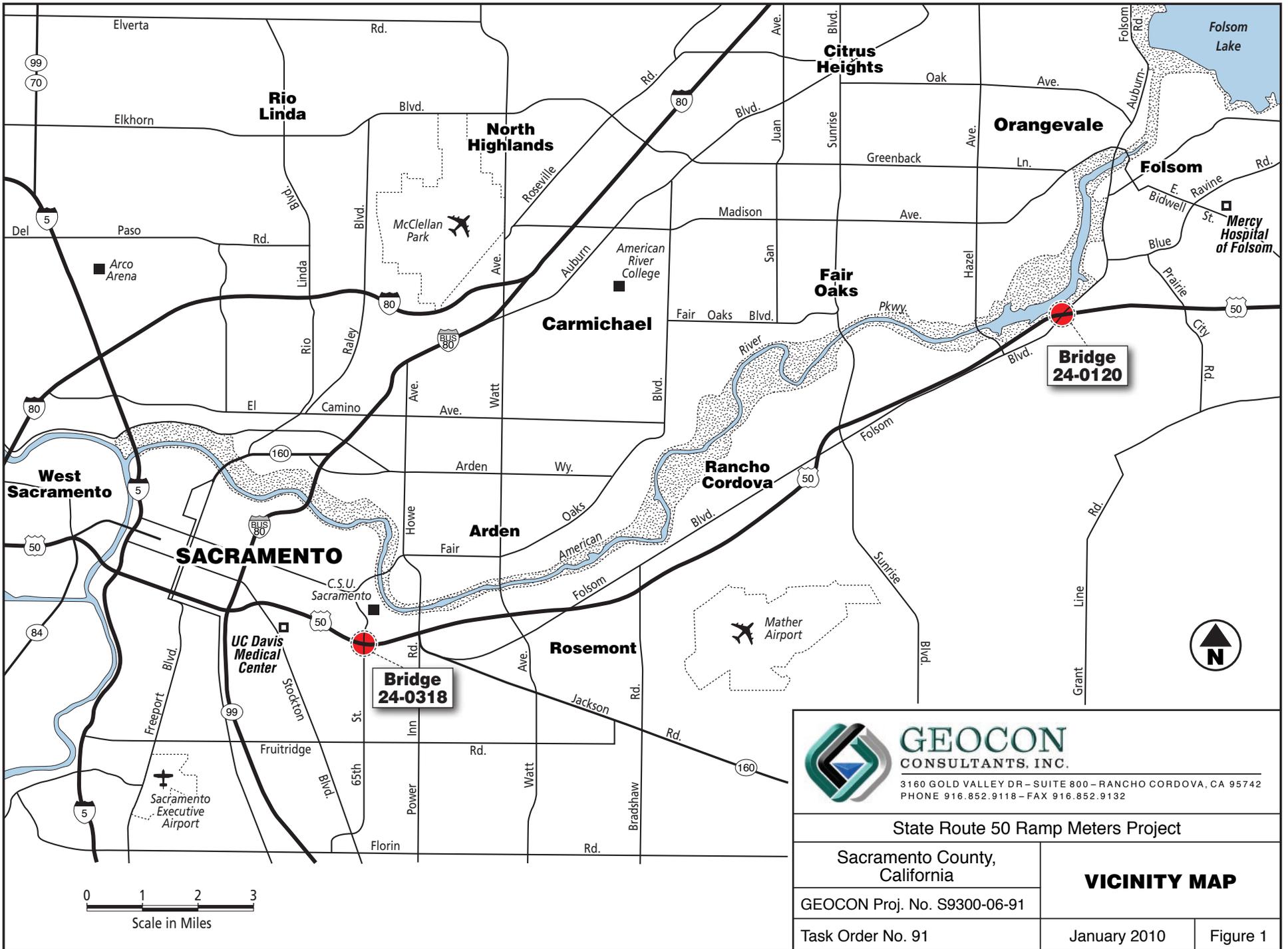
This asbestos and LCP survey was conducted in conformance with generally accepted standards of practice for identifying and evaluating asbestos and LCP in structures. The survey addressed only those structures identified in Section 1.1. Due to the nature of structure surveys, asbestos and LCP use, and 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 structures 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

State Route 50 Ramp Meters Project

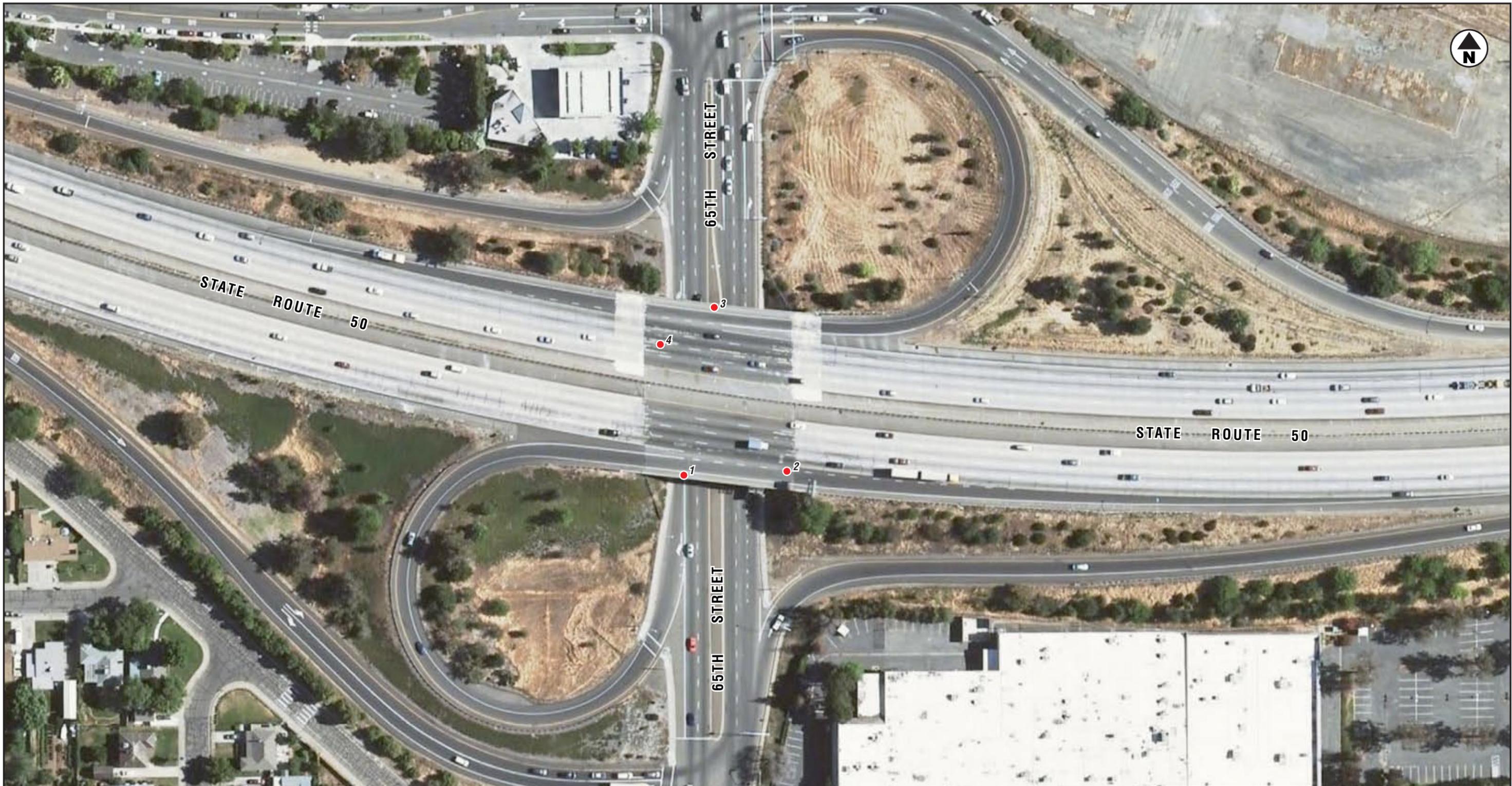
Sacramento County,  
California  
GEOCON Proj. No. S9300-06-91

**VICINITY MAP**

Task Order No. 91

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Figure 1



LEGEND:

- Approximate Asbestos Sample Location



**GEOCON**  
CONSULTANTS, INC.

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

State Route 50 Ramp Meters Project

Sacramento County,  
California

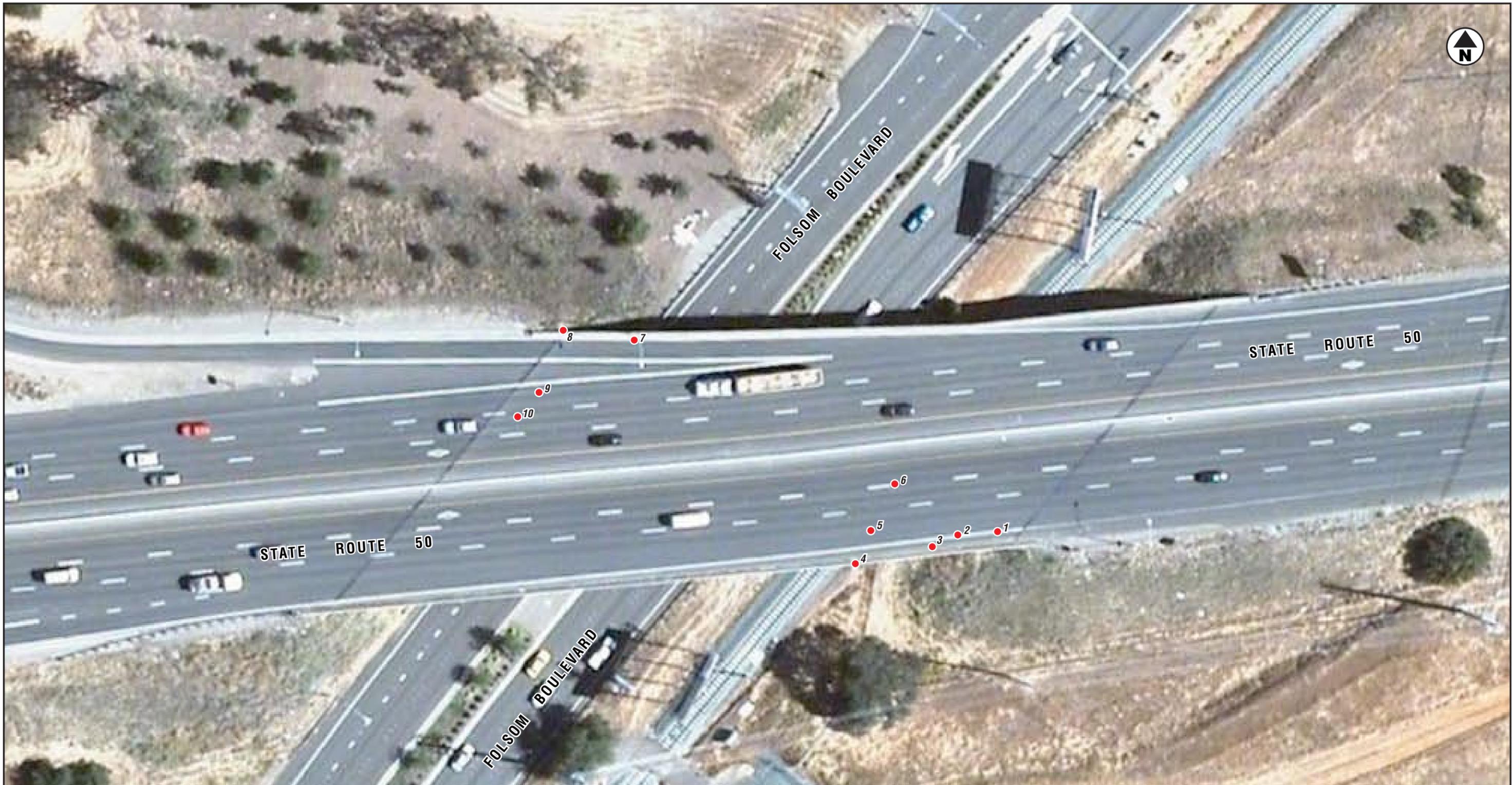
**SITE PLAN**  
**Bridge No. 24-0318**

GEOCON Proj. No. S9300-06-91

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January 2010

Figure 2-1



LEGEND:

- Approximate Asbestos Sample Location



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

State Route 50 Ramp Meters Project		
Sacramento County, California		<b>SITE PLAN</b> <b>Bridge No. 24-0120</b>
GEOCON Proj. No. S9300-06-91		Task Order No. 91
January 2010		Figure 2-2



**Photo 1 – 65<sup>th</sup> Street Bridge (Bridge 24-0318)**



**Photo 2 – Bridge 24-0318 barrier rail shim (50% chrysotile asbestos)**



**GEOCON**  
CONSULTANTS, INC.

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

**PHOTOGRAPHS 1 & 2**

State Route 50 Bridges  
Sacramento County, California

S9300-06-91

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**Photo 3 – Bridge 24-0318 expansion joint material**



**Photo 4 – Bridge 24-0318 barrier rail shim (50% chrysotile asbestos)**



**Photo 5 – Bridge 24-0318 expansion joint material**



**Photo 6 – Bridge 24-0318 approach**



**GEOCON**  
CONSULTANTS, INC.

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

**PHOTOGRAPHS 5 & 6**

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**Photo 7 – Natoma Overhead Bridge (Bridge 24-0120)**



**Photo 8 – Bridge 24-0120 abutment**



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

**PHOTOGRAPHS 7 & 8**

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**Photo 9 – Bridge 24-0120 barrier rail shim (50% chrysotile asbestos)**



**Photo 10 – Bridge 24-0120 expansion joint fill material (brown)**



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CONSULTANTS, INC.

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

**PHOTOGRAPHS 9 & 10**

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**Photo 11 – Bridge 24-0120 thread compound**



**Photo 12 – Bridge 24-0120 bearing material**



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CONSULTANTS, INC.

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

**PHOTOGRAPHS 11 & 12**

State Route 50 Bridges  
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**Photo 13 – Bridge 24-0120 drain pipe**



**Photo 14 – Bridge 24-0120 expansion joint fill material (brown)**



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

**PHOTOGRAPHS 13 & 14**

State Route 50 Bridges  
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**Photo 15 – Bridge 24-0120 thread compound (3% chrysotile asbestos)**



**Photo 16 – Bridge 24-0120 bearing material**



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CONSULTANTS, INC.

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

**PHOTOGRAPHS 15 & 16**

State Route 50 Bridges  
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**Photo 17 – Bridge 24-0120 drain pipe and black sealant material**



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CONSULTANTS, INC.

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

**PHOTOGRAPH 17**

State Route 50 Bridges  
Sacramento County, California

S9300-06-91

Task Order No. 91

January 2010

**TABLE 1**  
**SUMMARY OF ASBESTOS ANALYTICAL RESULTS**  
 STATE ROUTE 50 (SAC-50) BRIDGES - 65th STREET (24-0318) AND NATOMA OVERHEAD (24-0120)  
 CALTRANS CONTRACT 03A1638, TASK ORDER NO. 91, EA 03-1C1201  
 SACRAMENTO COUNTY, CALIFORNIA

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

Bridge No.	Sample No.	Description of Material	Approximate Quantity	Friable	Site Photo	Asbestos Content
24-0318	24-0318-1	Sheet Packing (barrier rail shims)	Unable to safely quantify	No	2	50%
	24-0318-2	Expansion joint fill material	NA	NA	3	ND
	24-0318-3	Sheet Packing (barrier rail shims)	Unable to safely quantify	No	4	50%
	24-0318-4	Expansion joint fill material	NA	NA	5	ND
24-0120	24-0120-1	Sheet Packing (barrier rail shims)	Unable to safely quantify	No	9	50%
	24-0120-2	Expansion joint fill material	NA	NA	10	ND
	24-0120-3	Thread compound	NA	NA	11	ND
	24-0120-4	Bearing material	NA	NA	12	ND
	24-0120-5	Drain Pipe	NA	NA	13	ND
	24-0120-6	Expansion joint fill material	NA	NA	14	ND
	24-0120-7	Thread compound	Unable to safely quantify	No	15	3%
	24-0120-8	Bearing material	NA	NA	16	ND
	24-0120-9	Drain Pipe	NA	NA	17	ND
	24-0120-10	Black sealant material	NA	NA	17	ND

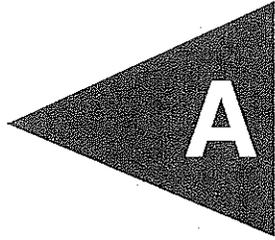
Notes:

NA = Not applicable (no asbestos detected)

ND = Not detected

█ = Sample reported with asbestos

# APPENDIX





**EMSL Analytical, Inc**

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

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

Attn: **Josh Goodwin**  
**Geocon Consultants**  
**3160 Gold Valley Drive**  
**Suite 800**  
**Rancho Cordova, CA 95742**

Customer ID: GECN80  
Customer PO: S9300-06-91  
Received: 06/16/09 11:00 AM  
EMSL Order: 090904607

Fax: (916) 852-9132 Phone: (916) 852-9118  
Project: **S9300-06-91**

EMSL Proj: S9300-06-\*\*  
Analysis Date: 6/19/2009

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

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
24-0120-1-Rail shim <i>090904607-0001</i>	East bound	Black Fibrous Homogeneous		50% Non-fibrous (other)	<b>50% Chrysotile</b>
24-0120-2-EB Joint material <i>090904607-0002</i>	East bound	Brown Fibrous Homogeneous	25% Cellulose	75% Non-fibrous (other)	<b>None Detected</b>
24-0120-3-EB Thread compound <i>090904607-0003</i>	East bound	Gray Non-Fibrous Homogeneous	3% Cellulose	97% Non-fibrous (other)	<b>None Detected</b>
24-0120-4-EB Joint material <i>090904607-0004</i>	East bound under styrofoam	Brown Fibrous Homogeneous	20% Cellulose	80% Non-fibrous (other)	<b>None Detected</b>
24-0120-5-Drain pipe <i>090904607-0005</i>	Under East end	Brown Fibrous Homogeneous	20% Cellulose	80% Non-fibrous (other)	<b>None Detected</b>
24-0120-6-Joint material <i>090904607-0006</i>	Under East end	Brown Fibrous Homogeneous	50% Cellulose	50% Non-fibrous (other)	<b>None Detected</b>

Analyst(s)

*Kelly Favero (14)*

Baojia Ke, Laboratory Manager  
or other approved signatory

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected may require additional testing by TEM to confirm asbestos quantities. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted.  
Samples analyzed by EMSL Analytical, Inc San Leandro 2235 Polvorosa Ave , Suite 230, San Leandro CA NVLAP Lab Code 101048-3, MA AA000201, WA C2007



**EMSL Analytical, Inc**

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

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

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Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
24-0120-7-Thread compound <i>090904607-0007</i>	West bound	Gray Non-Fibrous Homogeneous		97% Non-fibrous (other)	<b>3% Chrysotile</b>
24-0120-8-Joint material <i>090904607-0008</i>	West bound under styrofoam	Brown Fibrous Homogeneous	20% Cellulose	80% Non-fibrous (other)	<b>None Detected</b>
24-0120-9-Drain pipe <i>090904607-0009</i>	Under West end	Brown Fibrous Heterogeneous	10% Cellulose	90% Non-fibrous (other)	<b>None Detected</b>
24-0120-10-Crack sealant <i>090904607-0010</i>		Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	<b>None Detected</b>
24-0318-1-EB Rail shim <i>090904607-0011</i>	East bound	Gray Fibrous Homogeneous		50% Non-fibrous (other)	<b>50% Chrysotile</b>
24-0318-2-Joint material <i>090904607-0012</i>	Under East end	Brown Fibrous Homogeneous	35% Cellulose	65% Non-fibrous (other)	<b>None Detected</b>

Analyst(s)

*Kelly Favero (14)*

Baojia Ke, Laboratory Manager  
or other approved signatory

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Samples analyzed by EMSL Analytical, Inc San Leandro 2235 Polvorosa Ave , Suite 230, San Leandro CA NVLAP Lab Code 101048-3, MA AA000201, WA C2007



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Analysis Date: 6/19/2009

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

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
24-0318-3-WB Rail shim <i>090904607-0013</i>	West bound	Various Fibrous Homogeneous		50% Non-fibrous (other)	<b>50% Chrysotile</b>
24-0318-4-Joint material <i>090904607-0014</i>	Under West end	Brown Fibrous Homogeneous	50% Cellulose	50% Non-fibrous (other)	<b>None Detected</b>

Analyst(s)  

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*Kelly Favero (14)*

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Baojia Ke, Laboratory Manager  
or other approved signatory

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90904607



## Chain of Custody Asbestos Lab Services

EMSL Analytical, Inc.  
Suite 230  
2235 Polvorosa Ave  
San Leandro,  
CA 94577  
Phone: (510) 895-  
3675 (888) 455-3675  
Fax: (510) 895-3680  
<http://www.emsl.com>

Please print all information legibly.

<b>Company:</b>	Geocon Consultants, Inc.	<b>Bill To:</b>	Geocon Consultants, Inc.
<b>Address1:</b>	3160 Gold Valley Drive, Suite 800	<b>Address1:</b>	3160 Gold Valley Drive, Suite 800
<b>Address2:</b>		<b>Address2:</b>	
<b>City, State:</b>	Rancho Cordova, CA	<b>City, State:</b>	Rancho Cordova, CA
<b>Zip/Post Code:</b>	95742	<b>Zip/Post Code:</b>	95742
<b>Country:</b>	USA	<b>Country:</b>	USA
<b>Contact Name:</b>	Josh Goodwin	<b>Attn:</b>	Josh Goodwin
<b>Phone:</b>	916-852-9118	<b>Phone:</b>	916-852-9118
<b>Fax:</b>	916-852-9132	<b>Fax:</b>	916-852-9132
<b>Email:</b>	goodwin@geoconinc.com	<b>Email:</b>	goodwin@geoconinc.com
<b>EMSL Rep:</b>	Daniel Kocher	<b>P.O. Number:</b>	
<b>Project Name/Number:</b> S9300-06-91			

MATRIX			TURNAROUND			
<input type="checkbox"/> Air	<input type="checkbox"/> Soil	<input type="checkbox"/> Micro-Vac	<input type="checkbox"/> 3 Hours	<input type="checkbox"/> 6 Hours		<input type="checkbox"/> 24 Hours (1 day)
<input checked="" type="checkbox"/> Bulk	<input type="checkbox"/> Drinking Water		<input type="checkbox"/> 48 Hours (2 days)	<input type="checkbox"/> 72 Hours (3 days)	<input type="checkbox"/> 96 Hours (4 days)	<input checked="" type="checkbox"/> 120 Hours (5 days)
<input type="checkbox"/> Wipe	<input type="checkbox"/> Wastewater		<input type="checkbox"/> 144+ hours (6-10 days)			

TEM AIR, 3 hours, 6 hours, Please call ahead to schedule. There is a premium charge for 3-hour tat, please call 1-800-220-3675 for price prior to sending samples. You will be asked to sign an authorization form for this service.

<p><b>PCM - Air</b></p> <input type="checkbox"/> NIOSH 7400(A) Issue 2: August 1994 <input type="checkbox"/> OSHA w/TWA <input type="checkbox"/> Other:	<p><b>TEM Air</b></p> <input type="checkbox"/> AHERA 40 CFR, Part 763 Subpart E <input type="checkbox"/> NIOSH 7402 <input type="checkbox"/> EPA Level II	<p><b>TEM WATER</b></p> <input type="checkbox"/> EPA 100.1 <input type="checkbox"/> EPA 100.2 <input type="checkbox"/> NYS 198.2
<p><b>PLM - Bulk</b></p> <input checked="" type="checkbox"/> EPA 600/R-93/116 <input type="checkbox"/> EPA Point Count <input type="checkbox"/> NY Stratified Point Count <input type="checkbox"/> PLM NOB (Gravimetric) NYS 198.1 <input type="checkbox"/> NIOSH 9002: <input type="checkbox"/> EMSL Standard Addition:	<p><b>TEM BULK</b></p> <input type="checkbox"/> Drop Mount (Qualitative) <input type="checkbox"/> Chatfield SOP - 1988-02 <input type="checkbox"/> TEM NOB (Gravimetric) NYS 198.4 <input type="checkbox"/> EMSL Standard Addition:	<p><b>TEM Microvac/Wipe</b></p> <input type="checkbox"/> ASTM D 5755-95 (quantative method) <input type="checkbox"/> Wipe Qualitative
<p><b>SEM Air or Bulk</b></p> <input type="checkbox"/> Qualitative <input type="checkbox"/> Quantitative	<p><b>PLM Soil</b></p> <input type="checkbox"/> EPA Protocol Qualitative <input type="checkbox"/> EPA Protocol Quantitative <input type="checkbox"/> EMSL MSD 9000 Method fibers/gram	<p><b>XRD</b></p> <input type="checkbox"/> Asbestos <input type="checkbox"/> Silica NIOSH 7500
		<p><b>OTHER</b></p> <input type="checkbox"/>

90904607



## Chain of Custody

### Asbestos Lab Services

EMSL Analytical, Inc.  
 Suite 230  
 2235 Polvorosa Ave  
 San Leandro,  
 CA 94577  
 Phone: (510) 895-  
 3675 (888) 455-3675  
 Fax: (510) 895-3680  
<http://www.emsl.com>

Please print all information legibly.

Client Sample # (a) 24-0120-1 - 24-0318-4Total Samples #: 14Relinquished: John Wood Date: 6/15/09Time: 1600Received: Shree Date: 6/16/09Time: 19:00 WPS

Relinquished: \_\_\_\_\_ Date: \_\_\_\_\_

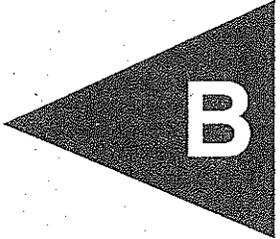
Time: \_\_\_\_\_

Received: \_\_\_\_\_ Date: \_\_\_\_\_

Time: \_\_\_\_\_

SAMPLE NUMBER	SAMPLE DESCRIPTION/LOCATION	VOLUME (if applicable)
24-0120-1	East Bound Rail Shim	
24-0120-2	EB Joint Material	
24-0120-3	EB Thread Compound	
24-0120-4	EB Joint Material <sup>under</sup> styrafoam	
24-0120-5	Drain pipe (under <del>the</del> East end)	
24-0120-6	Joint Material (under E. end)	
24-0120-7	West Bound Thread Compound	
24-0120-8	WB Joint Material <sup>under</sup> styrafoam	
24-0120-9	Drain Pipe under W. end	
24-0120-10	Crack Sealant (Black)	
24-0318-1	EB Rail Shim	
24-0318-2	Joint Material under E. end	
24-0318-3	W.B. Rail Shim	
24-0318-4	Joint Material under W. End	

APPENDIX



**B**



*California Environmental Protection Agency  
Department of Toxic Substances Control*

**VARIANCE**

Applicant Names:

Variance No. V09HQSCD006

State of California  
Department of Transportation  
(Caltrans)  
1120 N Street  
Sacramento, California 95814

Effective Date: July 1, 2009

Expiration Date: July 1, 2014

Modification History:

Pursuant to California Health and Safety Code, Section 25143, the Department of Toxic Substances Control hereby issues the attached Variance consisting of 9 pages to the Department of Transportation.

A handwritten signature in black ink that reads "Beverly Rikala".

Beverly Rikala  
Team Leader, Operating Facilities Team  
Department of Toxic Substances Control

Date: 6/30/09

**VARIANCE**

1. INTRODUCTION.

a) Pursuant to Health and Safety Code, section 25143, the California Department of Toxic Substances Control (DTSC) grants this variance to the applicant below for waste considered to be hazardous solely because of its lead concentrations and as further specified herein.

b) DTSC hereby grants this variance only from the requirements specified herein and only in accordance with all terms and conditions specified herein.

2. IDENTIFYING INFORMATION.

APPLICANT/OWNER/OPERATOR

State of California  
Department of Transportation, (Caltrans)  
All Districts

3. TYPE OF VARIANCE.

Generation, Manifest, Transportation, Storage and Disposal.

4. ISSUANCE AND EXPIRATION DATES.

DATE ISSUED: July 1, 2009      EXPIRATION DATE: July 1, 2014

5. APPLICABLE STATUTES AND REGULATIONS. The hazardous waste that is the subject of this variance is fully regulated under Health and Safety Code, section 25100, et seq. and California Code of Regulations, title 22, division 4.5 except as specifically identified in Section 8 of this variance.

6. DEFINITION. For purposes of this variance, "lead-contaminated soil(s)" shall mean soil that meets the criteria for hazardous waste but contains less than 3397 mg/kg total lead and is hazardous primarily because of aeriially-deposited lead contamination associated with exhaust emissions from the operation of motor vehicles.

7. FINDINGS/DETERMINATIONS. DTSC has determined that the variance applicant meets the requirements set forth in Health and Safety Code, section 25143 for a variance from specific regulatory requirements as outlined in Section 8 of this variance. The specific determinations and findings made by DTSC are as follows:

a) Caltrans intends to excavate, stockpile, transport, bury and cover large volumes of soil associated with highway construction projects. In the more urbanized highway corridors around the State this soil is contaminated with lead, primarily due to historic emissions from automobile exhausts. In situ sampling and laboratory testing has shown that some of the soil contains concentrations of lead in excess of State regulatory thresholds, and thus any generated waste from disturbance of the soil

would be regulated as hazardous waste. Such soil contains a Total Threshold Limit Concentration (TTLC) of 1000 milligrams per kilogram (mg/kg) or more lead and/or it meets or exceeds the Soluble Threshold Limit Concentration (STLC) for lead of 5 milligrams per liter (mg/l). A Human Health Risk Assessment prepared for this variance concludes that soil contaminated with elevated concentrations of lead can be managed in a way that presents no significant risk to human health.

b) The lead-contaminated soil will be placed only in Caltrans' right-of-way. Depending on concentration levels, the wastes will be covered with a minimum thickness of one (1) foot of non-hazardous soil or asphalt/concrete cover and will always be at least five (5) feet above the highest groundwater elevation. Caltrans will assure that proper health and safety procedures will be followed for workers, including any persons engaged in maintenance work in areas where the waste has been buried and covered.

c) DTSC finds and requires that the lead-contaminated soil excavated, stockpiled, transported, buried and covered pursuant to this variance is a non-RCRA hazardous waste, and that the waste management activity is insignificant as a potential hazard to human health and safety and the environment, when managed in accordance with the conditions, limitations and other requirements specified in this variance.

8. PROVISIONS WAIVED.

Provided Caltrans meets the terms and conditions of this variance, DTSC waives the hazardous waste management requirements of Health and Safety Code, Chapter 6.5 and California Code of Regulations, title 22 for the lead-contaminated soil that Caltrans reuses in projects that would require Caltrans to obtain a permit for a disposal facility and any other generator requirements that concern the transportation, manifesting, storage and land disposal of hazardous waste.

9. SPECIFIC CONDITIONS, LIMITATIONS AND OTHER REQUIREMENTS.

In order for the provisions discussed in section 8 to be waived, lead-contaminated soil must not exceed the contaminant concentrations discussed below and Caltrans management practices must meet all the following conditions:

a) Caltrans implementation of this variance shall comply with all applicable state laws and regulations for water quality control, water quality control plans, waste discharge requirements (including storm water permits), and others issued by the State Water Resources Control Board (SWRCB) and/or a California Regional Water Quality Control Board (RWQCB). Caltrans shall provide written notification to the appropriate RWQCB at least 30 days prior to advertisement for bids of projects that involve invocation of this variance, or as otherwise negotiated with the SWRCB or appropriate RWQCB.

b) The waivers in this variance shall only be applied to lead-contaminated soil that is not a RCRA hazardous waste and is hazardous primarily because of aerially-

deposited lead contamination associated with exhaust emissions from the operation of motor vehicles. The variance is not applicable to any other hazardous waste.

c) Soil containing 1.5 mg/l extractable lead or less (based on a modified waste extraction test using deionized water as the extractant) and 1411 mg/kg or less total lead may be used as fill provided that the lead-contaminated soil is placed a minimum of five (5) feet above the maximum historic water table elevation and covered with at least one (1) foot of nonhazardous soil that will be maintained by Caltrans to prevent future erosion.

d) Soil containing 150 mg/L extractable lead or less (based on a modified waste extraction test using deionized water as the extractant) and 3397 mg/kg or less total lead may be used as fill provided that the lead-contaminated soils are placed a minimum of five (5) feet above the maximum historic water table elevation and protected from infiltration by a pavement structure which will be maintained by Caltrans.

e) Lead-contaminated soil with a pH less than 5.5 but greater than 5.0 shall only be used as fill material under the paved portion of the roadway. Lead-contaminated soil with a pH at or less than 5.0 shall be managed as a hazardous waste.

f) For each project that has the potential to generate waste by disturbing lead-contaminated soil (as defined in 6), Caltrans shall conduct sampling and analysis to adequately characterize the soils containing aerially deposited lead in the areas of planned excavation along the project route. Such sampling and analysis shall include the Toxicity Characteristic Leaching Procedure (TCLP) as prescribed by the United States Environmental Protection Agency to determine whether concentrations of contaminants in soil exceed federal criteria for classification as a hazardous waste.

g) Lead-contaminated soil managed pursuant to this variance shall not be moved outside the designated corridor boundaries (see paragraph t) below. All lead-contaminated soil not buried and covered within the same Caltrans corridor where it originated is not eligible for management under this variance and shall be managed as a hazardous waste.

h) Lead-contaminated soil managed pursuant to this variance shall not be placed in areas where it would become in contact with groundwater or surface water (such as streams and rivers).

i) Lead-contaminated soil managed pursuant to this variance shall be buried and covered only in locations that are protected from erosion that may result from storm water run-on and run-off.

j) The lead-contaminated soil shall be buried and covered in a manner that will prevent accidental or deliberate breach of the asphalt, concrete, and/or cover soil.

k) The presence of lead-contaminated soil shall be incorporated into the projects' as-built drawings. The as-built drawings shall be annotated with the location, representative analytical data, and volume of lead-contaminated soil. The as-built drawings shall also state the depth of the cover. These as-built drawings shall be retained by Caltrans.

l) Caltrans shall ensure that no other hazardous wastes, other than the lead-contaminated hazardous waste soil, are placed in the burial areas.

m) Lead-contaminated soil shall not be buried within ten (10) feet of culverts or locations subject to frequent worker exposure.

n) Excavated lead-contaminated soil not placed into the designated area (fill area, roadbed area) by the end of the working day shall be stockpiled and covered with sheets of polyethylene or at least one foot of non-hazardous soil. The lead-contaminated soil, while stockpiled or under transport, shall be protected from contacting surface water and from being dislodged or transported by wind or storm water. The stockpile covers shall be inspected at least once a week and within 24 hours after rainstorms. If the lead-contaminated soil is stockpiled for more than 4 days from the time of excavation, Caltrans shall restrict public access to the stockpile by using barriers that meet the safety requirements of the construction zone. The lead-contaminated soil shall be stockpiled for no more than 90 days from the time the soil is first excavated. If the contaminated soil is stockpiled beyond the 90 day limit Caltrans shall:

1. notify DTSC in writing of the 90 day exceedance and expected date of removal;
2. perform weekly inspections of the stockpiled material to ensure that there is adequate protection from run-on, runoff, public access, and wind dispersion; and
3. notify DTSC on weekly basis of the stockpile status until the stockpile is removed.

The lead-contaminated soil shall be stockpiled for no more than 180 days from the time the soil is first excavated.

o) Caltrans shall ensure that all stockpiling of lead-contaminated soil remains within the project area of the specified corridor. Stockpiling of lead-contaminated soil within the specified corridor, but outside the project area, is prohibited.

p) Caltrans shall conduct confirmatory sampling of any stockpile area in areas not known or expected to contain lead-contaminated soil after removal of the lead-contaminated soil to ensure that contamination has not been left behind or has not migrated from the stockpiled material to the surrounding soils.

q) Caltrans shall stockpile lead-contaminated soil only on high ground (i.e. no sump areas or low points) so that stockpiled soil will not come in contact with surface

water run-on or run-off.

r) Caltrans shall not stockpile lead-contaminated soil in environmentally and ecologically sensitive areas.

s) Caltrans shall ensure that storm/rain run-off that has come into contact with stockpiled lead-contaminated soil will not flow to storm drains, inlets, or waters of the State.

t) Caltrans may dispose of the lead-contaminated soil only within the operating right-of-way of an existing highway, as defined in Streets and Highways Code, section 23. Caltrans may move lead-contaminated soil from one Caltrans project to another Caltrans project only if the lead-contaminated soil remains within the same designated corridor.

Caltrans shall record any movement of lead-contaminated soil by using a bill of lading. The bill of lading must contain: 1) the US DOT description including shipping name, hazard class and ID number; 2) handling codes; 3) quantity of material; 4) volume of material; 5) date of shipment; 6) origin and destination of shipment; and 7) any specific handling instructions. The bill of lading shall be referenced in and kept on file with the project's as-built drawings. The lead-contaminated soil must be kept covered during transportation.

u) For each specific corridor where this variance is to be implemented, all of the following information shall be submitted in writing to DTSC at least five (5) days before construction of any project begins:

1. plan drawing designating the boundaries of the corridor where lead-contaminated soils will be excavated, stockpiled, buried and covered;
2. a list of the Caltrans projects that the corridor encompasses;
3. a list of Caltrans contractors that will be conducting any phase of work on any project affected by this variance;
4. duration of corridor construction;
5. location where sampling and analytical data used to make lead concentration level determinations are kept (e.g. a particular Caltrans project file);
6. name and phone number (including area code) of project resident engineer and project manager;
7. location where Caltrans and contractor health and safety plan and records are kept;

8. location of project special provisions (including page or section number) for soil excavation, transportation, stockpile, burial and placement of cover material;

9. location of project drawings (including drawing page number) for soil excavation, burial and placement of cover in plan and cross section (for example, "The project plans are located at the resident engineer's office located at 5th and Main Streets, City of Fresno, See pages xxxxx of contract xxx");

10. updated information if a Caltrans project within the corridor is added, changed or deleted; and

11. type of environmental document prepared for each project, date of adoption, document title, Clearing House number and where the document is available for review. A copy of the Caltrans Categorical Exemption, Categorical Exclusion Form, or if filed, the Notice of Exemption for any project shall be submitted to the DTSC Headquarters Project Manager.

v) Changes in location of lead-contaminated soil placement, quantities or protection measures (field changes) shall be noted in the resident engineer's project log within five (5) days of the field change.

w) Caltrans shall ensure that field changes are in compliance with the requirements of this variance.

x) Operational procedures described in the California Environmental Quality Act (CEQA) Special Initial Study shall be followed by Caltrans for activities conducted under this variance.

y) Caltrans shall implement appropriate health and safety procedures to protect its employees and the public, and to prevent or minimize exposure to potentially hazardous wastes. A project-specific health and safety plan must be prepared and implemented. The monitoring and exposure standards shall be based on construction standards for exposure to lead in California Code of Regulations, title 8, section 1532.1.

z) Caltrans shall provide a district Coordinator for this variance. This Coordinator will be the primary point of contact for information flowing to, or received from, DTSC regarding any matter or submission under this variance. Caltrans shall promptly notify DTSC of the name of Coordinator and any change in the Coordinator.

aa) Caltrans shall conduct regular inspections, consistent with Caltrans' Maintenance Division's current Pavement Inspection and Slope Inspection programs, of the locations where lead-contaminated soil has been buried and/or covered pursuant to this variance. If site inspection reveals deterioration of cover so that conditions in the variance are not met, Caltrans shall repair or replace the cover.

bb) Caltrans shall develop and implement a record keeping mechanisms to record and retain permanent records of all locations where lead-contaminated soil has been buried per this variance. The records shall be made available to DTSC.

cc) If areas subject to the terms of this variance are sold, relinquished or abandoned (including roadways), all future property owners shall be notified in writing in advance by Caltrans of the requirements of this variance, and Caltrans shall provide the owner with a copy of the variance. A copy of such a notice shall be sent to DTSC and contain the corridor location and project. Caltrans shall also disclose to DTSC and the new owner the location of areas where lead-contaminated soil has been buried. Future property owners shall be subject to the same requirements as Caltrans.

dd) For the purposes of informing the public about instances where the variance is implemented, Caltrans shall:

1. maintain current fact sheets at all Caltrans resident engineer offices and the Caltrans District office. Caltrans shall make the fact sheets available to anyone expressing an interest in variance-related work.
2. maintain a binder(s) containing copies of all reports submitted to DTSC at the District office. Caltrans shall ensure that the binders are readily accessible to the public.
3. carry out the following actions when it identifies additional projects:
  - (A) notify the public via a display advertisement in a newspaper of general circulation in that area.
  - (B) update and distribute the fact sheet to the mailing list and repository locations.

ee) Lead-contaminated soil may be buried only in areas where access is limited or where lead-contaminated soil is covered and contained by a pavement structure.

ff) Dust containing lead-contaminated soil must be controlled. Water or dust palliative may be applied to control dust. If visible dust migration occurs, all excavation, stockpiling and truck loading and burying must be stopped. The granting of this variance confers no relief on Caltrans from compliance with the laws, regulations and requirements enforced by any local air district or the California Air Resources Board.

gg) Sampling and analysis is required to show the lead-contaminated soil meets the variance criteria. All sampling and analysis must be conducted in accordance with the appropriate methods specified in U.S. EPA SW-846.

hh) DTSC retains the right to require Caltrans or any future owner to remove, and properly dispose of, lead-contaminated soil in the event DTSC determines it is necessary for protection of public health, safety or the environment.

ii) DTSC finds that some projects involving lead-contaminated soil are joint projects between Caltrans and other government entities. In these joint projects, Caltrans may not be the lead agency implementing the project although Caltrans is still involved if the project occurs on its right-of-way.

Caltrans may invoke this variance for joint projects where Caltrans and local government entity are involved provided that 1) the project is within the Caltrans Right-of-Way; 2) Caltrans reviews/ oversees all phases of the project including design, contracting, environmental assessment, construction, operation, and maintenance; and 3) Caltrans oversees the project to verify all variance conditions are complied with. Caltrans will be fully responsible for the variance notification and implementation in these joint projects.

jj) All correspondence shall be directed to the following office:

Hazardous Waste Permitting  
Department of Toxic Substances Control  
8800 Cal Center Drive  
Sacramento, CA 95826

Attn: Caltrans Lead Variance Notification Unit

10. DISCLAIMER.

a) The issuance of this variance does not relieve Caltrans of the responsibility for compliance with Health and Safety Code, chapter 6.5, or the regulations adopted thereunder, and any other laws and regulations other than those specifically identified in Section 8 of this variance. Caltrans is subject to all terms and conditions herein. The granting of this variance confers no relief from compliance with any federal, State or local requirements other than those specifically provided herein.

b) The issuance of this variance does not release Caltrans from any liability associated with the handling of hazardous waste, except as specifically provided herein and subject to all terms and conditions of this variance.

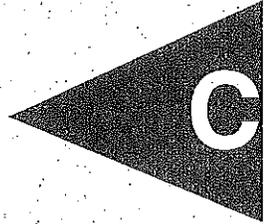
11. VARIANCE MODIFICATION OR REVOCATION. This variance is subject to review at the discretion of DTSC and may be modified or revoked by DTSC upon change of ownership and at any other time pursuant to Health and Safety Code, section 25143.
12. CEQA DETERMINATION. DTSC adopted a Negative Declaration on June 30, 2009.

Approved:

6/30/09  
Date

Beverly Rikala  
Beverly Rikala  
Operating Facilities Team  
Department of Toxic Substances Control

APPENDIX



June 29, 2009



Gemma Reblando  
Geocon Consultants, Inc.  
3160 Gold Valley Drive, Suite 800  
Rancho Cordova, CA 95742  
TEL: (916) 852-9118  
FAX: (916) 852-9132

ELAP No.: 1838  
NELAP No.: 02107CA  
NEVADA.: CA-401  
CSDLAC No.: 10196

Workorder No.: 105983

RE: Hwy 50 Ramp Metering, S9300-06-91

Attention: Gemma Reblando

Enclosed are the results for sample(s) received on June 17, 2009 by Advanced Technology Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

This is an amended report. Please disregard all previous documentation that corresponds to the page(s) enclosed.

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

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

Sincerely,

Eddie F. Rodriguez  
Laboratory Director

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



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**CLIENT:** Geocon Consultants, Inc.  
**Project:** Hwy 50 Ramp Metering, S9300-06-91  
**Lab Order:** 105983

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**CASE NARRATIVE**

Sample Receiving / General Comments

Samples B32-0, B32-1 and B32-2 were listed on the COC, but were not received by the laboratory. The client was notified on 06/17/09 and instructed the laboratory to disregard these samples.

Analytical Comments for Method 6010

Matrix Spike (MS) and /or Matrix Spike Duplicate (MSD) are/is outside recovery criteria for sample 105983-143AMSD; however, the analytical batch was validated by the Laboratory Control Sample (LCS).

RPD for Duplicate (DUP) and/or Matrix Spike (MS)/Matrix Spike Duplicate (MSD) is outside criteria for samples 105983-020ADUP, 105983-050ADUP, 105983-070ADUP, 105983-123ADUP, 105983-133ADUP, 105983-143ADUP, 105983-143AMSD and 105991-007ADUP; however, the analytical batch was validated by the Laboratory Control Sample (LCS).



**LEAD BY ICP  
EPA 6010B**

**ANALYTICAL RESULTS**

<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Lab Order:</b>	105983
<b>Project:</b>	Hwy 50 Ramp Metering, S9300-06-91	<b>Date Received</b>	6/17/2009 8:35:00 AM
<b>Project No:</b>		<b>Matrix:</b>	Soil
<b>Analyte:</b>	Lead	<b>Analyst:</b>	CL

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
105983-001A	B1-0	79	mg/Kg	56019	5.0	1	6/15/2009	6/19/2009
105983-002A	B1-1	19	mg/Kg	56019	5.0	1	6/15/2009	6/19/2009
105983-003A	B1-2	ND	mg/Kg	56019	5.0	1	6/15/2009	6/19/2009
105983-004A	B2-0	71	mg/Kg	56019	5.0	1	6/15/2009	6/19/2009
105983-005A	B2-1	5.2	mg/Kg	56019	5.0	1	6/15/2009	6/19/2009
105983-006A	B2-2	5.6	mg/Kg	56019	5.0	1	6/15/2009	6/19/2009
105983-007A	B3-0	9.2	mg/Kg	56019	5.0	1	6/15/2009	6/19/2009
105983-008A	B3-1	ND	mg/Kg	56019	5.0	1	6/15/2009	6/19/2009
105983-009A	B3-2	8.9	mg/Kg	56019	5.0	1	6/15/2009	6/19/2009
105983-010A	B4-0	320	mg/Kg	56019	5.0	1	6/15/2009	6/19/2009
105983-011A	B4-1	ND	mg/Kg	56019	5.0	1	6/15/2009	6/19/2009
105983-012A	B4-2	6.1	mg/Kg	56019	5.0	1	6/15/2009	6/19/2009
105983-013A	B5-0	140	mg/Kg	56019	5.0	1	6/15/2009	6/19/2009
105983-014A	B5-1	ND	mg/Kg	56019	5.0	1	6/15/2009	6/19/2009
105983-015A	B5-2	5.1	mg/Kg	56019	5.0	1	6/15/2009	6/19/2009
105983-016A	B6-0	60	mg/Kg	56019	5.0	1	6/15/2009	6/19/2009
105983-017A	B6-1	ND	mg/Kg	56019	5.0	1	6/15/2009	6/19/2009
105983-018A	B6-2	5.5	mg/Kg	56019	5.0	1	6/15/2009	6/19/2009

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



**LEAD BY ICP  
EPA 6010B**

**ANALYTICAL RESULTS**

<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Lab Order:</b>	105983
<b>Project:</b>	Hwy 50 Ramp Metering, S9300-06-91	<b>Date Received</b>	6/17/2009 8:35:00 AM
<b>Project No:</b>		<b>Matrix:</b>	Soil
<b>Analyte:</b>	Lead	<b>Analyst:</b>	CL

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
105983-019A	B7-0	420	mg/Kg	56019	5.0	1	6/15/2009	6/19/2009
105983-020A	B7-1	5.4	mg/Kg	56019	5.0	1	6/15/2009	6/19/2009
105983-021A	B7-2	5.1	mg/Kg	56020	5.0	1	6/15/2009	6/19/2009
105983-022A	B8-0	57	mg/Kg	56020	5.0	1	6/15/2009	6/19/2009
105983-023A	B8-1	ND	mg/Kg	56020	5.0	1	6/15/2009	6/19/2009
105983-024A	B8-2	19	mg/Kg	56020	5.0	1	6/15/2009	6/19/2009
105983-025A	B9-0	290	mg/Kg	56020	5.0	1	6/15/2009	6/19/2009
105983-026A	B9-1	ND	mg/Kg	56020	5.0	1	6/15/2009	6/19/2009
105983-027A	B9-2	ND	mg/Kg	56020	5.0	1	6/15/2009	6/19/2009
105983-028A	B10-0	460	mg/Kg	56020	5.0	1	6/15/2009	6/19/2009
105983-029A	B10-1	21	mg/Kg	56020	5.0	1	6/15/2009	6/19/2009
105983-030A	B10-2	ND	mg/Kg	56020	5.0	1	6/15/2009	6/19/2009
105983-031A	B11-0	250	mg/Kg	56020	5.0	1	6/15/2009	6/19/2009
105983-032A	B11-1	ND	mg/Kg	56020	5.0	1	6/15/2009	6/19/2009
105983-033A	B11-2	17	mg/Kg	56020	5.0	1	6/15/2009	6/19/2009
105983-034A	B12-0	410	mg/Kg	56020	5.0	1	6/15/2009	6/19/2009
105983-035A	B12-1	150	mg/Kg	56020	5.0	1	6/15/2009	6/19/2009
105983-036A	B12-2	68	mg/Kg	56020	5.0	1	6/15/2009	6/19/2009

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



**LEAD BY ICP  
EPA 6010B**

**ANALYTICAL RESULTS**

<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Lab Order:</b>	105983
<b>Project:</b>	Hwy 50 Ramp Metering, S9300-06-91	<b>Date Received</b>	6/17/2009 8:35:00 AM
<b>Project No:</b>		<b>Matrix:</b>	Soil
<b>Analyte:</b>	Lead	<b>Analyst:</b>	CL

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
105983-037A	B13-0	36	mg/Kg	56020	5.0	1	6/15/2009	6/19/2009
105983-038A	B13-1	5.7	mg/Kg	56020	5.0	1	6/15/2009	6/19/2009
105983-039A	B13-2	6.3	mg/Kg	56020	5.0	1	6/15/2009	6/19/2009
105983-040A	B14-0	120	mg/Kg	56020	5.0	1	6/15/2009	6/19/2009
105983-041A	B14-1	10	mg/Kg	56021	5.0	1	6/15/2009	6/19/2009
105983-042A	B14-2	ND	mg/Kg	56021	5.0	1	6/15/2009	6/19/2009
105983-043A	B15-0	34	mg/Kg	56021	5.0	1	6/15/2009	6/19/2009
105983-044A	B15-1	5.9	mg/Kg	56021	5.0	1	6/15/2009	6/19/2009
105983-045A	B15-2	6.4	mg/Kg	56021	5.0	1	6/15/2009	6/19/2009
105983-046A	B16-0	80	mg/Kg	56021	5.0	1	6/15/2009	6/19/2009
105983-047A	B16-1	ND	mg/Kg	56021	5.0	1	6/15/2009	6/19/2009
105983-048A	B16-2	6.2	mg/Kg	56021	5.0	1	6/15/2009	6/19/2009
105983-049A	PC1	ND	mg/Kg	56021	5.0	1	6/15/2009	6/19/2009
105983-050A	B17-0	620	mg/Kg	56021	5.0	1	6/15/2009	6/19/2009
105983-051A	B17-1	18	mg/Kg	56021	5.0	1	6/15/2009	6/19/2009
105983-052A	B17-2	ND	mg/Kg	56021	5.0	1	6/15/2009	6/19/2009
105983-053A	B18-0	140	mg/Kg	56021	5.0	1	6/15/2009	6/19/2009
105983-054A	B18-1	ND	mg/Kg	56021	5.0	1	6/15/2009	6/19/2009

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



**LEAD BY ICP  
EPA 6010B**

**ANALYTICAL RESULTS**

<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Lab Order:</b>	105983
<b>Project:</b>	Hwy 50 Ramp Metering, S9300-06-91	<b>Date Received</b>	6/17/2009 8:35:00 AM
<b>Project No:</b>		<b>Matrix:</b>	Soil
<b>Analyte:</b>	Lead	<b>Analyst:</b>	CL

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
105983-055A	B18-2	ND	mg/Kg	56021	5.0	1	6/15/2009	6/19/2009
105983-056A	B19-0	45	mg/Kg	56021	5.0	1	6/15/2009	6/19/2009
105983-057A	B19-1	ND	mg/Kg	56021	5.0	1	6/15/2009	6/19/2009
105983-058A	B19-2	ND	mg/Kg	56021	5.0	1	6/15/2009	6/19/2009
105983-059A	B20-0	20	mg/Kg	56021	5.0	1	6/15/2009	6/19/2009
105983-060A	B20-1	ND	mg/Kg	56021	5.0	1	6/15/2009	6/19/2009
105983-061A	B20-2	5.0	mg/Kg	56022	5.0	1	6/15/2009	6/19/2009
105983-062A	B21-0	40	mg/Kg	56022	5.0	1	6/15/2009	6/19/2009
105983-063A	B21-1	ND	mg/Kg	56022	5.0	1	6/15/2009	6/19/2009
105983-064A	B21-2	ND	mg/Kg	56022	5.0	1	6/15/2009	6/19/2009
105983-065A	PC2	ND	mg/Kg	56022	5.0	1	6/15/2009	6/19/2009
105983-066A	B22-0	130	mg/Kg	56022	5.0	1	6/15/2009	6/19/2009
105983-067A	B22-1	7.7	mg/Kg	56022	5.0	1	6/15/2009	6/19/2009
105983-068A	B22-2	6.8	mg/Kg	56022	5.0	1	6/15/2009	6/19/2009
105983-069A	B23-0	1000	mg/Kg	56022	5.0	1	6/15/2009	6/19/2009
105983-070A	B23-1	5.3	mg/Kg	56022	5.0	1	6/15/2009	6/19/2009
105983-071A	B23-2	ND	mg/Kg	56022	5.0	1	6/15/2009	6/19/2009
105983-072A	B24-0	89	mg/Kg	56022	5.0	1	6/15/2009	6/19/2009

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



**LEAD BY ICP  
EPA 6010B**

**ANALYTICAL RESULTS**

<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Lab Order:</b>	105983
<b>Project:</b>	Hwy 50 Ramp Metering, S9300-06-91	<b>Date Received</b>	6/17/2009 8:35:00 AM
<b>Project No:</b>		<b>Matrix:</b>	Soil
<b>Analyte:</b>	Lead	<b>Analyst:</b>	CL

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
105983-073A	B24-1	8.8	mg/Kg	56022	5.0	1	6/15/2009	6/19/2009
105983-074A	B24-2	17	mg/Kg	56022	5.0	1	6/15/2009	6/19/2009
105983-075A	PC3	ND	mg/Kg	56022	5.0	1	6/15/2009	6/19/2009
105983-076A	B25-0	130	mg/Kg	56022	5.0	1	6/15/2009	6/19/2009
105983-077A	B25-1	5.2	mg/Kg	56022	5.0	1	6/15/2009	6/19/2009
105983-078A	B25-2	ND	mg/Kg	56022	5.0	1	6/15/2009	6/19/2009
105983-079A	B26-0	32	mg/Kg	56022	5.0	1	6/15/2009	6/19/2009
105983-080A	B26-1	ND	mg/Kg	56022	5.0	1	6/15/2009	6/19/2009
105983-081A	B26-2	24	mg/Kg	56023	5.0	1	6/15/2009	6/19/2009
105983-082A	B27-0	360	mg/Kg	56023	5.0	1	6/15/2009	6/19/2009
105983-083A	B27-1	ND	mg/Kg	56023	5.0	1	6/15/2009	6/19/2009
105983-084A	B27-2	6.0	mg/Kg	56023	5.0	1	6/15/2009	6/19/2009
105983-085A	B28-0	93	mg/Kg	56023	5.0	1	6/15/2009	6/19/2009
105983-086A	B28-1	5.6	mg/Kg	56023	5.0	1	6/15/2009	6/19/2009
105983-087A	B28-2	5.0	mg/Kg	56023	5.0	1	6/15/2009	6/19/2009
105983-088A	B29-0	67	mg/Kg	56023	5.0	1	6/15/2009	6/19/2009
105983-089A	B29-1	ND	mg/Kg	56023	5.0	1	6/15/2009	6/19/2009
105983-090A	B29-2	ND	mg/Kg	56023	5.0	1	6/15/2009	6/19/2009

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



**LEAD BY ICP  
EPA 6010B**

**ANALYTICAL RESULTS**

<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Lab Order:</b>	105983
<b>Project:</b>	Hwy 50 Ramp Metering, S9300-06-91	<b>Date Received</b>	6/17/2009 8:35:00 AM
<b>Project No:</b>		<b>Matrix:</b>	Soil
<b>Analyte:</b>	Lead	<b>Analyst:</b>	CL

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
105983-091A	B30-0	210	mg/Kg	56023	5.0	1	6/15/2009	6/19/2009
105983-092A	B30-1	8.6	mg/Kg	56023	5.0	1	6/15/2009	6/19/2009
105983-093A	B30-2	8.2	mg/Kg	56023	5.0	1	6/15/2009	6/19/2009
105983-094A	B31-0	190	mg/Kg	56023	5.0	1	6/15/2009	6/19/2009
105983-095A	B31-1	5.5	mg/Kg	56023	5.0	1	6/15/2009	6/19/2009
105983-096A	B31-2	ND	mg/Kg	56023	5.0	1	6/15/2009	6/19/2009
105983-100A	B33-0	18	mg/Kg	56023	5.0	1	6/15/2009	6/19/2009
105983-101A	B33-1	5.6	mg/Kg	56023	5.0	1	6/15/2009	6/19/2009
105983-102A	B33-2	6.0	mg/Kg	56023	5.0	1	6/15/2009	6/19/2009
105983-103A	B34-0	6.1	mg/Kg	56024	5.0	1	6/15/2009	6/19/2009
105983-104A	B34-1	ND	mg/Kg	56023	5.0	1	6/15/2009	6/19/2009
105983-105A	B34-2	6.7	mg/Kg	56024	5.0	1	6/15/2009	6/19/2009
105983-106A	B35-0	6.0	mg/Kg	56024	5.0	1	6/15/2009	6/19/2009
105983-107A	B35-1	6.2	mg/Kg	56024	5.0	1	6/15/2009	6/19/2009
105983-108A	B35-2	ND	mg/Kg	56024	5.0	1	6/15/2009	6/19/2009
105983-109A	PC4	700	mg/Kg	56024	5.0	1	6/15/2009	6/19/2009
105983-110A	B36-0	15	mg/Kg	56024	5.0	1	6/15/2009	6/19/2009
105983-111A	B36-1	24	mg/Kg	56024	5.0	1	6/15/2009	6/19/2009

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



**LEAD BY ICP  
EPA 6010B**

**ANALYTICAL RESULTS**

<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Lab Order:</b>	105983
<b>Project:</b>	Hwy 50 Ramp Metering, S9300-06-91	<b>Date Received</b>	6/17/2009 8:35:00 AM
<b>Project No:</b>		<b>Matrix:</b>	Soil
<b>Analyte:</b>	Lead	<b>Analyst:</b>	CL

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
105983-112A	B37-0	ND	mg/Kg	56024	5.0	1	6/15/2009	6/19/2009
105983-113A	B37-1	23	mg/Kg	56024	5.0	1	6/15/2009	6/19/2009
105983-114A	B37-2	ND	mg/Kg	56024	5.0	1	6/15/2009	6/19/2009
105983-115A	B38-0	14	mg/Kg	56024	5.0	1	6/15/2009	6/19/2009
105983-116A	B38-1	7.3	mg/Kg	56024	5.0	1	6/15/2009	6/19/2009
105983-117A	B38-2	ND	mg/Kg	56024	5.0	1	6/15/2009	6/19/2009
105983-118A	B39-0	43	mg/Kg	56024	5.0	1	6/15/2009	6/19/2009
105983-119A	B39-1	15	mg/Kg	56024	5.0	1	6/15/2009	6/19/2009
105983-120A	B39-2	6.1	mg/Kg	56024	5.0	1	6/15/2009	6/19/2009
105983-121A	B40-0	30	mg/Kg	56024	5.0	1	6/15/2009	6/19/2009
105983-122A	B40-1	7.2	mg/Kg	56024	5.0	1	6/15/2009	6/19/2009
105983-123A	B40-2	5.5	mg/Kg	56024	5.0	1	6/15/2009	6/19/2009
105983-124A	B41-0	16	mg/Kg	56025	5.0	1	6/15/2009	6/22/2009
105983-125A	B41-1	6.3	mg/Kg	56025	5.0	1	6/15/2009	6/22/2009
105983-126A	B41-2	6.1	mg/Kg	56025	5.0	1	6/15/2009	6/22/2009
105983-127A	B42-0	7.1	mg/Kg	56025	5.0	1	6/15/2009	6/22/2009
105983-128A	B42-1	8.5	mg/Kg	56025	5.0	1	6/15/2009	6/22/2009
105983-129A	B42-2	7.7	mg/Kg	56025	5.0	1	6/15/2009	6/22/2009

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



**LEAD BY ICP  
EPA 6010B**

**ANALYTICAL RESULTS**

<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Lab Order:</b>	105983
<b>Project:</b>	Hwy 50 Ramp Metering, S9300-06-91	<b>Date Received</b>	6/17/2009 8:35:00 AM
<b>Project No:</b>		<b>Matrix:</b>	Soil
<b>Analyte:</b>	Lead	<b>Analyst:</b>	CL

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
105983-130A	B43-0	21	mg/Kg	56025	5.0	1	6/15/2009	6/22/2009
105983-131A	B43-1	6.0	mg/Kg	56025	5.0	1	6/15/2009	6/22/2009
105983-132A	B43-2	5.5	mg/Kg	56025	5.0	1	6/15/2009	6/22/2009
105983-133A	B44-0	13	mg/Kg	56025	5.0	1	6/15/2009	6/22/2009
105983-134A	B44-1	17	mg/Kg	56025	5.0	1	6/15/2009	6/22/2009
105983-135A	B44-2	19	mg/Kg	56025	5.0	1	6/15/2009	6/22/2009
105983-136A	B45-0	22	mg/Kg	56025	5.0	1	6/15/2009	6/22/2009
105983-137A	B45-1	85	mg/Kg	56025	5.0	1	6/15/2009	6/22/2009
105983-138A	B45-2	9.6	mg/Kg	56025	5.0	1	6/15/2009	6/22/2009
105983-139A	B46-0	30	mg/Kg	56025	5.0	1	6/15/2009	6/22/2009
105983-140A	B46-1	47	mg/Kg	56025	5.0	1	6/15/2009	6/22/2009
105983-141A	B46-2	12	mg/Kg	56025	5.0	1	6/15/2009	6/22/2009
105983-142A	B47-0	57	mg/Kg	56025	5.0	1	6/15/2009	6/22/2009
105983-143A	B47-1	78	mg/Kg	56025	5.0	1	6/15/2009	6/22/2009
105983-144A	B48-0	40	mg/Kg	56026	5.0	1	6/15/2009	6/19/2009
105983-145A	B49-0	220	mg/Kg	56026	5.0	1	6/15/2009	6/19/2009
105983-146A	B49-1	390	mg/Kg	56026	5.0	1	6/15/2009	6/19/2009
105983-147A	B49-2	51	mg/Kg	56026	5.0	1	6/15/2009	6/19/2009

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



**ANALYTICAL RESULTS**

**LEAD BY ICP  
EPA 6010B**

<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Lab Order:</b>	105983
<b>Project:</b>	Hwy 50 Ramp Metering, S9300-06-91	<b>Date Received</b>	6/17/2009 8:35:00 AM
<b>Project No:</b>		<b>Matrix:</b>	Soil
<b>Analyte:</b>	Lead	<b>Analyst:</b>	CL

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
105983-148A	B50-0	150	mg/Kg	56026	5.0	1	6/15/2009	6/19/2009
105983-149A	B50-1	ND	mg/Kg	56026	5.0	1	6/15/2009	6/19/2009
105983-150A	B50-2	ND	mg/Kg	56026	5.0	1	6/15/2009	6/19/2009
105983-151A	B51-0	130	mg/Kg	56026	5.0	1	6/15/2009	6/19/2009
105983-152A	B51-1	ND	mg/Kg	56026	5.0	1	6/15/2009	6/19/2009
105983-153A	B51-2	ND	mg/Kg	56026	5.0	1	6/15/2009	6/19/2009
105983-154A	B52-0	51	mg/Kg	56026	5.0	1	6/15/2009	6/19/2009
105983-155A	B52-1	ND	mg/Kg	56026	5.0	1	6/15/2009	6/19/2009
105983-156A	B52-2	ND	mg/Kg	56026	5.0	1	6/15/2009	6/19/2009

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



**ANALYTICAL RESULTS**

**pH  
EPA 9045C**

<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Lab Order:</b>	105983
<b>Project:</b>	Hwy 50 Ramp Metering, S9300-06-91	<b>Date Received</b>	6/17/2009 8:35:00 AM
<b>Project No:</b>		<b>Matrix:</b>	Soil
<b>Analyte:</b>	pH	<b>Analyst:</b>	DDL

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
105983-006A	B2-2	7.7	pH Units	R110088	0.10	1	6/15/2009	6/19/2009
105983-046A	B16-0	7.9	pH Units	R110088	0.10	1	6/15/2009	6/19/2009
105983-080A	B26-1	8.1	pH Units	R110088	0.10	1	6/15/2009	6/19/2009
105983-106A	B35-0	7.5	pH Units	R110151	0.10	1	6/15/2009	6/23/2009
105983-129A	B42-2	8.2	pH Units	R110088	0.10	1	6/15/2009	6/19/2009
105983-145A	B49-0	7.8	pH Units	R110088	0.10	1	6/15/2009	6/19/2009

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



**CLIENT:** Geocon Consultants, Inc.  
**Work Order:** 105983  
**Project:** Hwy 50 Ramp Metering, S9300-06-91

**ANALYTICAL QC SUMMARY REPORT**

**TestCode: 6010\_SPB**

Sample ID: <b>MB-56019A</b>	SampType: <b>MBLK</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110074</b>
Client ID: <b>PBS</b>	Batch ID: <b>56019</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/19/2009</b>	SeqNo: <b>1728985</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Lead 0.311 5.0

Sample ID: <b>LCS-56019</b>	SampType: <b>LCS</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110074</b>
Client ID: <b>LCSS</b>	Batch ID: <b>56019</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/19/2009</b>	SeqNo: <b>1728986</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Lead 267.294 5.0 250.0 0.3112 107 80 120

Sample ID: <b>105983-010ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110074</b>
Client ID: <b>B4-0</b>	Batch ID: <b>56019</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/19/2009</b>	SeqNo: <b>1728997</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Lead 308.331 5.0 319.7 3.62 20

Sample ID: <b>105983-010AMS</b>	SampType: <b>MS</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110074</b>
Client ID: <b>B4-0</b>	Batch ID: <b>56019</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/19/2009</b>	SeqNo: <b>1728998</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

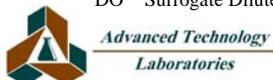
Lead 447.866 5.0 250.0 319.7 51.3 33 120

Sample ID: <b>MB-56019B</b>	SampType: <b>MBLK</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110074</b>
Client ID: <b>PBS</b>	Batch ID: <b>56019</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/19/2009</b>	SeqNo: <b>1728999</b>
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
- 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:** 105983  
**Project:** Hwy 50 Ramp Metering, S9300-06-91

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010\_SPB**

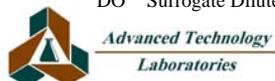
Sample ID: <b>105983-020ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110074</b>						
Client ID: <b>B7-1</b>	Batch ID: <b>56019</b>	TestNo: <b>EPA 6010B</b>	<b>EPA 3050M</b>	Analysis Date: <b>6/19/2009</b>	SeqNo: <b>1729010</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	6.585	5.0						5.363	20.4	20	R

Sample ID: <b>105983-020AMS</b>	SampType: <b>MS</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110074</b>						
Client ID: <b>B7-1</b>	Batch ID: <b>56019</b>	TestNo: <b>EPA 6010B</b>	<b>EPA 3050M</b>	Analysis Date: <b>6/19/2009</b>	SeqNo: <b>1729011</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	208.484	5.0	250.0	5.363	81.2	33	120				

Sample ID: <b>105983-020AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110074</b>						
Client ID: <b>B7-1</b>	Batch ID: <b>56019</b>	TestNo: <b>EPA 6010B</b>	<b>EPA 3050M</b>	Analysis Date: <b>6/19/2009</b>	SeqNo: <b>1729012</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	210.988	5.0	250.0	5.363	82.2	33	120	208.5	1.19	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:** 105983  
**Project:** Hwy 50 Ramp Metering, S9300-06-91

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010\_SPB**

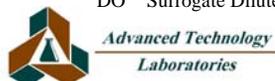
Sample ID: <b>105983-040ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110075</b>						
Client ID: <b>B14-0</b>	Batch ID: <b>56020</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/19/2009</b>	SeqNo: <b>1729038</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	106.509	5.0						118.2	10.4	20	

Sample ID: <b>105983-040AMS</b>	SampType: <b>MS</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110075</b>						
Client ID: <b>B14-0</b>	Batch ID: <b>56020</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/19/2009</b>	SeqNo: <b>1729039</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	261.991	5.0	250.0	118.2	57.5	33	120				

Sample ID: <b>105983-040AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110075</b>						
Client ID: <b>B14-0</b>	Batch ID: <b>56020</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/19/2009</b>	SeqNo: <b>1729040</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	297.661	5.0	250.0	118.2	71.8	33	120	262.0	12.7	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:** 105983  
**Project:** Hwy 50 Ramp Metering, S9300-06-91

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010\_SPB**

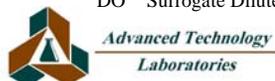
Sample ID: <b>105983-060ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110076</b>						
Client ID: <b>B20-1</b>	Batch ID: <b>56021</b>	TestNo: <b>EPA 6010B</b>	<b>EPA 3050M</b>	Analysis Date: <b>6/19/2009</b>	SeqNo: <b>1729069</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	3.787	5.0						3.377	0	20	

Sample ID: <b>105983-060AMS</b>	SampType: <b>MS</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110076</b>						
Client ID: <b>B20-1</b>	Batch ID: <b>56021</b>	TestNo: <b>EPA 6010B</b>	<b>EPA 3050M</b>	Analysis Date: <b>6/19/2009</b>	SeqNo: <b>1729070</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	204.531	5.0	250.0	3.377	80.5	33	120				

Sample ID: <b>105983-060AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110076</b>						
Client ID: <b>B20-1</b>	Batch ID: <b>56021</b>	TestNo: <b>EPA 6010B</b>	<b>EPA 3050M</b>	Analysis Date: <b>6/19/2009</b>	SeqNo: <b>1729071</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	189.254	5.0	250.0	3.377	74.4	33	120	204.5	7.76	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:** 105983  
**Project:** Hwy 50 Ramp Metering, S9300-06-91

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010\_SPB**

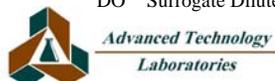
Sample ID: <b>105983-080ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110077</b>						
Client ID: <b>B26-1</b>	Batch ID: <b>56022</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/19/2009</b>	SeqNo: <b>1729097</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	3.518	5.0						3.050	0	20	

Sample ID: <b>105983-080AMS</b>	SampType: <b>MS</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110077</b>						
Client ID: <b>B26-1</b>	Batch ID: <b>56022</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/19/2009</b>	SeqNo: <b>1729098</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	211.936	5.0	250.0	3.050	83.6	33	120				

Sample ID: <b>105983-080AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110077</b>						
Client ID: <b>B26-1</b>	Batch ID: <b>56022</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/19/2009</b>	SeqNo: <b>1729099</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	199.354	5.0	250.0	3.050	78.5	33	120	211.9	6.12	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:** 105983  
**Project:** Hwy 50 Ramp Metering, S9300-06-91

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010\_SPB**

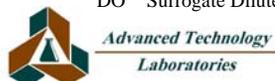
Sample ID: <b>105983-104ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110086</b>						
Client ID: <b>B34-1</b>	Batch ID: <b>56023</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/19/2009</b>	SeqNo: <b>1729194</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	5.068	5.0						4.736	6.76	20	

Sample ID: <b>105983-104AMS</b>	SampType: <b>MS</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110086</b>						
Client ID: <b>B34-1</b>	Batch ID: <b>56023</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/19/2009</b>	SeqNo: <b>1729195</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	202.037	5.0	250.0	4.736	78.9	33	120				

Sample ID: <b>105983-104AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110086</b>						
Client ID: <b>B34-1</b>	Batch ID: <b>56023</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/19/2009</b>	SeqNo: <b>1729196</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	204.454	5.0	250.0	4.736	79.9	33	120	202.0	1.19	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:** 105983  
**Project:** Hwy 50 Ramp Metering, S9300-06-91

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010\_SPB**

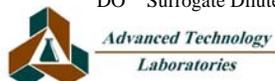
Sample ID: <b>105983-123ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110087</b>						
Client ID: <b>B40-2</b>	Batch ID: <b>56024</b>	TestNo: <b>EPA 6010B</b>	<b>EPA 3050M</b>	Analysis Date: <b>6/19/2009</b>	SeqNo: <b>1729223</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	6.868	5.0						5.536	21.5	20	R

Sample ID: <b>105983-123AMS</b>	SampType: <b>MS</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110087</b>						
Client ID: <b>B40-2</b>	Batch ID: <b>56024</b>	TestNo: <b>EPA 6010B</b>	<b>EPA 3050M</b>	Analysis Date: <b>6/19/2009</b>	SeqNo: <b>1729224</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	183.638	5.0	250.0	5.536	71.2	33	120				

Sample ID: <b>105983-123AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110087</b>						
Client ID: <b>B40-2</b>	Batch ID: <b>56024</b>	TestNo: <b>EPA 6010B</b>	<b>EPA 3050M</b>	Analysis Date: <b>6/19/2009</b>	SeqNo: <b>1729225</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	196.300	5.0	250.0	5.536	76.3	33	120	183.6	6.67	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:** 105983  
**Project:** Hwy 50 Ramp Metering, S9300-06-91

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010\_SPB**

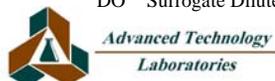
Sample ID: <b>105983-143ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110126</b>						
Client ID: <b>B47-1</b>	Batch ID: <b>56025</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/22/2009</b>	SeqNo: <b>1730120</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	6.945	5.0						78.40	167	20	R

Sample ID: <b>105983-143AMS</b>	SampType: <b>MS</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110126</b>						
Client ID: <b>B47-1</b>	Batch ID: <b>56025</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/22/2009</b>	SeqNo: <b>1730121</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	296.334	5.0	250.0	78.40	87.2	33	120				

Sample ID: <b>105983-143AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110126</b>						
Client ID: <b>B47-1</b>	Batch ID: <b>56025</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/22/2009</b>	SeqNo: <b>1730122</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	50.026	5.0	250.0	78.40	-11.4	33	120	296.3	142	20	SR

**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:** 105983  
**Project:** Hwy 50 Ramp Metering, S9300-06-91

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010\_SPB**

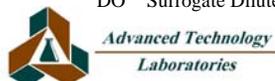
Sample ID: <b>105991-007ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110098</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>56026</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/19/2009</b>	SeqNo: <b>1729467</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	25.614	5.0						33.70	27.3	20	R

Sample ID: <b>105991-007AMS</b>	SampType: <b>MS</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110098</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>56026</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/19/2009</b>	SeqNo: <b>1729468</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	190.514	5.0	250.0	33.70	62.7	33	120				

Sample ID: <b>105991-007AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110098</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>56026</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/19/2009</b>	SeqNo: <b>1729469</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	198.624	5.0	250.0	33.70	66.0	33	120	190.5	4.17	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:** 105983  
**Project:** Hwy 50 Ramp Metering, S9300-06-91

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 9045\_S

Sample ID: <b>105983-145ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>9045_S</b>	Units: <b>pH Units</b>	Prep Date:	RunNo: <b>110088</b>						
Client ID: <b>B49-0</b>	Batch ID: <b>R110088</b>	TestNo: <b>EPA 9045C</b>		Analysis Date: <b>6/19/2009</b>	SeqNo: <b>1729231</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.690	0.10						7.770	1.03	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		



*Advanced Technology  
Laboratories*

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

**CLIENT:** Geocon Consultants, Inc.  
**Work Order:** 105983  
**Project:** Hwy 50 Ramp Metering, S9300-06-91

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 9045\_S

Sample ID: <b>105983-106ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>9045_S</b>	Units: <b>pH Units</b>	Prep Date:	RunNo: <b>110151</b>						
Client ID: <b>B35-0</b>	Batch ID: <b>R110151</b>	TestNo: <b>EPA 9045C</b>	Analysis Date: <b>6/23/2009</b>	SeqNo: <b>1730590</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.550	0.10						7.480	0.931	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		



*Advanced Technology  
Laboratories*

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

**Diane Galvan**

---

**From:** Gemma Reblando [reblando@geoconinc.com]  
**Sent:** Friday, June 26, 2009 12:43 PM  
**To:** Diane Galvan  
**Cc:** Katherine Roura; Carmen Aguila  
**Subject:** RE: Results/EDD - Hwy 50 Ramp Metering (105983)

Hi Diane – the following lab reports (pdf) we received on 6/24/09 had missing sample results.

Workorder No. 105983: B48, B49, B50, B51, and B52

Workorder No. 105991: B53 and B54

**Gemma Reblando**

***Project Geologist***

**Please visit our new website at <http://www.geoconinc.com>**

**Geocon Consultants, Inc.**

3160 Gold Valley Drive, Suite 800

Rancho Cordova, CA 95742

916.852.9118 Tel

916.852.9132 Fax

916.396.8476 Mobile



GEOTECHNICAL - ENVIRONMENTAL - MATERIALS

San Diego Murrieta Burbank San Bernardino Bakersfield Sacramento Livermore Carson City Las Vegas Portland

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June 29, 2009



Gemma Reblando  
Geocon Consultants, Inc.  
3160 Gold Valley Drive, Suite 800  
Rancho Cordova, CA 95742  
TEL: (916) 852-9118  
FAX: (916) 852-9132

ELAP No.: 1838  
NELAP No.: 02107CA  
NEVADA.: CA-401  
CSDLAC No.: 10196

Workorder No.: 105991

RE: Hwy 50 Ramp Metering, S9300-06-91

Attention: Gemma Reblando

Enclosed are the results for sample(s) received on June 17, 2009 by Advanced Technology Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

This is an amended report. Please disregard all previous documentation that corresponds to the page(s) enclosed.

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

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

Sincerely,

Eddie F. Rodriguez  
Laboratory Director

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



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**CLIENT:** Geocon Consultants, Inc.  
**Project:** Hwy 50 Ramp Metering, S9300-06-91  
**Lab Order:** 105991

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**CASE NARRATIVE**

Analytical Comments for Method 6010

Matrix Spike (MS) and /or Matrix Spike Duplicate (MSD) are/is outside recovery criteria for sample 105991-107AMS; however, the analytical batch was validated by the Laboratory Control Sample (LCS).

RPD for Duplicate (DUP) and/or Matrix Spike (MS)/Matrix Spike Duplicate (MSD) is outside criteria for samples 105991-007ADUP, 105991-017ADUP, 105991-057ADUP, 105991-077ADUP, 105991-097ADUP, 105991-107AMSD and 105991-114ADUP; however, the analytical batch was validated by the Laboratory Control Sample (LCS).



**ANALYTICAL RESULTS**

<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Lab Order:</b>	105991
<b>Project:</b>	Hwy 50 Ramp Metering, S9300-06-91	<b>Date Received</b>	6/17/2009 3:14:02 PM
<b>Project No:</b>		<b>Matrix:</b>	Soil
<b>Analyte:</b>	Lead	<b>Analyst:</b>	CL

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
105991-001A	B53-0	7.9	mg/Kg	56026	5.0	1	6/16/2009	6/19/2009
105991-002A	B53-1	ND	mg/Kg	56026	5.0	1	6/16/2009	6/19/2009
105991-003A	B53-2	ND	mg/Kg	56026	5.0	1	6/16/2009	6/19/2009
105991-004A	B54-0	18	mg/Kg	56026	5.0	1	6/16/2009	6/19/2009
105991-005A	B54-1	24	mg/Kg	56026	5.0	1	6/16/2009	6/19/2009
105991-006A	B54-2	56	mg/Kg	56026	5.0	1	6/16/2009	6/19/2009
105991-007A	B55-0	34	mg/Kg	56026	5.0	1	6/16/2009	6/19/2009
105991-008A	B55-1	23	mg/Kg	56027	5.0	1	6/16/2009	6/22/2009
105991-009A	B55-2	24	mg/Kg	56027	5.0	1	6/16/2009	6/22/2009
105991-010A	PC8	46	mg/Kg	56027	5.0	1	6/16/2009	6/22/2009
105991-011A	B56-0	8.3	mg/Kg	56027	5.0	1	6/16/2009	6/22/2009
105991-012A	B56-1	12	mg/Kg	56027	5.0	1	6/16/2009	6/22/2009
105991-013A	B56-2	5.7	mg/Kg	56027	5.0	1	6/16/2009	6/22/2009
105991-014A	B57-0	17	mg/Kg	56027	5.0	1	6/16/2009	6/22/2009
105991-015A	B57-1	13	mg/Kg	56027	5.0	1	6/16/2009	6/22/2009
105991-016A	B57-2	7.5	mg/Kg	56027	5.0	1	6/16/2009	6/22/2009
105991-017A	B58-0	6.2	mg/Kg	56027	5.0	1	6/16/2009	6/22/2009
105991-018A	B58-1	7.9	mg/Kg	56027	5.0	1	6/16/2009	6/22/2009

**Qualifiers:**

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



**ANALYTICAL RESULTS**

<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Lab Order:</b>	105991
<b>Project:</b>	Hwy 50 Ramp Metering, S9300-06-91	<b>Date Received</b>	6/17/2009 3:14:02 PM
<b>Project No:</b>		<b>Matrix:</b>	Soil
<b>Analyte:</b>	Lead	<b>Analyst:</b>	CL

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
105991-019A	B58-2	13	mg/Kg	56027	5.0	1	6/16/2009	6/22/2009
105991-020A	B59-0	15	mg/Kg	56027	5.0	1	6/16/2009	6/22/2009
105991-021A	B59-1	11	mg/Kg	56027	5.0	1	6/16/2009	6/22/2009
105991-022A	B59-2	17	mg/Kg	56027	5.0	1	6/16/2009	6/22/2009
105991-023A	B60-0	14	mg/Kg	56027	5.0	1	6/16/2009	6/22/2009
105991-024A	B60-1	9.4	mg/Kg	56027	5.0	1	6/16/2009	6/22/2009
105991-025A	B60-2	16	mg/Kg	56027	5.0	1	6/16/2009	6/22/2009
105991-026A	B61-0	12	mg/Kg	56027	5.0	1	6/16/2009	6/22/2009
105991-027A	B61-1	8.2	mg/Kg	56027	5.0	1	6/16/2009	6/22/2009
105991-028A	B61-2	6.0	mg/Kg	56028	5.0	1	6/16/2009	6/22/2009
105991-029A	B62-0	8.7	mg/Kg	56028	5.0	1	6/16/2009	6/22/2009
105991-030A	B62-1	8.2	mg/Kg	56028	5.0	1	6/16/2009	6/22/2009
105991-031A	B62-2	7.5	mg/Kg	56028	5.0	1	6/16/2009	6/22/2009
105991-032A	B63-0	11	mg/Kg	56028	5.0	1	6/16/2009	6/22/2009
105991-033A	B63-1	9.0	mg/Kg	56028	5.0	1	6/16/2009	6/22/2009
105991-034A	B63-2	12	mg/Kg	56028	5.0	1	6/16/2009	6/22/2009
105991-035A	B64-0	11	mg/Kg	56028	5.0	1	6/16/2009	6/22/2009
105991-036A	B64-1	ND	mg/Kg	56028	5.0	1	6/16/2009	6/22/2009

**Qualifiers:**

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



**LEAD BY ICP  
EPA 6010B**

**ANALYTICAL RESULTS**

<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Lab Order:</b>	105991
<b>Project:</b>	Hwy 50 Ramp Metering, S9300-06-91	<b>Date Received</b>	6/17/2009 3:14:02 PM
<b>Project No:</b>		<b>Matrix:</b>	Soil
<b>Analyte:</b>	Lead	<b>Analyst:</b>	CL

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
105991-037A	B64-2	5.6	mg/Kg	56028	5.0	1	6/16/2009	6/22/2009
105991-038A	PC5	820	mg/Kg	56028	5.0	1	6/16/2009	6/22/2009
105991-039A	PC6	320	mg/Kg	56028	5.0	1	6/16/2009	6/22/2009
105991-041A	B65-0	10	mg/Kg	56028	5.0	1	6/16/2009	6/22/2009
105991-042A	B65-1	14	mg/Kg	56028	5.0	1	6/16/2009	6/22/2009
105991-043A	B65-2	10	mg/Kg	56028	5.0	1	6/16/2009	6/22/2009
105991-044A	B66-0	18	mg/Kg	56028	5.0	1	6/16/2009	6/22/2009
105991-045A	B66-1	41	mg/Kg	56028	5.0	1	6/16/2009	6/22/2009
105991-046A	B66-2	38	mg/Kg	56028	5.0	1	6/16/2009	6/22/2009
105991-047A	B67-0	17	mg/Kg	56028	5.0	1	6/16/2009	6/22/2009
105991-048A	B67-1	8.1	mg/Kg	56029	5.0	1	6/16/2009	6/22/2009
105991-049A	B67-2	6.1	mg/Kg	56029	5.0	1	6/16/2009	6/22/2009
105991-050A	B68-0	5.7	mg/Kg	56029	5.0	1	6/16/2009	6/22/2009
105991-051A	B68-1	5.8	mg/Kg	56029	5.0	1	6/16/2009	6/22/2009
105991-052A	B68-2	6.0	mg/Kg	56029	5.0	1	6/16/2009	6/22/2009
105991-053A	B69-0	11	mg/Kg	56029	5.0	1	6/16/2009	6/22/2009
105991-054A	B70-0	32	mg/Kg	56029	5.0	1	6/16/2009	6/22/2009
105991-055A	B70-1	9.1	mg/Kg	56029	5.0	1	6/16/2009	6/22/2009

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



**LEAD BY ICP  
EPA 6010B**

**ANALYTICAL RESULTS**

<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Lab Order:</b>	105991
<b>Project:</b>	Hwy 50 Ramp Metering, S9300-06-91	<b>Date Received</b>	6/17/2009 3:14:02 PM
<b>Project No:</b>		<b>Matrix:</b>	Soil
<b>Analyte:</b>	Lead	<b>Analyst:</b>	CL

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
105991-056A	B70-2	ND	mg/Kg	56029	5.0	1	6/16/2009	6/22/2009
105991-057A	B71-0	31	mg/Kg	56029	5.0	1	6/16/2009	6/22/2009
105991-058A	B71-1	21	mg/Kg	56029	5.0	1	6/16/2009	6/22/2009
105991-059A	B71-2	8.1	mg/Kg	56029	5.0	1	6/16/2009	6/22/2009
105991-060A	B72-0	55	mg/Kg	56029	5.0	1	6/16/2009	6/22/2009
105991-061A	B72-1	20	mg/Kg	56029	5.0	1	6/16/2009	6/22/2009
105991-062A	B72-2	18	mg/Kg	56029	5.0	1	6/16/2009	6/22/2009
105991-063A	B73-0	20	mg/Kg	56029	5.0	1	6/16/2009	6/22/2009
105991-064A	B73-1	7.7	mg/Kg	56029	5.0	1	6/16/2009	6/22/2009
105991-065A	B74-0	45	mg/Kg	56029	5.0	1	6/16/2009	6/22/2009
105991-066A	B74-1	24	mg/Kg	56029	5.0	1	6/16/2009	6/22/2009
105991-067A	B74-2	7.6	mg/Kg	56029	5.0	1	6/16/2009	6/22/2009
105991-068A	B75-0	18	mg/Kg	56030	5.0	1	6/16/2009	6/22/2009
105991-069A	B76-0	81	mg/Kg	56030	5.0	1	6/16/2009	6/22/2009
105991-070A	B77-0	87	mg/Kg	56030	5.0	1	6/16/2009	6/22/2009
105991-071A	B78-0	54	mg/Kg	56030	5.0	1	6/16/2009	6/22/2009
105991-072A	B79-0	170	mg/Kg	56030	5.0	1	6/16/2009	6/22/2009
105991-073A	B80-0	120	mg/Kg	56030	5.0	1	6/16/2009	6/22/2009

**Qualifiers:**

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



**LEAD BY ICP  
EPA 6010B**

**ANALYTICAL RESULTS**

<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Lab Order:</b>	105991
<b>Project:</b>	Hwy 50 Ramp Metering, S9300-06-91	<b>Date Received</b>	6/17/2009 3:14:02 PM
<b>Project No:</b>		<b>Matrix:</b>	Soil
<b>Analyte:</b>	Lead	<b>Analyst:</b>	CL

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
105991-074A	B81-0	87	mg/Kg	56030	5.0	1	6/16/2009	6/22/2009
105991-075A	B81-1	99	mg/Kg	56030	5.0	1	6/16/2009	6/22/2009
105991-076A	B81-2	92	mg/Kg	56030	5.0	1	6/16/2009	6/22/2009
105991-077A	B82-0	64	mg/Kg	56030	5.0	1	6/16/2009	6/22/2009
105991-078A	B82-1	60	mg/Kg	56030	5.0	1	6/16/2009	6/22/2009
105991-079A	B83-0	45	mg/Kg	56030	5.0	1	6/16/2009	6/22/2009
105991-080A	B84-0	5.4	mg/Kg	56030	5.0	1	6/16/2009	6/22/2009
105991-081A	B84-1	26	mg/Kg	56030	5.0	1	6/16/2009	6/22/2009
105991-082A	B84-2	15	mg/Kg	56030	5.0	1	6/16/2009	6/22/2009
105991-083A	B85-0	35	mg/Kg	56030	5.0	1	6/16/2009	6/22/2009
105991-084A	B86-0	19	mg/Kg	56030	5.0	1	6/16/2009	6/22/2009
105991-085A	B86-1	6.2	mg/Kg	56030	5.0	1	6/16/2009	6/22/2009
105991-086A	B86-2	7.3	mg/Kg	56030	5.0	1	6/16/2009	6/22/2009
105991-087A	B87-0	18	mg/Kg	56030	5.0	1	6/16/2009	6/22/2009
105991-088A	B87-1	7.3	mg/Kg	56031	5.0	1	6/16/2009	6/22/2009
105991-089A	B88-0	43	mg/Kg	56031	5.0	1	6/16/2009	6/22/2009
105991-090A	B88-1	9.5	mg/Kg	56031	5.0	1	6/16/2009	6/22/2009
105991-091A	B89-0	7.3	mg/Kg	56031	5.0	1	6/16/2009	6/22/2009

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



**ANALYTICAL RESULTS**

<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Lab Order:</b>	105991
<b>Project:</b>	Hwy 50 Ramp Metering, S9300-06-91	<b>Date Received</b>	6/17/2009 3:14:02 PM
<b>Project No:</b>		<b>Matrix:</b>	Soil
<b>Analyte:</b>	Lead	<b>Analyst:</b>	CL

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
105991-092A	B89-1	23	mg/Kg	56031	5.0	1	6/16/2009	6/22/2009
105991-093A	B89-2	8.1	mg/Kg	56031	5.0	1	6/16/2009	6/22/2009
105991-094A	B90-0	190	mg/Kg	56031	5.0	1	6/16/2009	6/22/2009
105991-095A	B90-1	5.6	mg/Kg	56031	5.0	1	6/16/2009	6/22/2009
105991-096A	PC7	97	mg/Kg	56031	5.0	1	6/16/2009	6/22/2009
105991-097A	B91-0	31	mg/Kg	56031	5.0	1	6/16/2009	6/22/2009
105991-098A	B91-1	ND	mg/Kg	56031	5.0	1	6/16/2009	6/22/2009
105991-099A	B91-2	ND	mg/Kg	56031	5.0	1	6/16/2009	6/22/2009
105991-100A	B92-0	26	mg/Kg	56031	5.0	1	6/16/2009	6/22/2009
105991-101A	B92-1	ND	mg/Kg	56031	5.0	1	6/16/2009	6/22/2009
105991-102A	B92-2	ND	mg/Kg	56031	5.0	1	6/16/2009	6/22/2009
105991-103A	B93-0	23	mg/Kg	56031	5.0	1	6/16/2009	6/22/2009
105991-104A	B94-0	36	mg/Kg	56031	5.0	1	6/16/2009	6/22/2009
105991-105A	B94-1	13	mg/Kg	56031	5.0	1	6/16/2009	6/22/2009
105991-106A	B94-2	19	mg/Kg	56031	5.0	1	6/16/2009	6/22/2009
105991-107A	B95-0	720	mg/Kg	56031	5.0	1	6/16/2009	6/22/2009
105991-108A	B95-1	19	mg/Kg	56032	5.0	1	6/16/2009	6/22/2009
105991-109A	B96-0	62	mg/Kg	56032	5.0	1	6/16/2009	6/22/2009

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



**LEAD BY ICP  
EPA 6010B**

**ANALYTICAL RESULTS**

<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Lab Order:</b>	105991
<b>Project:</b>	Hwy 50 Ramp Metering, S9300-06-91	<b>Date Received</b>	6/17/2009 3:14:02 PM
<b>Project No:</b>		<b>Matrix:</b>	Soil
<b>Analyte:</b>	Lead	<b>Analyst:</b>	CL

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
105991-110A	B96-1	6.2	mg/Kg	56032	5.0	1	6/16/2009	6/22/2009
105991-111A	B96-2	7.8	mg/Kg	56032	5.0	1	6/16/2009	6/22/2009
105991-112A	B97-0	48	mg/Kg	56032	5.0	1	6/16/2009	6/22/2009
105991-113A	B97-1	18	mg/Kg	56032	5.0	1	6/16/2009	6/22/2009
105991-114A	B97-2	14	mg/Kg	56032	5.0	1	6/16/2009	6/22/2009
105991-115A	B76-1	28	mg/Kg	56037	5.0	1	6/16/2009	6/18/2009
105991-116A	B76-2	6.2	mg/Kg	56037	5.0	1	6/16/2009	6/18/2009

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



**ANALYTICAL RESULTS**

**pH  
EPA 9045C**

<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Lab Order:</b>	105991
<b>Project:</b>	Hwy 50 Ramp Metering, S9300-06-91	<b>Date Received</b>	6/17/2009 3:14:02 PM
<b>Project No:</b>		<b>Matrix:</b>	Soil
<b>Analyte:</b>	pH	<b>Analyst:</b>	DDL

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
105991-051A	B68-1	7.5	pH Units	R110151	0.10	1	6/16/2009	6/23/2009

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



**CLIENT:** Geocon Consultants, Inc.  
**Work Order:** 105991  
**Project:** Hwy 50 Ramp Metering, S9300-06-91

**ANALYTICAL QC SUMMARY REPORT**

**TestCode: 6010\_SPB**

Sample ID: <b>MB-56026A</b>	SampType: <b>MBLK</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110098</b>
Client ID: <b>PBS</b>	Batch ID: <b>56026</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/19/2009</b>	SeqNo: <b>1729444</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Lead ND 5.0

Sample ID: <b>LCS-56026</b>	SampType: <b>LCS</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110098</b>
Client ID: <b>LCSS</b>	Batch ID: <b>56026</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/19/2009</b>	SeqNo: <b>1729445</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Lead 272.142 5.0 250.0 0 109 80 120

Sample ID: <b>105983-153ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110098</b>
Client ID: <b>ZZZZZ</b>	Batch ID: <b>56026</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/19/2009</b>	SeqNo: <b>1729454</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Lead 3.444 5.0 4.108 0 20

Sample ID: <b>105983-153AMS</b>	SampType: <b>MS</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110098</b>
Client ID: <b>ZZZZZ</b>	Batch ID: <b>56026</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/19/2009</b>	SeqNo: <b>1729455</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Lead 197.142 5.0 250.0 4.108 77.2 33 120

Sample ID: <b>MB-56026B</b>	SampType: <b>MBLK</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110098</b>
Client ID: <b>PBS</b>	Batch ID: <b>56026</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/19/2009</b>	SeqNo: <b>1729456</b>
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
- 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:** 105991  
**Project:** Hwy 50 Ramp Metering, S9300-06-91

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010\_SPB**

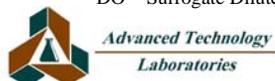
Sample ID: <b>105991-007ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110098</b>						
Client ID: <b>B55-0</b>	Batch ID: <b>56026</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/19/2009</b>	SeqNo: <b>1729467</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	25.614	5.0						33.70	27.3	20	R

Sample ID: <b>105991-007AMS</b>	SampType: <b>MS</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110098</b>						
Client ID: <b>B55-0</b>	Batch ID: <b>56026</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/19/2009</b>	SeqNo: <b>1729468</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	190.514	5.0	250.0	33.70	62.7	33	120				

Sample ID: <b>105991-007AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110098</b>						
Client ID: <b>B55-0</b>	Batch ID: <b>56026</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/19/2009</b>	SeqNo: <b>1729469</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	198.624	5.0	250.0	33.70	66.0	33	120	190.5	4.17	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   |  |



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



**CLIENT:** Geocon Consultants, Inc.  
**Work Order:** 105991  
**Project:** Hwy 50 Ramp Metering, S9300-06-91

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010\_SPB**

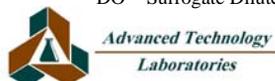
Sample ID: <b>105991-027ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110129</b>						
Client ID: <b>B61-1</b>	Batch ID: <b>56027</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/22/2009</b>	SeqNo: <b>1730158</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	8.443	5.0						8.171	3.27	20	

Sample ID: <b>105991-027AMS</b>	SampType: <b>MS</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110129</b>						
Client ID: <b>B61-1</b>	Batch ID: <b>56027</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/22/2009</b>	SeqNo: <b>1730159</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	223.236	5.0	250.0	8.171	86.0	33	120				

Sample ID: <b>105991-027AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110129</b>						
Client ID: <b>B61-1</b>	Batch ID: <b>56027</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/22/2009</b>	SeqNo: <b>1730160</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	216.657	5.0	250.0	8.171	83.4	33	120	223.2	2.99	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:** 105991  
**Project:** Hwy 50 Ramp Metering, S9300-06-91

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010\_SPB**

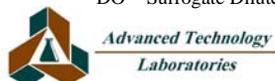
Sample ID: <b>105991-047ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110130</b>						
Client ID: <b>B67-0</b>	Batch ID: <b>56028</b>	TestNo: <b>EPA 6010B</b>	<b>EPA 3050M</b>	Analysis Date: <b>6/22/2009</b>	SeqNo: <b>1730411</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	14.411	5.0						0	0	20	

Sample ID: <b>105991-047AMS</b>	SampType: <b>MS</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110130</b>						
Client ID: <b>B67-0</b>	Batch ID: <b>56028</b>	TestNo: <b>EPA 6010B</b>	<b>EPA 3050M</b>	Analysis Date: <b>6/22/2009</b>	SeqNo: <b>1730412</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	227.731	5.0	250.0	0	91.1	33	120				

Sample ID: <b>105991-047AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110130</b>						
Client ID: <b>B67-0</b>	Batch ID: <b>56028</b>	TestNo: <b>EPA 6010B</b>	<b>EPA 3050M</b>	Analysis Date: <b>6/22/2009</b>	SeqNo: <b>1730413</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	237.918	5.0	250.0	14.41	89.4	33	120	0	0	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   |  |



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**CLIENT:** Geocon Consultants, Inc.  
**Work Order:** 105991  
**Project:** Hwy 50 Ramp Metering, S9300-06-91

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010\_SPB**

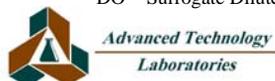
Sample ID: <b>105991-067ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110131</b>						
Client ID: <b>B74-2</b>	Batch ID: <b>56029</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/22/2009</b>	SeqNo: <b>1730214</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	8.272	5.0						7.555	9.05	20	

Sample ID: <b>105991-067AMS</b>	SampType: <b>MS</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110131</b>						
Client ID: <b>B74-2</b>	Batch ID: <b>56029</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/22/2009</b>	SeqNo: <b>1730215</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	219.367	5.0	250.0	7.555	84.7	33	120				

Sample ID: <b>105991-067AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110131</b>						
Client ID: <b>B74-2</b>	Batch ID: <b>56029</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/22/2009</b>	SeqNo: <b>1730216</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	203.847	5.0	250.0	7.555	78.5	33	120	219.4	7.33	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   |  |



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**CLIENT:** Geocon Consultants, Inc.  
**Work Order:** 105991  
**Project:** Hwy 50 Ramp Metering, S9300-06-91

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010\_SPB**

Sample ID: <b>MB-56030A</b>	SampType: <b>MBLK</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110132</b>						
Client ID: <b>PBS</b>	Batch ID: <b>56030</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/22/2009</b>	SeqNo: <b>1730217</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 5.0

Sample ID: <b>LCS-56030</b>	SampType: <b>LCS</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110132</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>56030</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/22/2009</b>	SeqNo: <b>1730218</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 276.594 5.0 250.0 0 111 80 120

Sample ID: <b>105991-077ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110132</b>						
Client ID: <b>B82-0</b>	Batch ID: <b>56030</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/22/2009</b>	SeqNo: <b>1730229</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 80.534 5.0 64.49 22.1 20 R

Sample ID: <b>105991-077AMS</b>	SampType: <b>MS</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110132</b>						
Client ID: <b>B82-0</b>	Batch ID: <b>56030</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/22/2009</b>	SeqNo: <b>1730230</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

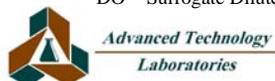
Lead 285.509 5.0 250.0 64.49 88.4 33 120

Sample ID: <b>MB-56030B</b>	SampType: <b>MBLK</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110132</b>						
Client ID: <b>PBS</b>	Batch ID: <b>56030</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/22/2009</b>	SeqNo: <b>1730231</b>						
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:** 105991  
**Project:** Hwy 50 Ramp Metering, S9300-06-91

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010\_SPB**

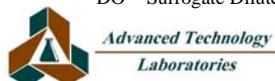
Sample ID: <b>105991-087ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110132</b>						
Client ID: <b>B87-0</b>	Batch ID: <b>56030</b>	TestNo: <b>EPA 6010B</b>	<b>EPA 3050M</b>	Analysis Date: <b>6/22/2009</b>	SeqNo: <b>1730242</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	20.780	5.0						18.28	12.8	20	

Sample ID: <b>105991-087AMS</b>	SampType: <b>MS</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110132</b>						
Client ID: <b>B87-0</b>	Batch ID: <b>56030</b>	TestNo: <b>EPA 6010B</b>	<b>EPA 3050M</b>	Analysis Date: <b>6/22/2009</b>	SeqNo: <b>1730243</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	231.611	5.0	250.0	18.28	85.3	33	120				

Sample ID: <b>105991-087AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110132</b>						
Client ID: <b>B87-0</b>	Batch ID: <b>56030</b>	TestNo: <b>EPA 6010B</b>	<b>EPA 3050M</b>	Analysis Date: <b>6/22/2009</b>	SeqNo: <b>1730244</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	225.659	5.0	250.0	18.28	83.0	33	120	231.6	2.60	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   |  |



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



**CLIENT:** Geocon Consultants, Inc.  
**Work Order:** 105991  
**Project:** Hwy 50 Ramp Metering, S9300-06-91

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010\_SPB**

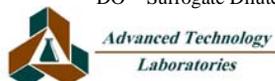
Sample ID: <b>105991-107ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110133</b>						
Client ID: <b>B95-0</b>	Batch ID: <b>56031</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/22/2009</b>	SeqNo: <b>1730270</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	598.473	5.0						720.0	18.4	20	

Sample ID: <b>105991-107AMS</b>	SampType: <b>MS</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110133</b>						
Client ID: <b>B95-0</b>	Batch ID: <b>56031</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/22/2009</b>	SeqNo: <b>1730271</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	693.913	5.0	250.0	720.0	-10.5	33	120				S

Sample ID: <b>105991-107AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110133</b>						
Client ID: <b>B95-0</b>	Batch ID: <b>56031</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/22/2009</b>	SeqNo: <b>1730272</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	876.321	5.0	250.0	720.0	62.5	33	120	693.9	23.2	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:** 105991  
**Project:** Hwy 50 Ramp Metering, S9300-06-91

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010\_SPB**

Sample ID: <b>MB-56032A</b>	SampType: <b>MBLK</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110134</b>						
Client ID: <b>PBS</b>	Batch ID: <b>56032</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/22/2009</b>	SeqNo: <b>1730273</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.206	5.0									

Sample ID: <b>LCS-56032</b>	SampType: <b>LCS</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110134</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>56032</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/22/2009</b>	SeqNo: <b>1730274</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	279.491	5.0	250.0	0.2056	112	80	120				

Sample ID: <b>105991-114ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110134</b>						
Client ID: <b>B97-2</b>	Batch ID: <b>56032</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/22/2009</b>	SeqNo: <b>1730282</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	17.802	5.0						14.01	23.8	20	R

Sample ID: <b>105991-114AMS</b>	SampType: <b>MS</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110134</b>						
Client ID: <b>B97-2</b>	Batch ID: <b>56032</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/22/2009</b>	SeqNo: <b>1730283</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	236.591	5.0	250.0	14.01	89.0	33	120				

Sample ID: <b>105991-114AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110134</b>						
Client ID: <b>B97-2</b>	Batch ID: <b>56032</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/22/2009</b>	SeqNo: <b>1730284</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	224.183	5.0	250.0	14.01	84.1	33	120	236.6	5.39	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   |  |



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

**CLIENT:** Geocon Consultants, Inc.  
**Work Order:** 105991  
**Project:** Hwy 50 Ramp Metering, S9300-06-91

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010\_SPB**

Sample ID: <b>MB-56037</b>	SampType: <b>MBLK</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110041</b>						
Client ID: <b>PBS</b>	Batch ID: <b>56037</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/18/2009</b>	SeqNo: <b>1728425</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 5.0

Sample ID: <b>LCS-56037</b>	SampType: <b>LCS</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110041</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>56037</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/18/2009</b>	SeqNo: <b>1728426</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 227.469 5.0 250.0 0 91.0 80 120

Sample ID: <b>105846-250ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110041</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>56037</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/18/2009</b>	SeqNo: <b>1728429</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 3.170 5.0 2.708 0 20

Sample ID: <b>105846-250AMS</b>	SampType: <b>MS</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110041</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>56037</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/18/2009</b>	SeqNo: <b>1728430</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

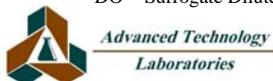
Lead 213.467 5.0 250.0 2.708 84.3 33 120

Sample ID: <b>105846-250AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/18/2009</b>	RunNo: <b>110041</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>56037</b>	TestNo: <b>EPA 6010B EPA 3050M</b>		Analysis Date: <b>6/18/2009</b>	SeqNo: <b>1728431</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 208.120 5.0 250.0 2.708 82.2 33 120 213.5 2.54 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:** 105991  
**Project:** Hwy 50 Ramp Metering, S9300-06-91

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 9045\_S

Sample ID: <b>105983-106ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>9045_S</b>	Units: <b>pH Units</b>	Prep Date:	RunNo: <b>110151</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R110151</b>	TestNo: <b>EPA 9045C</b>		Analysis Date: <b>6/23/2009</b>	SeqNo: <b>1730590</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.550	0.10						7.480	0.931	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 |   |  |



*Advanced Technology  
Laboratories*

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

**Diane Galvan**

---

**From:** Gemma Reblando [reblando@geoconinc.com]  
**Sent:** Friday, June 26, 2009 12:43 PM  
**To:** Diane Galvan  
**Cc:** Katherine Roura; Carmen Aguila  
**Subject:** RE: Results/EDD - Hwy 50 Ramp Metering (105983)

Hi Diane – the following lab reports (pdf) we received on 6/24/09 had missing sample results.

Workorder No. 105983: B48, B49, B50, B51, and B52  
Workorder No. 105991: B53 and B54

**Gemma Reblando*****Project Geologist***

**Please visit our new website at** <http://www.geoconinc.com>

**Geocon Consultants, Inc.**

3160 Gold Valley Drive, Suite 800  
Rancho Cordova, CA 95742  
916.852.9118 Tel  
916.852.9132 Fax  
916.396.8476 Mobile



GEOTECHNICAL - ENVIRONMENTAL - MATERIALS

San Diego Murrieta Burbank San Bernardino Bakersfield Sacramento Livermore Carson City Las Vegas Portland

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6/26/2009

July 01, 2009



Gemma Reblando  
Geocon Consultants, Inc.  
3160 Gold Valley Drive, Suite 800  
Rancho Cordova, CA 95742  
TEL: (916) 852-9118  
FAX: (916) 852-9132

ELAP No.: 1838  
NELAP No.: 02107CA  
NEVADA.: CA-401  
CSDLAC No.: 10196  
Workorder No.: 105983

RE: Hwy 50 Ramp Metering, S9300-06-91

Attention: Gemma Reblando

Enclosed are the results for sample(s) received on June 17, 2009 by Advanced Technology Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

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

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

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

Sincerely,

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

Eddie F. Rodriguez  
Laboratory Director

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



---

**CLIENT:** Geocon Consultants, Inc.  
**Project:** Hwy 50 Ramp Metering, S9300-06-91  
**Lab Order:** 105983

---

**CASE NARRATIVE**

Analytical Comments for Method 7420

Dilution was necessary for samples 105983-010A, 105983-013A, 105983-016A, 105983-019A, 105983-025A, 105983-028A, 105983-031A, 105983-034A, 105983-050A, 105983-069A, 105983-082A, 105983-091A, 105983-094A, 105983-145A and 105983-146A, due to sample matrix.

Matrix Spike (MS) and /or Matrix Spike Duplicate (MSD) are/is outside recovery criteria for sample 105983-031AMS; however, the analytical batch was validated by the Laboratory Control Sample (LCS).



LEAD BY ATOMIC ABSORPTION (STLC)  
WET/ EPA 7420

ANALYTICAL RESULTS

<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Lab Order:</b>	105983
<b>Project:</b>	Hwy 50 Ramp Metering, S9300-06-91	<b>Date Received</b>	6/17/2009 8:35:00 AM
<b>Project No:</b>		<b>Matrix:</b>	Soil
<b>Analyte:</b>	Lead	<b>Analyst:</b>	VV

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
105983-001A	B1-0	7.9	mg/L	56240	0.25	1	6/15/2009	7/1/2009
105983-004A	B2-0	2.7	mg/L	56240	0.25	1	6/15/2009	7/1/2009
105983-010A	B4-0	32	mg/L	56240	1.0	4	6/15/2009	7/1/2009
105983-013A	B5-0	14	mg/L	56240	0.50	2	6/15/2009	7/1/2009
105983-016A	B6-0	9.8	mg/L	56240	0.50	2	6/15/2009	7/1/2009
105983-019A	B7-0	29	mg/L	56240	1.0	4	6/15/2009	7/1/2009
105983-022A	B8-0	8.1	mg/L	56240	0.25	1	6/15/2009	7/1/2009
105983-025A	B9-0	42	mg/L	56240	1.2	5	6/15/2009	7/1/2009
105983-028A	B10-0	36	mg/L	56240	1.2	5	6/15/2009	7/1/2009
105983-031A	B11-0	39	mg/L	56240	1.2	5	6/15/2009	7/1/2009
105983-034A	B12-0	43	mg/L	56240	1.2	5	6/15/2009	7/1/2009
105983-035A	B12-1	ND	mg/L	56240	0.25	1	6/15/2009	7/1/2009
105983-036A	B12-2	6.7	mg/L	56240	0.25	1	6/15/2009	7/1/2009
105983-040A	B14-0	8.5	mg/L	56240	0.25	1	6/15/2009	7/1/2009
105983-046A	B16-0	3.8	mg/L	56240	0.25	1	6/15/2009	7/1/2009
105983-050A	B17-0	48	mg/L	56240	2.5	10	6/15/2009	7/1/2009
105983-053A	B18-0	5.0	mg/L	56240	0.25	1	6/15/2009	7/1/2009
105983-066A	B22-0	7.9	mg/L	56240	0.25	1	6/15/2009	7/1/2009

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



LEAD BY ATOMIC ABSORPTION (STLC)  
WET/ EPA 7420

ANALYTICAL RESULTS

<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Lab Order:</b>	105983
<b>Project:</b>	Hwy 50 Ramp Metering, S9300-06-91	<b>Date Received</b>	6/17/2009 8:35:00 AM
<b>Project No:</b>		<b>Matrix:</b>	Soil
<b>Analyte:</b>	Lead	<b>Analyst:</b>	VV

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
105983-069A	B23-0	48	mg/L	56240	2.5	10	6/15/2009	7/1/2009
105983-072A	B24-0	7.9	mg/L	56240	0.25	1	6/15/2009	7/1/2009
105983-076A	B25-0	6.9	mg/L	56241	0.25	1	6/15/2009	7/1/2009
105983-082A	B27-0	38	mg/L	56241	1.2	5	6/15/2009	7/1/2009
105983-085A	B28-0	3.2	mg/L	56241	0.25	1	6/15/2009	7/1/2009
105983-088A	B29-0	6.4	mg/L	56241	0.25	1	6/15/2009	7/1/2009
105983-091A	B30-0	12	mg/L	56241	0.50	2	6/15/2009	7/1/2009
105983-094A	B31-0	48	mg/L	56241	2.5	10	6/15/2009	7/1/2009
105983-109A	PC4	7.4	mg/L	56241	0.25	1	6/15/2009	7/1/2009
105983-142A	B47-0	2.7	mg/L	56241	0.25	1	6/15/2009	7/1/2009
105983-143A	B47-1	5.2	mg/L	56241	0.25	1	6/15/2009	7/1/2009
105983-145A	B49-0	9.9	mg/L	56241	0.50	2	6/15/2009	7/1/2009
105983-146A	B49-1	18	mg/L	56241	1.0	4	6/15/2009	7/1/2009
105983-147A	B49-2	1.0	mg/L	56241	0.25	1	6/15/2009	7/1/2009
105983-148A	B50-0	0.53	mg/L	56241	0.25	1	6/15/2009	7/1/2009
105983-151A	B51-0	0.84	mg/L	56241	0.25	1	6/15/2009	7/1/2009
105983-154A	B52-0	ND	mg/L	56241	0.25	1	6/15/2009	7/1/2009

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



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

**ANALYTICAL RESULTS**

<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Lab Order:</b>	105983
<b>Project:</b>	Hwy 50 Ramp Metering, S9300-06-91	<b>Date Received</b>	6/17/2009 8:35:00 AM
<b>Project No:</b>		<b>Matrix:</b>	Soil
<b>Analyte:</b>	Lead	<b>Analyst:</b>	VV

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
105983-069A	B23-0	1.3	mg/L	56316	0.25	1	6/15/2009	7/1/2009

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



**CLIENT:** Geocon Consultants, Inc.  
**Work Order:** 105983  
**Project:** Hwy 50 Ramp Metering, S9300-06-91

**ANALYTICAL QC SUMMARY REPORT**

**TestCode: 7420\_ST**

Sample ID: <b>MB-56240A</b>	SampType: <b>MBLK</b>	TestCode: <b>7420_ST</b>	Units: <b>mg/L</b>	Prep Date: <b>6/29/2009</b>	RunNo: <b>110428</b>						
Client ID: <b>PBS</b>	Batch ID: <b>56240</b>	TestNo: <b>WET/ EPA 74 WET</b>		Analysis Date: <b>7/1/2009</b>	SeqNo: <b>1736717</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.25

Sample ID: <b>LCS-56240</b>	SampType: <b>LCS</b>	TestCode: <b>7420_ST</b>	Units: <b>mg/L</b>	Prep Date: <b>6/29/2009</b>	RunNo: <b>110428</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>56240</b>	TestNo: <b>WET/ EPA 74 WET</b>		Analysis Date: <b>7/1/2009</b>	SeqNo: <b>1736718</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 5.075 0.25 5.000 0 101 80 120

Sample ID: <b>105983-031A-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>7420_ST</b>	Units: <b>mg/L</b>	Prep Date: <b>6/29/2009</b>	RunNo: <b>110428</b>						
Client ID: <b>B11-0</b>	Batch ID: <b>56240</b>	TestNo: <b>WET/ EPA 74 WET</b>		Analysis Date: <b>7/1/2009</b>	SeqNo: <b>1736729</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 37.617 1.2 38.59 2.54 20

Sample ID: <b>105983-031A-MS</b>	SampType: <b>MS</b>	TestCode: <b>7420_ST</b>	Units: <b>mg/L</b>	Prep Date: <b>6/29/2009</b>	RunNo: <b>110428</b>						
Client ID: <b>B11-0</b>	Batch ID: <b>56240</b>	TestNo: <b>WET/ EPA 74 WET</b>		Analysis Date: <b>7/1/2009</b>	SeqNo: <b>1736730</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

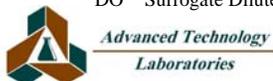
Lead 29.779 2.5 5.000 38.59 -176 80 120 S

Sample ID: <b>MB-56240B</b>	SampType: <b>MBLK</b>	TestCode: <b>7420_ST</b>	Units: <b>mg/L</b>	Prep Date: <b>6/29/2009</b>	RunNo: <b>110428</b>						
Client ID: <b>PBS</b>	Batch ID: <b>56240</b>	TestNo: <b>WET/ EPA 74 WET</b>		Analysis Date: <b>7/1/2009</b>	SeqNo: <b>1736731</b>						
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
- 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:** 105983  
**Project:** Hwy 50 Ramp Metering, S9300-06-91

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 7420\_ST**

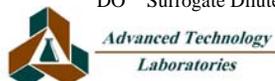
Sample ID: <b>105983-072A-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>7420_ST</b>	Units: <b>mg/L</b>	Prep Date: <b>6/29/2009</b>	RunNo: <b>110428</b>						
Client ID: <b>B24-0</b>	Batch ID: <b>56240</b>	TestNo: <b>WET/ EPA 74 WET</b>		Analysis Date: <b>7/1/2009</b>	SeqNo: <b>1736742</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	7.888	0.25						7.890	0.0267	20	

Sample ID: <b>105983-072A-MS</b>	SampType: <b>MS</b>	TestCode: <b>7420_ST</b>	Units: <b>mg/L</b>	Prep Date: <b>6/29/2009</b>	RunNo: <b>110428</b>						
Client ID: <b>B24-0</b>	Batch ID: <b>56240</b>	TestNo: <b>WET/ EPA 74 WET</b>		Analysis Date: <b>7/1/2009</b>	SeqNo: <b>1736743</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	12.340	0.50	5.000	7.890	89.0	80	120				

Sample ID: <b>105983-072A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>7420_ST</b>	Units: <b>mg/L</b>	Prep Date: <b>6/29/2009</b>	RunNo: <b>110428</b>						
Client ID: <b>B24-0</b>	Batch ID: <b>56240</b>	TestNo: <b>WET/ EPA 74 WET</b>		Analysis Date: <b>7/1/2009</b>	SeqNo: <b>1736744</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	12.340	0.50	5.000	7.890	89.0	80	120	12.34	0.00207	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   |  |



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



**CLIENT:** Geocon Consultants, Inc.  
**Work Order:** 105983  
**Project:** Hwy 50 Ramp Metering, S9300-06-91

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 7420\_ST**

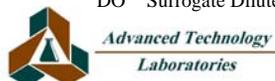
Sample ID: <b>105991-073A-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>7420_ST</b>	Units: <b>mg/L</b>	Prep Date: <b>6/29/2009</b>	RunNo: <b>110429</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>56241</b>	TestNo: <b>WET/ EPA 74 WET</b>		Analysis Date: <b>7/1/2009</b>	SeqNo: <b>1736800</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	4.794	0.25						4.940	3.01	20	

Sample ID: <b>105991-073A-MS</b>	SampType: <b>MS</b>	TestCode: <b>7420_ST</b>	Units: <b>mg/L</b>	Prep Date: <b>6/29/2009</b>	RunNo: <b>110429</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>56241</b>	TestNo: <b>WET/ EPA 74 WET</b>		Analysis Date: <b>7/1/2009</b>	SeqNo: <b>1736801</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	9.077	0.50	5.000	4.940	82.7	80	120				

Sample ID: <b>105991-073A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>7420_ST</b>	Units: <b>mg/L</b>	Prep Date: <b>6/29/2009</b>	RunNo: <b>110429</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>56241</b>	TestNo: <b>WET/ EPA 74 WET</b>		Analysis Date: <b>7/1/2009</b>	SeqNo: <b>1736802</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	9.397	0.50	5.000	4.940	89.1	80	120	9.077	3.47	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:** 105983  
**Project:** Hwy 50 Ramp Metering, S9300-06-91

## ANALYTICAL QC SUMMARY REPORT

**TestCode:** 7420\_TC

Sample ID: <b>105983-069A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>7420_TC</b>	Units: <b>mg/L</b>	Prep Date: <b>7/1/2009</b>	RunNo: <b>110434</b>						
Client ID: <b>B23-0</b>	Batch ID: <b>56316</b>	TestNo: <b>EPA 1311/ 74 EPA3010A</b>		Analysis Date: <b>7/1/2009</b>	SeqNo: <b>1736913</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	4.200	0.25	2.500	1.334	115	70	130	4.189	0.260	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		



*Advanced Technology  
Laboratories*

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

**Diane Galvan**

---

**From:** Gemma Reblando [reblando@geoconinc.com]  
**Sent:** Friday, June 26, 2009 1:44 PM  
**To:** Diane Galvan  
**Cc:** 'Rajive Chadha'; 'John Juhrend'  
**Subject:** Results/EDD - Hwy 50 Ramp Metering (105983 and 105991)

Hi Diane – please analyze the following soil samples (45 total) below for WET soluble lead under 72-hr TAT.

- 105983-001 A
- 105983-004A
- 105983-010A
- 105983-013A
- 105983-016A
- 105983-019A
- 105983-022A
- 105983-025A
- 105983-028A
- 105983-031 A
- 105983-034A
- 105983-035A
- 105983-036A
- 105983-040A
- 105983-046A
- 105983-050A
- 105983-053A
- 105983-066A
- 105983-069A (plus TCLP Lead)
- 105983-072A
- 105983-076A
- 105983-082A
- 105983-085A
- 105983-088A
- 105983-091 A
- 105983-094A
- 105983-142A
- 105983-143A
- 105983-145A
- 105983-146A
- 105983-147A
- 105983-148A
- 105983-151 A
- 105983-154A
- 105991-071A
- 105991-072A
- 105991-073A
- 105991-074A
- 105991-075A
- 105991-076A
- 105991-077A
- 105991-078A
- 105991-094A
- 105991-107A
- 105991-109A

**Gemma Reblando**

***Project Geologist***

**Please visit our new website at <http://www.geoconinc.com>**

**Geocon Consultants, Inc.**  
3160 Gold Valley Drive, Suite 800

6/26/2009

Rancho Cordova, CA 95742  
916.852.9118 Tel  
916.852.9132 Fax  
916.396.8476 Mobile



GEOTECHNICAL - ENVIRONMENTAL - MATERIALS

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6/26/2009

**Diane Galvan**

---

**From:** Gemma Reblando [reblando@geoconinc.com]  
**Sent:** Friday, June 26, 2009 3:04 PM  
**To:** Diane Galvan  
**Cc:** 'Rajive Chadha'; 'John Juhrend'  
**Subject:** Results/EDD - Hwy 50 Ramp Metering (105983 and 105991)

Hi Diane – please analyze the following paint chip samples for WET soluble lead under standard TAT.

105983-109A  
105991-038A  
105991-039A  
105991-096A

**Gemma Reblando**

***Project Geologist***

**Please visit our new website at <http://www.geoconinc.com>**

**Geocon Consultants, Inc.**

3160 Gold Valley Drive, Suite 800  
Rancho Cordova, CA 95742  
916.852.9118 Tel  
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GEOTECHNICAL - ENVIRONMENTAL - MATERIALS

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6/29/2009

July 01, 2009



Gemma Reblando  
Geocon Consultants, Inc.  
3160 Gold Valley Drive, Suite 800  
Rancho Cordova, CA 95742  
TEL: (916) 852-9118  
FAX: (916) 852-9132

ELAP No.: 1838  
NELAP No.: 02107CA  
NEVADA.: CA-401  
CSDLAC No.: 10196  
Workorder No.: 105991

RE: Hwy 50 Ramp Metering, S9300-06-91

Attention: Gemma Reblando

Enclosed are the results for sample(s) received on June 17, 2009 by Advanced Technology Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

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

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

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

Sincerely,

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

Eddie F. Rodriguez  
Laboratory Director

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



---

**CLIENT:** Geocon Consultants, Inc.  
**Project:** Hwy 50 Ramp Metering, S9300-06-91  
**Lab Order:** 105991

---

**CASE NARRATIVE**

Analytical Comments for Method 7420

Dilution was necessary for samples 105991-094A and 105991-107A, due to sample matrix



LEAD BY ATOMIC ABSORPTION (STLC)  
WET/ EPA 7420

ANALYTICAL RESULTS

<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Lab Order:</b>	105991
<b>Project:</b>	Hwy 50 Ramp Metering, S9300-06-91	<b>Date Received</b>	6/17/2009 3:14:02 PM
<b>Project No:</b>		<b>Matrix:</b>	Soil
<b>Analyte:</b>	Lead	<b>Analyst:</b>	VV

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
105991-038A	PC5	0.29	mg/L	56241	0.25	1	6/16/2009	7/1/2009
105991-039A	PC6	2.1	mg/L	56241	0.25	1	6/16/2009	7/1/2009
105991-071A	B78-0	2.3	mg/L	56241	0.25	1	6/16/2009	7/1/2009
105991-072A	B79-0	4.5	mg/L	56241	0.25	1	6/16/2009	7/1/2009
105991-073A	B80-0	4.9	mg/L	56241	0.25	1	6/16/2009	7/1/2009
105991-074A	B81-0	3.0	mg/L	56242	0.25	1	6/16/2009	7/1/2009
105991-075A	B81-1	5.8	mg/L	56242	0.25	1	6/16/2009	7/1/2009
105991-076A	B81-2	5.1	mg/L	56242	0.25	1	6/16/2009	7/1/2009
105991-077A	B82-0	4.5	mg/L	56242	0.25	1	6/16/2009	7/1/2009
105991-078A	B82-1	3.1	mg/L	56242	0.25	1	6/16/2009	7/1/2009
105991-094A	B90-0	13	mg/L	56242	0.50	2	6/16/2009	7/1/2009
105991-096A	PC7	2.9	mg/L	56242	0.25	1	6/16/2009	7/1/2009
105991-107A	B95-0	35	mg/L	56242	1.0	4	6/16/2009	7/1/2009
105991-109A	B96-0	2.0	mg/L	56242	0.25	1	6/16/2009	7/1/2009

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



**CLIENT:** Geocon Consultants, Inc.  
**Work Order:** 105991  
**Project:** Hwy 50 Ramp Metering, S9300-06-91

**ANALYTICAL QC SUMMARY REPORT**

**TestCode: 7420\_ST**

Sample ID: <b>MB-56241A</b>	SampType: <b>MBLK</b>	TestCode: <b>7420_ST</b>	Units: <b>mg/L</b>	Prep Date: <b>6/29/2009</b>	RunNo: <b>110429</b>						
Client ID: <b>PBS</b>	Batch ID: <b>56241</b>	TestNo: <b>WET/ EPA 74 WET</b>		Analysis Date: <b>7/1/2009</b>	SeqNo: <b>1736775</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.25

Sample ID: <b>LCS-56241</b>	SampType: <b>LCS</b>	TestCode: <b>7420_ST</b>	Units: <b>mg/L</b>	Prep Date: <b>6/29/2009</b>	RunNo: <b>110429</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>56241</b>	TestNo: <b>WET/ EPA 74 WET</b>		Analysis Date: <b>7/1/2009</b>	SeqNo: <b>1736776</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 4.991 0.25 5.000 0 99.8 80 120

Sample ID: <b>105983-145A-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>7420_ST</b>	Units: <b>mg/L</b>	Prep Date: <b>6/29/2009</b>	RunNo: <b>110429</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>56241</b>	TestNo: <b>WET/ EPA 74 WET</b>		Analysis Date: <b>7/1/2009</b>	SeqNo: <b>1736787</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 9.739 0.50 9.926 1.91 20

Sample ID: <b>105983-145A-MS</b>	SampType: <b>MS</b>	TestCode: <b>7420_ST</b>	Units: <b>mg/L</b>	Prep Date: <b>6/29/2009</b>	RunNo: <b>110429</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>56241</b>	TestNo: <b>WET/ EPA 74 WET</b>		Analysis Date: <b>7/1/2009</b>	SeqNo: <b>1736788</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

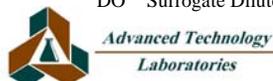
Lead 14.066 1.0 5.000 9.926 82.8 80 120

Sample ID: <b>MB-56241B</b>	SampType: <b>MBLK</b>	TestCode: <b>7420_ST</b>	Units: <b>mg/L</b>	Prep Date: <b>6/29/2009</b>	RunNo: <b>110429</b>						
Client ID: <b>PBS</b>	Batch ID: <b>56241</b>	TestNo: <b>WET/ EPA 74 WET</b>		Analysis Date: <b>7/1/2009</b>	SeqNo: <b>1736789</b>						
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
- 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:** 105991  
**Project:** Hwy 50 Ramp Metering, S9300-06-91

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 7420\_ST**

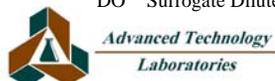
Sample ID: <b>105991-073A-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>7420_ST</b>	Units: <b>mg/L</b>	Prep Date: <b>6/29/2009</b>	RunNo: <b>110429</b>						
Client ID: <b>B80-0</b>	Batch ID: <b>56241</b>	TestNo: <b>WET/ EPA 74 WET</b>		Analysis Date: <b>7/1/2009</b>	SeqNo: <b>1736800</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	4.794	0.25						4.940	3.01	20	

Sample ID: <b>105991-073A-MS</b>	SampType: <b>MS</b>	TestCode: <b>7420_ST</b>	Units: <b>mg/L</b>	Prep Date: <b>6/29/2009</b>	RunNo: <b>110429</b>						
Client ID: <b>B80-0</b>	Batch ID: <b>56241</b>	TestNo: <b>WET/ EPA 74 WET</b>		Analysis Date: <b>7/1/2009</b>	SeqNo: <b>1736801</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	9.077	0.50	5.000	4.940	82.7	80	120				

Sample ID: <b>105991-073A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>7420_ST</b>	Units: <b>mg/L</b>	Prep Date: <b>6/29/2009</b>	RunNo: <b>110429</b>						
Client ID: <b>B80-0</b>	Batch ID: <b>56241</b>	TestNo: <b>WET/ EPA 74 WET</b>		Analysis Date: <b>7/1/2009</b>	SeqNo: <b>1736802</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	9.397	0.50	5.000	4.940	89.1	80	120	9.077	3.47	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   |  |



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



**Diane Galvan**

---

**From:** Gemma Reblando [reblando@geoconinc.com]  
**Sent:** Friday, June 26, 2009 1:44 PM  
**To:** Diane Galvan  
**Cc:** 'Rajive Chadha'; 'John Juhrend'  
**Subject:** Results/EDD - Hwy 50 Ramp Metering (105983 and 105991)

Hi Diane – please analyze the following soil samples (45 total) below for WET soluble lead under 72-hr TAT.

105983-001A  
105983-004A  
105983-010A  
105983-013A  
105983-016A  
105983-019A  
105983-022A  
105983-025A  
105983-028A  
105983-031A  
105983-034A  
105983-035A  
105983-036A  
105983-040A  
105983-046A  
105983-050A  
105983-053A  
105983-066A  
105983-069A (plus TCLP Lead)  
105983-072A  
105983-076A  
105983-082A  
105983-085A  
105983-088A  
105983-091A  
105983-094A  
105983-142A  
105983-143A  
105983-145A  
105983-146A  
105983-147A  
105983-148A  
105983-151A  
105983-154A  
105991-071A  
105991-072A  
105991-073A  
105991-074A  
105991-075A  
105991-076A  
105991-077A  
105991-078A  
105991-094A  
105991-107A  
105991-109A

**Gemma Reblando**

***Project Geologist***

**Please visit our new website at <http://www.geoconinc.com>**

**Geocon Consultants, Inc.**  
3160 Gold Valley Drive, Suite 800

6/26/2009

Rancho Cordova, CA 95742  
916.852.9118 Tel  
916.852.9132 Fax  
916.396.8476 Mobile



GEOTECHNICAL - ENVIRONMENTAL - MATERIALS

San Diego Murrieta Burbank San Bernardino Bakersfield Sacramento Livermore Carson City Las Vegas Portland

CONFIDENTIALITY NOTICE: This email may contain confidential and privileged material for the sole use of the intended recipient(s). Any review, use, distribution or disclosure by others is strictly prohibited. If you have received this communication in error, please notify the sender immediately by email and delete the message and any file attachments from your computer. Thank you.

6/26/2009

**Diane Galvan**

---

**From:** Gemma Reblando [reblando@geoconinc.com]

**Sent:** Friday, June 26, 2009 3:04 PM

**To:** Diane Galvan

**Cc:** 'Rajive Chadha'; 'John Juhrend'

**Subject:** Results/EDD - Hwy 50 Ramp Metering (105983 and 105991)

Hi Diane – please analyze the following paint chip samples for WET soluble lead under standard TAT.

105983-109A

105991-038A

105991-039A

105991-096A

**Gemma Reblando**

***Project Geologist***

**Please visit our new website at** <http://www.geoconinc.com>

**Geocon Consultants, Inc.**

3160 Gold Valley Drive, Suite 800

Rancho Cordova, CA 95742

916.852.9118 Tel

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GEOTECHNICAL - ENVIRONMENTAL - MATERIALS

San Diego Murrieta Burbank San Bernardino Bakersfield Sacramento Livermore Carson City Las Vegas Portl

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December 31, 2009



Rebecca Silva  
Geocon Consultants, Inc.  
3160 Gold Valley Drive, Suite 800  
Rancho Cordova, CA 95742

TEL: (916) 852-9118

FAX: (916) 852-9132

ELAP No.: 1838  
NELAP No.: 02107CA  
NEVADA.: CA-401  
CSDLAC No.: 10196

Workorder No.: 109323

RE: Hwy 50 Ramps, S9300-06-91

Attention: Rebecca Silva

Enclosed are the results for sample(s) received on December 23, 2009 by Advanced Technology Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

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

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

Sincerely,

Eddie F. Rodriguez  
Laboratory Director

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



**CLIENT:** Geocon Consultants, Inc.  
**Project:** Hwy 50 Ramps, S9300-06-91  
**Lab Order:** 109323

**CASE NARRATIVE**

Analytical Comments for Method 6010

RPD for Duplicate (DUP) is outside criteria for sample 109323-010ADUP, 109323-020ADUP and 109323-030ADUP; however, the Laboratory Control Sample (LCS) validated the analytical batch.



**LEAD BY ICP  
EPA 6010B**

**ANALYTICAL RESULTS**

<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Lab Order:</b>	109323
<b>Project:</b>	Hwy 50 Ramps, S9300-06-91	<b>Date Received</b>	12/23/2009 11:05:00 AM
<b>Project No:</b>		<b>Matrix:</b>	Soil
<b>Analyte:</b>	Lead	<b>Analyst:</b>	SRB

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
109323-001A	HA1-0	73	mg/Kg	60787	5.0	1	12/22/2009	12/28/2009
109323-002A	HA2-0	520	mg/Kg	60787	5.0	1	12/22/2009	12/28/2009
109323-003A	HA3-0	46	mg/Kg	60787	5.0	1	12/22/2009	12/28/2009
109323-004A	HA4-0	48	mg/Kg	60787	5.0	1	12/22/2009	12/28/2009
109323-005A	HA5-0	320	mg/Kg	60787	5.0	1	12/22/2009	12/28/2009
109323-006A	HA6-0	43	mg/Kg	60787	5.0	1	12/22/2009	12/28/2009
109323-007A	HA7-0	60	mg/Kg	60787	5.0	1	12/22/2009	12/28/2009
109323-008A	HA8-0	120	mg/Kg	60787	5.0	1	12/22/2009	12/28/2009
109323-009A	HA9-0	43	mg/Kg	60787	5.0	1	12/22/2009	12/28/2009
109323-010A	HA10-0	67	mg/Kg	60787	5.0	1	12/22/2009	12/28/2009
109323-011A	HA11-0	120	mg/Kg	60787	5.0	1	12/22/2009	12/28/2009
109323-012A	HA12-0	52	mg/Kg	60787	5.0	1	12/22/2009	12/28/2009
109323-013A	HA13-0	78	mg/Kg	60787	5.0	1	12/22/2009	12/28/2009
109323-014A	HA14-0	190	mg/Kg	60787	5.0	1	12/22/2009	12/28/2009
109323-015A	HA15-0	67	mg/Kg	60787	5.0	1	12/22/2009	12/28/2009
109323-016A	HA16-0	1500	mg/Kg	60787	5.0	1	12/22/2009	12/28/2009
109323-017A	HA17-0	150	mg/Kg	60787	5.0	1	12/22/2009	12/28/2009
109323-018A	HA18-0	220	mg/Kg	60787	5.0	1	12/22/2009	12/28/2009

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



**LEAD BY ICP  
EPA 6010B**

**ANALYTICAL RESULTS**

<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Lab Order:</b>	109323
<b>Project:</b>	Hwy 50 Ramps, S9300-06-91	<b>Date Received</b>	12/23/2009 11:05:00 AM
<b>Project No:</b>		<b>Matrix:</b>	Soil
<b>Analyte:</b>	Lead	<b>Analyst:</b>	SRB

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
109323-019A	HA19-0	100	mg/Kg	60787	5.0	1	12/22/2009	12/28/2009
109323-020A	HA20-0	220	mg/Kg	60787	5.0	1	12/22/2009	12/28/2009
109323-021A	HA21-0	150	mg/Kg	60788	5.0	1	12/22/2009	12/28/2009
109323-022A	HA22-0	45	mg/Kg	60788	5.0	1	12/22/2009	12/28/2009
109323-023A	HA23-0	96	mg/Kg	60788	5.0	1	12/22/2009	12/28/2009
109323-024A	HA24-0	330	mg/Kg	60788	5.0	1	12/22/2009	12/28/2009
109323-025A	HA25-0	160	mg/Kg	60788	5.0	1	12/22/2009	12/28/2009
109323-026A	HA26-0	500	mg/Kg	60788	5.0	1	12/22/2009	12/28/2009
109323-027A	HA27-0	190	mg/Kg	60788	5.0	1	12/22/2009	12/28/2009
109323-028A	HA28-0	260	mg/Kg	60788	5.0	1	12/22/2009	12/28/2009
109323-029A	HA29-0	280	mg/Kg	60788	5.0	1	12/22/2009	12/28/2009
109323-030A	HA30-0	49	mg/Kg	60788	5.0	1	12/22/2009	12/28/2009
109323-031A	HA31-0	810	mg/Kg	60788	5.0	1	12/22/2009	12/28/2009
109323-032A	HA32-0	72	mg/Kg	60788	5.0	1	12/22/2009	12/28/2009
109323-033A	HA33-0	240	mg/Kg	60788	5.0	1	12/22/2009	12/28/2009
109323-034A	HA34-0	55	mg/Kg	60788	5.0	1	12/22/2009	12/28/2009
109323-035A	HA35-0	460	mg/Kg	60788	5.0	1	12/22/2009	12/28/2009
109323-036A	HA36-0	97	mg/Kg	60788	5.0	1	12/22/2009	12/28/2009

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



**LEAD BY ICP  
EPA 6010B**

**ANALYTICAL RESULTS**

<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Lab Order:</b>	109323
<b>Project:</b>	Hwy 50 Ramps, S9300-06-91	<b>Date Received</b>	12/23/2009 11:05:00 AM
<b>Project No:</b>		<b>Matrix:</b>	Soil
<b>Analyte:</b>	Lead	<b>Analyst:</b>	SRB

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
109323-037A	HA37-0	900	mg/Kg	60788	5.0	1	12/22/2009	12/28/2009
109323-038A	HA38-0	52	mg/Kg	60788	5.0	1	12/22/2009	12/28/2009
109323-039A	HA39-0	590	mg/Kg	60788	5.0	1	12/22/2009	12/28/2009
109323-040A	HA40-0	81	mg/Kg	60788	5.0	1	12/22/2009	12/28/2009

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



**CLIENT:** Geocon Consultants, Inc.  
**Work Order:** 109323  
**Project:** Hwy 50 Ramps, S9300-06-91

**ANALYTICAL QC SUMMARY REPORT**

**TestCode: 6010\_SPB**

Sample ID: <b>MB-60787A</b>	SampType: <b>MBLK</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>12/28/2009</b>	RunNo: <b>116486</b>						
Client ID: <b>PBS</b>	Batch ID: <b>60787</b>	TestNo: <b>EPA 6010B</b>	<b>EPA 3050M</b>	Analysis Date: <b>12/28/2009</b>	SeqNo: <b>1849361</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	ND	5.0									
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Sample ID: <b>LCS-60787</b>	SampType: <b>LCS</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>12/28/2009</b>	RunNo: <b>116486</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>60787</b>	TestNo: <b>EPA 6010B</b>	<b>EPA 3050M</b>	Analysis Date: <b>12/28/2009</b>	SeqNo: <b>1849362</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	287.132	5.0	250.0	0	115	80	120				
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Sample ID: <b>109323-010A-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>12/28/2009</b>	RunNo: <b>116486</b>						
Client ID: <b>HA10-0</b>	Batch ID: <b>60787</b>	TestNo: <b>EPA 6010B</b>	<b>EPA 3050M</b>	Analysis Date: <b>12/28/2009</b>	SeqNo: <b>1849373</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	48.508	5.0						66.74	31.6	20	R
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Sample ID: <b>109323-010A-MS</b>	SampType: <b>MS</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>12/28/2009</b>	RunNo: <b>116486</b>						
Client ID: <b>HA10-0</b>	Batch ID: <b>60787</b>	TestNo: <b>EPA 6010B</b>	<b>EPA 3050M</b>	Analysis Date: <b>12/28/2009</b>	SeqNo: <b>1849374</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

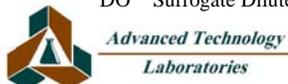
Lead	249.253	5.0	250.0	66.74	73.0	33	120				
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Sample ID: <b>MB-60787B</b>	SampType: <b>MBLK</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>12/28/2009</b>	RunNo: <b>116486</b>						
Client ID: <b>PBS</b>	Batch ID: <b>60787</b>	TestNo: <b>EPA 6010B</b>	<b>EPA 3050M</b>	Analysis Date: <b>12/28/2009</b>	SeqNo: <b>1849375</b>						
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
- 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:** 109323  
**Project:** Hwy 50 Ramps, S9300-06-91

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010\_SPB**

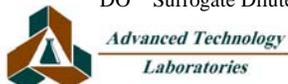
Sample ID: <b>109323-020A-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>12/28/2009</b>	RunNo: <b>116486</b>						
Client ID: <b>HA20-0</b>	Batch ID: <b>60787</b>	TestNo: <b>EPA 6010B</b>	<b>EPA 3050M</b>	Analysis Date: <b>12/28/2009</b>	SeqNo: <b>1849386</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	275.059	5.0						224.0	20.5	20	R

Sample ID: <b>109323-020A-MS</b>	SampType: <b>MS</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>12/28/2009</b>	RunNo: <b>116486</b>						
Client ID: <b>HA20-0</b>	Batch ID: <b>60787</b>	TestNo: <b>EPA 6010B</b>	<b>EPA 3050M</b>	Analysis Date: <b>12/28/2009</b>	SeqNo: <b>1849387</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	465.835	5.0	250.0	224.0	96.7	33	120				

Sample ID: <b>109323-020A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>12/28/2009</b>	RunNo: <b>116486</b>						
Client ID: <b>HA20-0</b>	Batch ID: <b>60787</b>	TestNo: <b>EPA 6010B</b>	<b>EPA 3050M</b>	Analysis Date: <b>12/28/2009</b>	SeqNo: <b>1849388</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	508.664	5.0	250.0	224.0	114	33	120	465.8	8.79	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:** 109323  
**Project:** Hwy 50 Ramps, S9300-06-91

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010\_SPB**

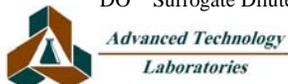
Sample ID: <b>109323-040A-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>12/28/2009</b>	RunNo: <b>116487</b>						
Client ID: <b>HA40-0</b>	Batch ID: <b>60788</b>	TestNo: <b>EPA 6010B</b>	<b>EPA 3050M</b>	Analysis Date: <b>12/28/2009</b>	SeqNo: <b>1849414</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	91.143	5.0						80.90	11.9	20	

Sample ID: <b>109323-040A-MS</b>	SampType: <b>MS</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>12/28/2009</b>	RunNo: <b>116487</b>						
Client ID: <b>HA40-0</b>	Batch ID: <b>60788</b>	TestNo: <b>EPA 6010B</b>	<b>EPA 3050M</b>	Analysis Date: <b>12/28/2009</b>	SeqNo: <b>1849415</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	285.909	5.0	250.0	80.90	82.0	33	120				

Sample ID: <b>109323-040A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>12/28/2009</b>	RunNo: <b>116487</b>						
Client ID: <b>HA40-0</b>	Batch ID: <b>60788</b>	TestNo: <b>EPA 6010B</b>	<b>EPA 3050M</b>	Analysis Date: <b>12/28/2009</b>	SeqNo: <b>1849416</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	285.990	5.0	250.0	80.90	82.0	33	120	285.9	0.0282	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

1 of 4

 <p><b>Advanced Technology Laboratories</b></p> <p>3275 Walnut Avenue Signal Hill, CA 90755 Tel: (562) 989-4045 • Fax: (562) 989-4040</p>		<b>FOR LABORATORY USE ONLY</b>									
		P.O. #: _____ Logged By: _____ Date: <u>12/22/09</u>		Method of Transport Client <input type="checkbox"/> ATL <input type="checkbox"/> CA OverN <input type="checkbox"/> FedEx <input type="checkbox"/> Other: <u>GSO</u>		Sample Condition Upon Receipt 1. CHILLED <u>12.6</u> Y <input type="checkbox"/> N <input type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input checked="" type="checkbox"/>					
Client: GEOCON Consultants, Inc Attention: _____			Address: 3160 Gold Valley Drive, Suite 800 City: Rancho Cordova State: CA Zip Code: 95742			Tel: 916.852.9118 Fax: 916.852.9132					
Project Name: Hwy 50 Ramps		Project #: S9300-06-91		Sampler: (Printed Name) Julio Esquivel		(Signature) _____					
Relinquished by: (Signature and Printed Name) Julio Esquivel		Date: <u>12/22/09</u>	Time: <u>1530</u>	Received by: (Signature and Printed Name) <u>GSO</u>		Date: <u>12/22/09</u> Time: <u>1700</u>					
Relinquished by: (Signature and Printed Name) _____		Date: _____	Time: _____	Received by: (Signature and Printed Name) <u>FPDINA</u>		Date: <u>12/23/09</u> Time: <u>1105</u>					
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: Rebecca Silva Print Name _____ Date _____ Signature _____		Send Report To: Attn: _____ Co: SAME AS ABOVE Addr: _____ City: _____ State: _____ Zip: _____		Bill To: Attn: _____ Co: SAME AS ABOVE Addr: _____ City: _____ State: _____ Zip: _____		Special Instructions/Comments: Caltrans billing per contract 03A1368 ** 5-day TAT Please copy Kari Cook on the results and EDF reports and include an excel file. Thank you. (cook@geoconinc.com)					
<b>Sample/Records - Archival &amp; Disposal</b> 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. <b>Storage Fees (applies when storage is requested):</b> ■ Sample :\$2.00 / sample /mo (after 45 days) ■ Records: \$1 /ATL workorder /mo (after 1 year)				Circle or Add Analysis(es) Requested 8081A (Pesticides) 8082 (PCB) 8260B (Volatiles) 8270C (BVA) 6010B (Total Metal) 8015B (GRO) / 8020 (BTEX) 8021 (BTEX) TITLE 22 / CAM 17 (6010 / 7000) Gasoline Package TOTAL LEAD (6010B) pH SVOCs (8270C) SOIL WATER GROUND WATER WASTEWATER CARBON		SPECIFY APPROPRIATE MATRIX TAT # Type	PRESERVATION QA/QC RTNE <input type="checkbox"/> CT <input checked="" type="checkbox"/> SWRCB Logcode _____ OTHER _____				
ITEM	LAB USE ONLY: Batch #: _____ Lab No. _____	Sample Description Sample ID / Location Date Time				Container(s)	REMARKS				
	<u>109323-081</u>	<u>HA1-0</u>	<u>12/22/09</u>	<u>0900</u>		X	X	5-Day	1	bag	
	<u>2</u>	<u>HA2-0</u>		<u>0908</u>							
	<u>3</u>	<u>HA3-0</u>		<u>0917</u>							
	<u>4</u>	<u>HA4-0</u>		<u>0924</u>							
	<u>5</u>	<u>HA5-0</u>		<u>0930</u>							
	<u>6</u>	<u>HA6-0</u>		<u>0935</u>							
	<u>7</u>	<u>HA7-0</u>		<u>0943</u>							
	<u>8</u>	<u>HA8-0</u>		<u>0950</u>							
	<u>9</u>	<u>HA9-0</u>		<u>0956</u>							
	<u>10</u>	<u>HA10-0</u>		<u>1004</u>							
■ TAT starts 8AM the following day if samples received after 3 PM		TAT: A = <input type="checkbox"/> Overnight ≤ 24 hrs B = <input type="checkbox"/> Emergency Next Workday C = <input type="checkbox"/> Critical 2 Workdays D = <input type="checkbox"/> Urgent 3 Workdays E = <input type="checkbox"/> Routine 7 Workdays	Preservatives: H=HCl N=HNO <sub>3</sub> S=H <sub>2</sub> SO <sub>4</sub> C=4°C Z=Zn(AC) <sub>2</sub> O=NaOH T=Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>		Container Types: T=Tube V=VOA L=Liter P=Pin J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

# CHAIN OF CUSTODY RECORD

20F4



**Advanced Technology  
Laboratories**

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

## FOR LABORATORY USE ONLY

P.O. #: _____	Method of Transport Client <input type="checkbox"/> ATL <input type="checkbox"/> CA OverN <input type="checkbox"/> FedEx <input type="checkbox"/> Other: _____	Sample Condition Upon Receipt 1. CHILLED Y <input type="checkbox"/> N <input type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input type="checkbox"/>
---------------	---	--

Client: GEOCON Consultants, Inc	Address: 3160 Gold Valley Drive, Suite 800	Tel: 916.852.9118
Attention: _____	City: Rancho Cordova State: CA Zip Code: 95742	Fax: 916.852.9132

Project Name: Hwy 50 Ramps	Project #: S9300-06-91	Sampler: (Printed Name) Julio Esquivel	(Signature) <i>[Signature]</i>
Relinquished by: (Signature and Printed Name) <i>[Signature]</i> Julio Esquivel	Date: 12/22/09	Time: 1530	Received by: (Signature and Printed Name) <i>[Signature]</i> GSO
Relinquished by: (Signature and Printed Name) <i>[Signature]</i>	Date: _____	Time: _____	Received by: (Signature and Printed Name) <i>[Signature]</i> FPOIWA
Relinquished by: (Signature and Printed Name) _____	Date: _____	Time: _____	Received by: (Signature and Printed Name) _____

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: Rebecca Silva	Send Report To: Attn: _____ Co: SAME AS ABOVE Addr: _____ City: _____ State: _____ Zip: _____	Bill To: Attn: _____ Co: SAME AS ABOVE Addr: _____ City: _____ State: _____ Zip: _____	Special Instructions/Comments: Caltrans billing per contract 03A1368 ** 5-day TAT Please copy Kari Cook on the results and EDF reports and include an excel file. Thank you. (cook@geoconinc.com)
---	---	--	---

**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 /ATL workorder /mo (after 1 year)

Circle or Add Analysis(es) Requested	SPECIFY APPROPRIATE MATRIX	PRESERVATION	QA/QC
Requested	MATRIX	RTNE <input type="checkbox"/> CT <input checked="" type="checkbox"/>	SWRCB <input type="checkbox"/> Logcode _____
Requested	MATRIX	OTHER _____	REMARKS

ITEM	LAB USE ONLY:		Sample Description			
	Batch #:	Lab No.	Sample ID / Location	Date	Time	
	109323-	11	HA11-0	12/22/09	1013	
		12	HA12-0		1020	
		13	HA13-0		1030	
		14	HA14-0		1038	
		15	HA15-0		1045	
		16	HA16-0		1131	
		17	HA17-0		1136	
		18	HA18-0		1140	
		19	HA19-0		1154	
		20	HA20-0		1158	

8081A (Pesticides)	8082 (PCB)	8280B (Volatiles)	8270C (BNA)	6010B (Total Metal)	8015B (GRO) / 8020 (BTEX)	8015M (TP-Hd and TP-Hmo)	TITLE 22 / CAM 17 (6010 / 7000)	Gasoline Package	TOTAL LEAD (6010B)	pH	SIVOCs (8270C)	SOIL	WATER	GROUND WATER	WASTEWATER	CARBON	TAT	#	Type

■ TAT starts 8AM the following day if samples received after 3 PM	TAT: A = <input type="checkbox"/> Overnight ≤ 24 hrs	B = <input type="checkbox"/> Emergency Next Workday	C = <input type="checkbox"/> Critical 2 Workdays	D = <input type="checkbox"/> Urgent 3 Workdays	E = <input type="checkbox"/> Routine 7 Workdays	Preservatives: H=HCl N=HNO <sub>3</sub> S=H <sub>2</sub> SO <sub>4</sub> C=4°C Z=Zn(AC) <sub>2</sub> O=NaOH T=Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>
Container Types: T=Tube V=VOA L=Liter P=Pinnt J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

# CHAIN OF CUSTODY RECORD

3074

 <p><b>Advanced Technology Laboratories</b> 3275 Walnut Avenue Signal Hill, CA 90755 Tel: (562) 989-4045 • Fax: (562) 989-4040</p>		<b>FOR LABORATORY USE ONLY</b>										
		P.O. #: _____		Method of Transport Client <input type="checkbox"/> ATL <input type="checkbox"/> CA OverN <input type="checkbox"/> FedEx <input type="checkbox"/> Other: _____		Sample Condition Upon Receipt 1. CHILLED Y <input type="checkbox"/> N <input type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input type="checkbox"/>						Logged By: _____ Date: _____
Client: GEOCON Consultants, Inc				Address: 3160 Gold Valley Drive, Suite 800						Tel: 916.852.9118		
Attention: _____				City: Rancho Cordova		State: CA		Zip Code: 95742		Fax: 916.852.9132		
Project Name: Hwy 50 Ramps		Project #: S9300-06-91		Sampler: (Printed Name) Julio Esquivel			(Signature)					
Relinquished by: (Signature and Printed Name) Julio Esquivel		Date: 12/22/09		Time: 1530		Received by: (Signature and Printed Name) GSD			Date: 12/22/09		Time: 1700	
Relinquished by: (Signature and Printed Name)		Date:		Time:		Received by: (Signature and Printed Name) FPDIWA			Date: 12/23/09		Time: 1105	
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: Rebecca Silva		Send Report To: Attn: _____ Co: SAME AS ABOVE Addr: _____ City: _____ State: _____ Zip: _____		Bill To: Attn: _____ Co: SAME AS ABOVE Addr: _____ City: _____ State: _____ Zip: _____			Special Instructions/Comments: Caltrans billing per contract 03A1368 ** 5-day TAT Please copy Kari Cook on the results and EDF reports and include an excel file. Thank you. (cook@geoconinc.com)					
Print Name		Date		Signature								
<b>Sample/Records - Archival &amp; Disposal</b> 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. <b>Storage Fees (applies when storage is requested):</b> ■ Sample: \$2.00 / sample /mo (after 45 days) ■ Records: \$1 /ATL workorder /mo (after 1 year)				Circle or Add Analysis(es) Requested			SPECIFY APPROPRIATE MATRIX					<b>QA/QC</b> RTNE <input type="checkbox"/> CT <input checked="" type="checkbox"/> SWRCB <input type="checkbox"/> Logcode _____ OTHER _____ REMARKS
				8081A (Pesticides) 8082 (PCB) 8260B (Volatiles) 8270C (BNA) 8010B (Total Metal) 8015B (GRO) / 8020 (BTEX) 8021 (TPH and TPHmg) TITLE 22 / CAM 17 Gasoline Package TOTAL LEAD (6010B) pH SVOCs (8270C) SOIL WATER GROUND WATER WASTEWATER CARBON								
LAB USE ONLY:		Sample Description										
Batch #:												
Lab No.		Sample ID / Location		Date	Time						Container(s)	
											TAT # Type	
109323-		HA21-0		12/22/09	1203						5-Day 1 bag	
		HA22-0			1214							
		HA23-0			1223							
		HA24-0			1229							
		HA25-0			1234							
		HA26-0			1304							
		HA27-0			1310							
		HA28-0			1315							
		HA29-0			1321							
		HA30-0			1326							
■ TAT starts 8AM the following day if samples received after 3 PM		TAT: A = Overnight ≤ 24 hrs	B = Emergency Next Workday	C = Critical 2 Workdays	D = Urgent 3 Workdays	E = Routine 7 Workdays	Preservatives: H=HCl N=HNO <sub>3</sub> S=H <sub>2</sub> SO <sub>4</sub> C=4°C Z=Zn(AC) <sub>2</sub> O=NaOH T=Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>					
		Container Types: T=Tube	V=VOA	L=Liter	P=Pin	J=Jar	B=Bedlar	G=Glass	P=Plastic	M=Metal		

# CHAIN OF CUSTODY RECORD

4054



**Advanced Technology  
Laboratories**

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

## FOR LABORATORY USE ONLY

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

**Method of Transport**

Client   
ATL   
CA OverN   
FedEx   
Other: \_\_\_\_\_

**Sample Condition Upon Receipt**

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

Client: GEOCON Consultants, Inc Address: 3160 Gold Valley Drive, Suite 800 Tel: 916.852.9118  
Attention: City: Rancho Cordova State: CA Zip Code: 95742 Fax: 916.852.9132

Project Name: Hwy 50 Ramps Project #: S9300-06-91 Sampler: (Printed Name) Julio Esquivel (Signature)

Relinquished by: (Signature and Printed Name) Julio Esquivel Date: 12/22/09 Time: 1530 Received by: (Signature and Printed Name) GSO Date: 12/22/09 Time: 1700

Relinquished by: (Signature and Printed Name) Date: \_\_\_\_\_ Time: \_\_\_\_\_ Received by: (Signature and Printed Name) JPDina Date: 12/23/09 Time: 1105

I hereby authorize ATL to perform the work indicated below:  
Project Mgr /Submitter: Rebecca Silva  
Print Name Date  
Signature

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

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

Special Instructions/Comments:  
Caltrans billing per contract 03A1368  
\*\* 5-day TAT  
Please copy Kari Cook on the results and EDF reports and include an excel file. Thank you.  
(cook@geoconinc.com)

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Circle or Add Analysis(es) Requested	SPECIFY APPROPRIATE MATRIX										PRESERVATION						
	8081A (Pesticides)	8082 (PCB)	8260B (Volatiles)	8270C (BVA)	8010B (Total Metal)	8015B (GRO) / 8020 (BTEX)	8021 (BTX)	TITLE 22 / CAM 17 (6010 / 7000)	Gasoline Package	TOTAL LEAD (6010B)		SVOCS (8270C)	SOIL	WATER	GROUND WATER	WASTEWATER	CARBON
																	Q A / Q C RTNE <input type="checkbox"/> CT <input checked="" type="checkbox"/> SWRCB <input type="checkbox"/> Logcode _____ OTHER _____

I T E M	LAB USE ONLY:		Sample Description		
	Batch #:	Lab No.	Sample ID / Location	Date	Time
	109923-	31	HA31-0	12/22/09	1335
		32	HA32-0		1340
		33	HA33-0		1346
		34	HA34-0		1353
		35	HA35-0		1400
		36	HA36-0		1406
		37	HA37-0		1411
		38	HA38-0		1417
		39	HA39-0		1423
		40	HA40-0		1429

■ TAT starts 8AM the following day if samples received after 3 PM

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<sub>3</sub>    S=H<sub>2</sub>SO<sub>4</sub>    C=4°C    Z=Zn(AC)<sub>2</sub>    O=NaOH    T=Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>

December 31, 2009



Rebecca Silva  
Geocon Consultants, Inc.  
3160 Gold Valley Drive, Suite 800  
Rancho Cordova, CA 95742

TEL: (916) 852-9118  
FAX: (916) 852-9132

ELAP No.: 1838  
NELAP No.: 02107CA  
NEVADA.: CA-401  
CSDLAC No.: 10196

Workorder No.: 109348

RE: Hwy 50 Ramps, S9300-06-91

Attention: Rebecca Silva

Enclosed are the results for sample(s) received on December 24, 2009 by Advanced Technology Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

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

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

Sincerely,

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

Eddie F. Rodriguez  
Laboratory Director

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



**CLIENT:** Geocon Consultants, Inc.  
**Project:** Hwy 50 Ramps, S9300-06-91  
**Lab Order:** 109348

**CASE NARRATIVE**

Analytical Comments for Method 6010

Matrix Spike (MS) and /or Matrix Spike Duplicate (MSD) are/is outside recovery criteria for sample 109349-036AMSD; however, the analytical batch was validated by the Laboratory Control Sample (LCS).

RPD for Matrix Spike (MS)/Matrix Spike Duplicate (MSD) is outside criteria for sample 109349-036AMSD; however, the analytical batch was validated by the Laboratory Control Sample (LCS).



**LEAD BY ICP  
EPA 6010B**

**ANALYTICAL RESULTS**

<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Lab Order:</b>	109348
<b>Project:</b>	Hwy 50 Ramps, S9300-06-91	<b>Date Received</b>	12/24/2009 10:50:00 AM
<b>Project No:</b>		<b>Matrix:</b>	Soil
<b>Analyte:</b>	Lead	<b>Analyst:</b>	SRB

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
109348-001A	HA41-0	1200	mg/Kg	60790	5.0	1	12/22/2009	12/30/2009
109348-002A	HA42-0	76	mg/Kg	60790	5.0	1	12/22/2009	12/30/2009
109348-003A	HA43-0	1500	mg/Kg	60790	5.0	1	12/22/2009	12/30/2009
109348-004A	HA44-0	89	mg/Kg	60790	5.0	1	12/22/2009	12/30/2009
109348-005A	HA45-0	1500	mg/Kg	60790	5.0	1	12/22/2009	12/30/2009
109348-006A	HA46-0	97	mg/Kg	60790	5.0	1	12/22/2009	12/30/2009
109348-007A	HA47-0	510	mg/Kg	60790	5.0	1	12/22/2009	12/30/2009
109348-008A	HA48-0	280	mg/Kg	60790	5.0	1	12/22/2009	12/30/2009
109348-009A	HA49-0	1300	mg/Kg	60790	5.0	1	12/22/2009	12/30/2009
109348-010A	HA50-0	590	mg/Kg	60790	5.0	1	12/22/2009	12/30/2009

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



**CLIENT:** Geocon Consultants, Inc.  
**Work Order:** 109348  
**Project:** Hwy 50 Ramps, S9300-06-91

**ANALYTICAL QC SUMMARY REPORT**

**TestCode: 6010\_SPB**

Sample ID: <b>MB-60790A</b>	SampType: <b>MBLK</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>12/28/2009</b>	RunNo: <b>116548</b>						
Client ID: <b>PBS</b>	Batch ID: <b>60790</b>	TestNo: <b>EPA 6010B</b>	<b>EPA 3050M</b>	Analysis Date: <b>12/30/2009</b>	SeqNo: <b>1850510</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	ND	5.0									
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Sample ID: <b>LCS-60790</b>	SampType: <b>LCS</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>12/28/2009</b>	RunNo: <b>116548</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>60790</b>	TestNo: <b>EPA 6010B</b>	<b>EPA 3050M</b>	Analysis Date: <b>12/30/2009</b>	SeqNo: <b>1850511</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	280.595	5.0	250.0	0	112	80	120				
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Sample ID: <b>109348-010A-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>12/28/2009</b>	RunNo: <b>116548</b>						
Client ID: <b>HA50-0</b>	Batch ID: <b>60790</b>	TestNo: <b>EPA 6010B</b>	<b>EPA 3050M</b>	Analysis Date: <b>12/30/2009</b>	SeqNo: <b>1850522</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	715.793	5.0						586.2	19.9	20	
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Sample ID: <b>109348-010A-MS</b>	SampType: <b>MS</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>12/28/2009</b>	RunNo: <b>116548</b>						
Client ID: <b>HA50-0</b>	Batch ID: <b>60790</b>	TestNo: <b>EPA 6010B</b>	<b>EPA 3050M</b>	Analysis Date: <b>12/30/2009</b>	SeqNo: <b>1850523</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

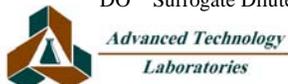
Lead	852.729	5.0	250.0	586.2	107	33	120				
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Sample ID: <b>MB-60790B</b>	SampType: <b>MBLK</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>12/28/2009</b>	RunNo: <b>116548</b>						
Client ID: <b>PBS</b>	Batch ID: <b>60790</b>	TestNo: <b>EPA 6010B</b>	<b>EPA 3050M</b>	Analysis Date: <b>12/30/2009</b>	SeqNo: <b>1850524</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	ND	5.0									
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**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:** 109348  
**Project:** Hwy 50 Ramps, S9300-06-91

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 6010\_SPB**

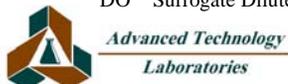
Sample ID: <b>109349-036A-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>12/28/2009</b>	RunNo: <b>116548</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>60790</b>	TestNo: <b>EPA 6010B</b>	<b>EPA 3050M</b>	Analysis Date: <b>12/30/2009</b>	SeqNo: <b>1850535</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	772.938	5.0						874.6	12.3	20	

Sample ID: <b>109349-036A-MS</b>	SampType: <b>MS</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>12/28/2009</b>	RunNo: <b>116548</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>60790</b>	TestNo: <b>EPA 6010B</b>	<b>EPA 3050M</b>	Analysis Date: <b>12/30/2009</b>	SeqNo: <b>1850536</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	1034.485	5.0	250.0	874.6	63.9	33	120				

Sample ID: <b>109349-036A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>6010_SPB</b>	Units: <b>mg/Kg</b>	Prep Date: <b>12/28/2009</b>	RunNo: <b>116548</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>60790</b>	TestNo: <b>EPA 6010B</b>	<b>EPA 3050M</b>	Analysis Date: <b>12/30/2009</b>	SeqNo: <b>1850537</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	841.810	5.0	250.0	874.6	-13.1	33	120	1034	20.5	20	SR

**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

BoF 1

 <p><b>Advanced Technology Laboratories</b> 3275 Walnut Avenue Signal Hill, CA 90755 Tel: (562) 989-4045 • Fax: (562) 989-4040</p>		<b>FOR LABORATORY USE ONLY</b>													
		P.O. #: _____ Logged By: _____ Date: <u>12/24/09</u>		Method of Transport Client <input type="checkbox"/> ATL <input type="checkbox"/> CA OverN <input type="checkbox"/> FedEx <input type="checkbox"/> Other: <u>(750)</u>		Sample Condition Upon Receipt 1. CHILLED <u>12.6</u> Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTACT Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input checked="" type="checkbox"/>									
Client: GEOCON Consultants, Inc Attention: _____				Address: 3160 Gold Valley Drive, Suite 800 City: Rancho Cordova State: CA Zip Code: 95742				Tel: 916.852.9118 Fax: 916.852.9132							
Project Name: Hwy 50 Ramps		Project #: S9300-06-91		Sampler: (Printed Name) Julio Esquivel				(Signature) <u>[Signature]</u>							
Relinquished by: (Signature and Printed Name) <u>[Signature]</u> Julio Esquivel		Date: <u>12/23/09</u>		Time: <u>0800</u>		Received by: (Signature and Printed Name) <u>[Signature]</u> GSO		Date: <u>12/23/09</u>		Time: <u>1630</u>					
Relinquished by: (Signature and Printed Name) _____		Date: _____		Time: _____		Received by: (Signature and Printed Name) <u>[Signature]</u> Margo		Date: <u>12/24/09</u>		Time: <u>10:50</u>					
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: Rebecca Silva Print Name Date _____		Send Report To: Attn: _____ Co: SAME AS ABOVE Addr: _____ City: _____ State: _____ Zip: _____		Bill To: Attn: _____ Co: SAME AS ABOVE Addr: _____ City: _____ State: _____ Zip: _____		Special Instructions/Comments: Caltrans billing per contract 03A1368 ** 5-day TAT Please copy Kari Cook on the results and EDF reports and include an excel file. Thank you. (cook@geoconinc.com)									
<b>Sample/Records - Archival &amp; Disposal</b> 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. <b>Storage Fees (applies when storage is requested):</b> ■ Sample :\$2.00 / sample /mo (after 45 days) ■ Records: \$1 /ATL workorder /mo (after 1 year)				Circle or Add Analysis(es) Requested 8081A (Pesticides) 8082 (PCOB) 8260B (Volatiles) 8270C (BNA) 8010B (Total Metal) 8015B (GRO) / 8020 (BTEX) 8015M (TPH) and TPH(m) TITLE 22 / CAM 17 (6010 / 7000) Gasoline Package TOTAL LEAD (6010B) PH SVOCs (8270C) SOIL WATER GROUND WATER WASTEWATER CARBON								SPECIFY APPROPRIATE MATRIX TAT # Type		PRESERVATION QA/QC RTNE <input type="checkbox"/> CT <input checked="" type="checkbox"/> SWRCB Logcode _____ OTHER _____	
LAB USE ONLY: Batch #: _____ Lab No. _____		Sample Description Sample ID / Location Date Time		(Analysis Requested Grid)								Container(s) TAT # Type		REMARKS	
10934B-007		HA41-0 12/22/09 1437		(Grid with X in PH and SVOCs)								5-Day 1 bag		(Remarks)	
2		HA42-0													
3		HA43-0													
4		HA44-0													
5		HA45-0													
6		HA46-0													
7		HA47-0													
8		HA48-0													
9		HA49-0													
10		HA50-0													
■ TAT starts 8AM the following day if samples received after 3 PM		TAT: A = Overnight ≤ 24 hrs B = Emergency Next Workday C = Critical 2 Workdays D = Urgent 3 Workdays E = Routine 7 Workdays		Preservatives: H=HCl N=HNO <sub>3</sub> S=H <sub>2</sub> SO <sub>4</sub> C=4°C Z=Zn(AC) <sub>2</sub> O=NaOH T=Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>								Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal			

January 07, 2010



Rebecca Silva  
Geocon Consultants, Inc.  
3160 Gold Valley Drive, Suite 800  
Rancho Cordova, CA 95742  
TEL: (916) 852-9118  
FAX: (916) 852-9132

ELAP No.: 1838  
NELAP No.: 02107CA  
NEVADA.: CA-401  
CSDLAC No.: 10196

Workorder No.: 109323

RE: Hwy 50 Ramps, S9300-06-91

Attention: Rebecca Silva

Enclosed are the results for sample(s) received on December 23, 2009 by Advanced Technology Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

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

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

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

Sincerely,

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

Eddie F. Rodriguez  
Laboratory Director

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



**ANALYTICAL RESULTS**

**LEAD BY ATOMIC ABSORPTION  
WET DI/ EPA 7420**

<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Lab Order:</b>	109323
<b>Project:</b>	Hwy 50 Ramps, S9300-06-91	<b>Date Received</b>	12/23/2009 11:05:00 AM
<b>Project No:</b>		<b>Matrix:</b>	Soil
<b>Analyte:</b>	Lead	<b>Analyst:</b>	IL

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
109323-001A	HA1-0	ND	mg/L	60895	0.25	1	12/22/2009	1/6/2010
109323-002A	HA2-0	ND	mg/L	60895	0.25	1	12/22/2009	1/6/2010
109323-005A	HA5-0	ND	mg/L	60895	0.25	1	12/22/2009	1/6/2010
109323-007A	HA7-0	ND	mg/L	60895	0.25	1	12/22/2009	1/6/2010
109323-008A	HA8-0	ND	mg/L	60895	0.25	1	12/22/2009	1/6/2010
109323-010A	HA10-0	ND	mg/L	60895	0.25	1	12/22/2009	1/6/2010
109323-011A	HA11-0	ND	mg/L	60895	0.25	1	12/22/2009	1/6/2010
109323-012A	HA12-0	ND	mg/L	60895	0.25	1	12/22/2009	1/6/2010
109323-013A	HA13-0	ND	mg/L	60895	0.25	1	12/22/2009	1/6/2010
109323-014A	HA14-0	ND	mg/L	60895	0.25	1	12/22/2009	1/6/2010
109323-015A	HA15-0	ND	mg/L	60895	0.25	1	12/22/2009	1/6/2010
109323-016A	HA16-0	0.95	mg/L	60895	0.25	1	12/22/2009	1/6/2010
109323-017A	HA17-0	ND	mg/L	60895	0.25	1	12/22/2009	1/6/2010
109323-018A	HA18-0	ND	mg/L	60895	0.25	1	12/22/2009	1/6/2010
109323-019A	HA19-0	ND	mg/L	60895	0.25	1	12/22/2009	1/6/2010
109323-020A	HA20-0	ND	mg/L	60895	0.25	1	12/22/2009	1/6/2010
109323-021A	HA21-0	ND	mg/L	60895	0.25	1	12/22/2009	1/6/2010
109323-023A	HA23-0	ND	mg/L	60895	0.25	1	12/22/2009	1/6/2010

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



**ANALYTICAL RESULTS**

**LEAD BY ATOMIC ABSORPTION  
WET DI/ EPA 7420**

<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Lab Order:</b>	109323
<b>Project:</b>	Hwy 50 Ramps, S9300-06-91	<b>Date Received</b>	12/23/2009 11:05:00 AM
<b>Project No:</b>		<b>Matrix:</b>	Soil
<b>Analyte:</b>	Lead	<b>Analyst:</b>	IL

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
109323-024A	HA24-0	ND	mg/L	60895	0.25	1	12/22/2009	1/6/2010
109323-025A	HA25-0	ND	mg/L	60895	0.25	1	12/22/2009	1/6/2010
109323-026A	HA26-0	ND	mg/L	60897	0.25	1	12/22/2009	1/6/2010
109323-027A	HA27-0	ND	mg/L	60897	0.25	1	12/22/2009	1/6/2010
109323-028A	HA28-0	ND	mg/L	60897	0.25	1	12/22/2009	1/6/2010
109323-029A	HA29-0	ND	mg/L	60897	0.25	1	12/22/2009	1/6/2010
109323-031A	HA31-0	0.34	mg/L	60897	0.25	1	12/22/2009	1/6/2010
109323-032A	HA32-0	ND	mg/L	60897	0.25	1	12/22/2009	1/6/2010
109323-033A	HA33-0	ND	mg/L	60897	0.25	1	12/22/2009	1/6/2010
109323-034A	HA34-0	ND	mg/L	60897	0.25	1	12/22/2009	1/6/2010
109323-035A	HA35-0	0.39	mg/L	60897	0.25	1	12/22/2009	1/6/2010
109323-036A	HA36-0	ND	mg/L	60897	0.25	1	12/22/2009	1/6/2010
109323-037A	HA37-0	0.45	mg/L	60897	0.25	1	12/22/2009	1/6/2010
109323-038A	HA38-0	ND	mg/L	60897	0.25	1	12/22/2009	1/6/2010
109323-039A	HA39-0	ND	mg/L	60897	0.25	1	12/22/2009	1/6/2010
109323-040A	HA40-0	ND	mg/L	60897	0.25	1	12/22/2009	1/6/2010

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



**ANALYTICAL RESULTS**

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

<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Lab Order:</b>	109323
<b>Project:</b>	Hwy 50 Ramps, S9300-06-91	<b>Date Received</b>	12/23/2009 11:05:00 AM
<b>Project No:</b>		<b>Matrix:</b>	Soil
<b>Analyte:</b>	Lead	<b>Analyst:</b>	VV

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
109323-016A	HA16-0	2.1	mg/L	60907	0.25	1	12/22/2009	1/5/2010

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



**ANALYTICAL RESULTS**

**pH  
EPA 9045C**

<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Lab Order:</b>	109323
<b>Project:</b>	Hwy 50 Ramps, S9300-06-91	<b>Date Received</b>	12/23/2009 11:05:00 AM
<b>Project No:</b>		<b>Matrix:</b>	Soil
<b>Analyte:</b>	pH	<b>Analyst:</b>	DDL

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
109323-002A	HA2-0	7.0	pH Units	R116681	0.10	1	12/22/2009	1/5/2010
109323-005A	HA5-0	7.2	pH Units	R116681	0.10	1	12/22/2009	1/5/2010
109323-011A	HA11-0	7.2	pH Units	R116681	0.10	1	12/22/2009	1/5/2010
109323-016A	HA16-0	6.3	pH Units	R116681	0.10	1	12/22/2009	1/5/2010
109323-021A	HA21-0	6.7	pH Units	R116681	0.10	1	12/22/2009	1/5/2010
109323-026A	HA26-0	4.7	pH Units	R116681	0.10	1	12/22/2009	1/5/2010
109323-031A	HA31-0	5.4	pH Units	R116681	0.10	1	12/22/2009	1/5/2010
109323-037A	HA37-0	5.5	pH Units	R116681	0.10	1	12/22/2009	1/5/2010

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



**CLIENT:** Geocon Consultants, Inc.  
**Work Order:** 109323  
**Project:** Hwy 50 Ramps, S9300-06-91

**ANALYTICAL QC SUMMARY REPORT**

**TestCode: 7420\_DI**

Sample ID: <b>MB-60895A</b>	SampType: <b>MBLK</b>	TestCode: <b>7420_DI</b>	Units: <b>mg/L</b>	Prep Date: <b>1/4/2010</b>	RunNo: <b>116706</b>						
Client ID: <b>PBS</b>	Batch ID: <b>60895</b>	TestNo: <b>WET DI/ EPA WET</b>		Analysis Date: <b>1/6/2010</b>	SeqNo: <b>1852911</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	ND	0.25									
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Sample ID: <b>LCS-60895</b>	SampType: <b>LCS</b>	TestCode: <b>7420_DI</b>	Units: <b>mg/L</b>	Prep Date: <b>1/4/2010</b>	RunNo: <b>116706</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>60895</b>	TestNo: <b>WET DI/ EPA WET</b>		Analysis Date: <b>1/6/2010</b>	SeqNo: <b>1852912</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	4.924	0.25	5.000	0	98.5	80	120				
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Sample ID: <b>109323-014A-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>7420_DI</b>	Units: <b>mg/L</b>	Prep Date: <b>1/4/2010</b>	RunNo: <b>116706</b>						
Client ID: <b>HA14-0</b>	Batch ID: <b>60895</b>	TestNo: <b>WET DI/ EPA WET</b>		Analysis Date: <b>1/6/2010</b>	SeqNo: <b>1852923</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	ND	0.25						0	0	20	
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Sample ID: <b>109323-014A-MS</b>	SampType: <b>MS</b>	TestCode: <b>7420_DI</b>	Units: <b>mg/L</b>	Prep Date: <b>1/4/2010</b>	RunNo: <b>116706</b>						
Client ID: <b>HA14-0</b>	Batch ID: <b>60895</b>	TestNo: <b>WET DI/ EPA WET</b>		Analysis Date: <b>1/6/2010</b>	SeqNo: <b>1852924</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

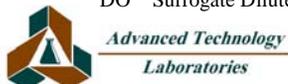
Lead	2.529	0.25	2.500	0	101	70	130				
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Sample ID: <b>MB-60895B</b>	SampType: <b>MBLK</b>	TestCode: <b>7420_DI</b>	Units: <b>mg/L</b>	Prep Date: <b>1/4/2010</b>	RunNo: <b>116706</b>						
Client ID: <b>PBS</b>	Batch ID: <b>60895</b>	TestNo: <b>WET DI/ EPA WET</b>		Analysis Date: <b>1/6/2010</b>	SeqNo: <b>1852925</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	ND	0.25									
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**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:** 109323  
**Project:** Hwy 50 Ramps, S9300-06-91

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 7420\_DI**

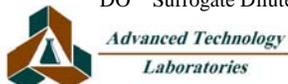
Sample ID: <b>109323-025A-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>7420_DI</b>	Units: <b>mg/L</b>	Prep Date: <b>1/4/2010</b>	RunNo: <b>116706</b>						
Client ID: <b>HA25-0</b>	Batch ID: <b>60895</b>	TestNo: <b>WET DI/ EPA WET</b>		Analysis Date: <b>1/6/2010</b>	SeqNo: <b>1852936</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.25						0	0	20	

Sample ID: <b>109323-025A-MS</b>	SampType: <b>MS</b>	TestCode: <b>7420_DI</b>	Units: <b>mg/L</b>	Prep Date: <b>1/4/2010</b>	RunNo: <b>116706</b>						
Client ID: <b>HA25-0</b>	Batch ID: <b>60895</b>	TestNo: <b>WET DI/ EPA WET</b>		Analysis Date: <b>1/6/2010</b>	SeqNo: <b>1852937</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	2.864	0.25	2.500	0	115	70	130				

Sample ID: <b>109323-025A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>7420_DI</b>	Units: <b>mg/L</b>	Prep Date: <b>1/4/2010</b>	RunNo: <b>116706</b>						
Client ID: <b>HA25-0</b>	Batch ID: <b>60895</b>	TestNo: <b>WET DI/ EPA WET</b>		Analysis Date: <b>1/6/2010</b>	SeqNo: <b>1852938</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	2.821	0.25	2.500	0	113	70	130	2.864	1.53	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:** 109323  
**Project:** Hwy 50 Ramps, S9300-06-91

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 7420\_DI**

Sample ID: <b>MB-60897A</b>	SampType: <b>MBLK</b>	TestCode: <b>7420_DI</b>	Units: <b>mg/L</b>	Prep Date: <b>1/4/2010</b>	RunNo: <b>116707</b>
Client ID: <b>PBS</b>	Batch ID: <b>60897</b>	TestNo: <b>WET DI/ EPA WET</b>		Analysis Date: <b>1/6/2010</b>	SeqNo: <b>1852939</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Lead	ND	0.25									
------	----	------	--	--	--	--	--	--	--	--	--

Sample ID: <b>LCS-60897</b>	SampType: <b>LCS</b>	TestCode: <b>7420_DI</b>	Units: <b>mg/L</b>	Prep Date: <b>1/4/2010</b>	RunNo: <b>116707</b>
Client ID: <b>LCSS</b>	Batch ID: <b>60897</b>	TestNo: <b>WET DI/ EPA WET</b>		Analysis Date: <b>1/6/2010</b>	SeqNo: <b>1852940</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Lead	4.891	0.25	5.000	0	97.8	80	120				
------	-------	------	-------	---	------	----	-----	--	--	--	--

Sample ID: <b>109323-036A-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>7420_DI</b>	Units: <b>mg/L</b>	Prep Date: <b>1/4/2010</b>	RunNo: <b>116707</b>
Client ID: <b>HA36-0</b>	Batch ID: <b>60897</b>	TestNo: <b>WET DI/ EPA WET</b>		Analysis Date: <b>1/6/2010</b>	SeqNo: <b>1852951</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Lead	ND	0.25						0	0	20	
------	----	------	--	--	--	--	--	---	---	----	--

Sample ID: <b>109323-036A-MS</b>	SampType: <b>MS</b>	TestCode: <b>7420_DI</b>	Units: <b>mg/L</b>	Prep Date: <b>1/4/2010</b>	RunNo: <b>116707</b>
Client ID: <b>HA36-0</b>	Batch ID: <b>60897</b>	TestNo: <b>WET DI/ EPA WET</b>		Analysis Date: <b>1/6/2010</b>	SeqNo: <b>1852952</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

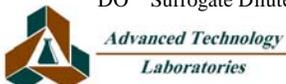
Lead	2.960	0.25	2.500	0	118	70	130				
------	-------	------	-------	---	-----	----	-----	--	--	--	--

Sample ID: <b>MB-60897B</b>	SampType: <b>MBLK</b>	TestCode: <b>7420_DI</b>	Units: <b>mg/L</b>	Prep Date: <b>1/4/2010</b>	RunNo: <b>116707</b>
Client ID: <b>PBS</b>	Batch ID: <b>60897</b>	TestNo: <b>WET DI/ EPA WET</b>		Analysis Date: <b>1/6/2010</b>	SeqNo: <b>1852953</b>
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:** 109323  
**Project:** Hwy 50 Ramps, S9300-06-91

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 7420\_DI**

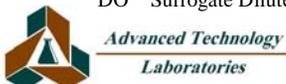
Sample ID: <b>109323-040A-DUP</b>	SampType: <b>DUP</b>	TestCode: <b>7420_DI</b>	Units: <b>mg/L</b>	Prep Date: <b>1/4/2010</b>	RunNo: <b>116707</b>						
Client ID: <b>HA40-0</b>	Batch ID: <b>60897</b>	TestNo: <b>WET DI/ EPA WET</b>		Analysis Date: <b>1/6/2010</b>	SeqNo: <b>1852958</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.25						0	0	20	

Sample ID: <b>109323-040A-MS</b>	SampType: <b>MS</b>	TestCode: <b>7420_DI</b>	Units: <b>mg/L</b>	Prep Date: <b>1/4/2010</b>	RunNo: <b>116707</b>						
Client ID: <b>HA40-0</b>	Batch ID: <b>60897</b>	TestNo: <b>WET DI/ EPA WET</b>		Analysis Date: <b>1/6/2010</b>	SeqNo: <b>1852959</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	2.478	0.25	2.500	0	99.1	70	130				

Sample ID: <b>109323-040A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>7420_DI</b>	Units: <b>mg/L</b>	Prep Date: <b>1/4/2010</b>	RunNo: <b>116707</b>						
Client ID: <b>HA40-0</b>	Batch ID: <b>60897</b>	TestNo: <b>WET DI/ EPA WET</b>		Analysis Date: <b>1/6/2010</b>	SeqNo: <b>1852960</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	2.493	0.25	2.500	0	99.7	70	130	2.478	0.622	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:** 109323  
**Project:** Hwy 50 Ramps, S9300-06-91

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 9045\_S**

Sample ID: <b>109323-037ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>9045_S</b>	Units: <b>pH Units</b>	Prep Date:	RunNo: <b>116681</b>						
Client ID: <b>HA37-0</b>	Batch ID: <b>R116681</b>	TestNo: <b>EPA 9045C</b>		Analysis Date: <b>1/5/2010</b>	SeqNo: <b>1852604</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	5.510	0.10						5.480	0.546	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 |   |  |



**Rachelle Arada**

---

**From:** Rebecca Silva [silva@geoconinc.com]  
**Sent:** Monday, January 04, 2010 2:49 PM  
**To:** Rachelle Arada  
**Subject:** RE: Results/EDD - Hwy 50 Ramps (109323)  
Understood – thanks, Rachelle!

---

**From:** Rachelle Arada [mailto:Rachelle@atlglobal.com]  
**Sent:** Monday, January 04, 2010 2:54 PM  
**To:** Rebecca Silva  
**Subject:** RE: Results/EDD - Hwy 50 Ramps (109323)

Hi Rebecca,

I got your request below. For DI-WET, the soonest TAT is 3 days.

Thanks,  
Rachelle

-----Original Message-----

**From:** Rebecca Silva [mailto:silva@geoconinc.com]  
**Sent:** Monday, January 04, 2010 2:21 PM  
**To:** Rachelle Arada  
**Subject:** FW: Results/EDD - Hwy 50 Ramps (109323)

Hi Rachelle – Can you please take care of this in Diane's absence?

Thanks! And Happy New Year!  
Rebecca

---

**From:** Rebecca Silva [mailto:silva@geoconinc.com]  
**Sent:** Monday, January 04, 2010 2:18 PM  
**To:** 'Diane Galvan'  
**Subject:** RE: Results/EDD - Hwy 50 Ramps (109323)

Hi Diane – Please assign the 34 samples with total lead greater than 50 mg/kg for DI-WET lead on 48-hr TAT. Also assign sample 109323-16A for TCLP on 48-hr TAT. Finally, please assign the following 8 samples for pH on 48-hr TAT.

109323-

002a  
005a  
011a  
016a  
021a  
026a  
031a  
037a

Thanks!  
Rebecca

---

**From:** Diane Galvan [mailto:Diane@atlglobal.com]  
**Sent:** Thursday, December 31, 2009 11:53 AM  
**To:** silva@geoconinc.com  
**Cc:** cook@geoconinc.com  
**Subject:** Results/EDD - Hwy 50 Ramps (109323)

Hi Rebecca,

Here are the results and Excel EDD.

Thanks,

Diane Galvan  
Project Coordinator



Advanced Technology Laboratories  
[www.atlglobal.com](http://www.atlglobal.com)  
Tel: (562) 989-4045 ext. 238  
Fax: (562) 989-4040

Advanced Technology Laboratories is a full-service environmental lab providing organic and inorganic analyses of soil, water, wastewater, storm water and hazardous waste samples. ATL is accredited by the State of California, NELAP and State of Nevada and holds various SBE, DBE and MBE certificates and a USDA soil permit. ATL takes pride in providing our customers with quick turnaround time, excellent customer service and defensible data while offering very competitive rates. *Advanced Technology Labs - Your Partner for Quality Environmental Testing*

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January 07, 2010



Rebecca Silva  
Geocon Consultants, Inc.  
3160 Gold Valley Drive, Suite 800  
Rancho Cordova, CA 95742  
TEL: (916) 852-9118  
FAX: (916) 852-9132

ELAP No.: 1838  
NELAP No.: 02107CA  
NEVADA.: CA-401  
CSDLAC No.: 10196  
Workorder No.: 109348

RE: Hwy 50 Ramps, S9300-06-91

Attention: Rebecca Silva

Enclosed are the results for sample(s) received on December 24, 2009 by Advanced Technology Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

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

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

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

Sincerely,

Eddie F. Rodriguez  
Laboratory Director

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



**ANALYTICAL RESULTS**

**LEAD BY ATOMIC ABSORPTION  
WET DI/ EPA 7420**

<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Lab Order:</b>	109348
<b>Project:</b>	Hwy 50 Ramps, S9300-06-91	<b>Date Received</b>	12/24/2009 10:50:00 AM
<b>Project No:</b>		<b>Matrix:</b>	Soil
<b>Analyte:</b>	Lead	<b>Analyst:</b>	IL

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
109348-001A	HA41-0	ND	mg/L	60901	0.25	1	12/22/2009	1/6/2010
109348-002A	HA42-0	ND	mg/L	60901	0.25	1	12/22/2009	1/6/2010
109348-003A	HA43-0	ND	mg/L	60901	0.25	1	12/22/2009	1/6/2010
109348-004A	HA44-0	ND	mg/L	60901	0.25	1	12/22/2009	1/6/2010
109348-005A	HA45-0	0.34	mg/L	60901	0.25	1	12/22/2009	1/6/2010
109348-006A	HA46-0	ND	mg/L	60901	0.25	1	12/22/2009	1/6/2010
109348-007A	HA47-0	ND	mg/L	60901	0.25	1	12/22/2009	1/6/2010
109348-008A	HA48-0	ND	mg/L	60901	0.25	1	12/22/2009	1/6/2010
109348-009A	HA49-0	0.37	mg/L	60901	0.25	1	12/22/2009	1/6/2010
109348-010A	HA50-0	0.34	mg/L	60901	0.25	1	12/22/2009	1/6/2010

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



**ANALYTICAL RESULTS**

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

<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Lab Order:</b>	109348
<b>Project:</b>	Hwy 50 Ramps, S9300-06-91	<b>Date Received</b>	12/24/2009 10:50:00 AM
<b>Project No:</b>		<b>Matrix:</b>	Soil
<b>Analyte:</b>	Lead	<b>Analyst:</b>	VV

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
109348-001A	HA41-0	3.2	mg/L	60907	0.25	1	12/22/2009	1/5/2010
109348-003A	HA43-0	1.4	mg/L	60907	0.25	1	12/22/2009	1/5/2010
109348-005A	HA45-0	4.5	mg/L	60907	0.25	1	12/22/2009	1/5/2010
109348-009A	HA49-0	4.0	mg/L	60907	0.25	1	12/22/2009	1/5/2010

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



**ANALYTICAL RESULTS**

**pH  
EPA 9045C**

<b>CLIENT:</b>	Geocon Consultants, Inc.	<b>Lab Order:</b>	109348
<b>Project:</b>	Hwy 50 Ramps, S9300-06-91	<b>Date Received</b>	12/24/2009 10:50:00 AM
<b>Project No:</b>		<b>Matrix:</b>	Soil
<b>Analyte:</b>	pH	<b>Analyst:</b>	DDL

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
109348-001A	HA41-0	6.0	pH Units	R116682	0.10	1	12/22/2009	1/5/2010
109348-003A	HA43-0	6.3	pH Units	R116682	0.10	1	12/22/2009	1/5/2010
109348-004A	HA44-0	6.3	pH Units	R116682	0.10	1	12/22/2009	1/5/2010
109348-005A	HA45-0	6.7	pH Units	R116682	0.10	1	12/22/2009	1/5/2010
109348-008A	HA48-0	6.4	pH Units	R116682	0.10	1	12/22/2009	1/5/2010
109348-009A	HA49-0	6.6	pH Units	R116682	0.10	1	12/22/2009	1/5/2010
109348-010A	HA50-0	6.6	pH Units	R116682	0.10	1	12/22/2009	1/5/2010

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



**CLIENT:** Geocon Consultants, Inc.  
**Work Order:** 109348  
**Project:** Hwy 50 Ramps, S9300-06-91

**ANALYTICAL QC SUMMARY REPORT**

**TestCode: 7420\_DI**

Sample ID: <b>MB-60901A</b>	SampType: <b>MBLK</b>	TestCode: <b>7420_DI</b>	Units: <b>mg/L</b>	Prep Date: <b>1/4/2010</b>	RunNo: <b>116708</b>						
Client ID: <b>PBS</b>	Batch ID: <b>60901</b>	TestNo: <b>WET DI/ EPA WET</b>		Analysis Date: <b>1/6/2010</b>	SeqNo: <b>1852961</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	ND	0.25									
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Sample ID: <b>LCS-60901</b>	SampType: <b>LCS</b>	TestCode: <b>7420_DI</b>	Units: <b>mg/L</b>	Prep Date: <b>1/4/2010</b>	RunNo: <b>116708</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>60901</b>	TestNo: <b>WET DI/ EPA WET</b>		Analysis Date: <b>1/6/2010</b>	SeqNo: <b>1852962</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	4.879	0.25	5.000	0	97.6	80	120				
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Sample ID: <b>109348-010A-MS</b>	SampType: <b>MS</b>	TestCode: <b>7420_DI</b>	Units: <b>mg/L</b>	Prep Date: <b>1/4/2010</b>	RunNo: <b>116708</b>						
Client ID: <b>HA50-0</b>	Batch ID: <b>60901</b>	TestNo: <b>WET DI/ EPA WET</b>		Analysis Date: <b>1/6/2010</b>	SeqNo: <b>1852974</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

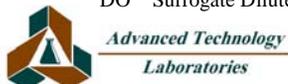
Lead	3.049	0.25	2.500	0.3434	108	70	130				
------	-------	------	-------	--------	-----	----	-----	--	--	--	--

Sample ID: <b>109348-010A-MSD</b>	SampType: <b>MSD</b>	TestCode: <b>7420_DI</b>	Units: <b>mg/L</b>	Prep Date: <b>1/4/2010</b>	RunNo: <b>116708</b>						
Client ID: <b>HA50-0</b>	Batch ID: <b>60901</b>	TestNo: <b>WET DI/ EPA WET</b>		Analysis Date: <b>1/6/2010</b>	SeqNo: <b>1852975</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	3.177	0.25	2.500	0.3434	113	70	130	3.049	4.12	20	
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**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:** 109348  
**Project:** Hwy 50 Ramps, S9300-06-91

## ANALYTICAL QC SUMMARY REPORT

**TestCode: 9045\_S**

Sample ID: <b>109348-010ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>9045_S</b>	Units: <b>pH Units</b>	Prep Date:	RunNo: <b>116682</b>						
Client ID: <b>HA50-0</b>	Batch ID: <b>R116682</b>	TestNo: <b>EPA 9045C</b>	Analysis Date: <b>1/5/2010</b>	SeqNo: <b>1852612</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	6.620	0.10						6.610	0.151	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 |   |  |



## Rachelle Arada

---

**From:** Rebecca Silva [silva@geoconinc.com]  
**Sent:** Monday, January 04, 2010 3:21 PM  
**To:** Rachelle Arada  
**Subject:** RE: Results/EDD - Hwy 50 Ramps (109348)

Thanks!

---

**From:** Rachelle Arada [mailto:Rachelle@atglobal.com]  
**Sent:** Monday, January 04, 2010 3:24 PM  
**To:** Rebecca Silva  
**Subject:** RE: Results/EDD - Hwy 50 Ramps (109348)

Hi Rebecca,

This will also have 3 day TAT for DI-WET.

Thanks,  
Rachelle

-----Original Message-----

**From:** Rebecca Silva [mailto:silva@geoconinc.com]  
**Sent:** Monday, January 04, 2010 2:22 PM  
**To:** Rachelle Arada  
**Subject:** FW: Results/EDD - Hwy 50 Ramps (109348)

Hi Rachelle –

This one too!

Thanks!  
Rebecca

---

**From:** Rebecca Silva [mailto:silva@geoconinc.com]  
**Sent:** Monday, January 04, 2010 2:20 PM  
**To:** 'Diane Galvan'  
**Subject:** RE: Results/EDD - Hwy 50 Ramps (109348)

Hi Diane – Please assign each of the 10 samples for DI-WET lead on 48-hr TAT. Also assign samples 109348-001a, -003a, -005a, 009a for TCLP on 48-hr TAT. Finally, please assign the following 7 samples for pH on 48-hr TAT.

109348-

001a  
003a  
004a  
005a  
008a  
009a  
010a

Thanks!  
Rebecca

---

**From:** Diane Galvan [mailto:Diane@atglobal.com]  
**Sent:** Thursday, December 31, 2009 11:58 AM  
**To:** silva@geoconinc.com  
**Cc:** cook@geoconinc.com  
**Subject:** Results/EDD - Hwy 50 Ramps (109348)

Hi Rebecca,

Here are the results and Excel EDD.

Thanks,

Diane Galvan  
Project Coordinator

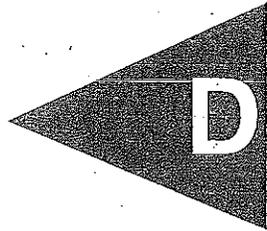


**Advanced Technology Laboratories**  
[www.atglobal.com](http://www.atglobal.com)  
Tel: (562) 989-4045 ext. 238  
Fax: (562) 989-4040

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APPENDIX



### **DESCRIPTION OF DATA SET**

---

Project Name: State Route 50 (SAC-50) Ramp Meters Project  
Project No.: S9300-06-91  
Sample Interval: 0.0 to 1.0 ft  
Sample Location: Stockton Boulevard Onramp  
Borings B1 through B12 and HA1 through HA15

### **DATA SET STATISTICS**

---

Number of Valid Samples	27
Number of Distinct Samples	22
Minimum	9.2
Maximum	520
Mean	163.4518519
Median	78
Standard Deviation	151.1599926
Variance	22849.34336
Coefficient of Variation	0.924798287
Skewness	1.127923732
Mean of log data	4.675785646
Standard Deviation of log data	0.968987414

#### **90% Non-parametric UCLs**

Standard Bootstrap UCL 200.0296115

#### **95% Non-parametric UCLs**

Standard Bootstrap UCL 210.3207557

## **DESCRIPTION OF DATA SET**

---

Project Name: State Route 50 (SAC-50) Ramp Meters Project  
Project No.: S9300-06-91  
Sample Interval: 1.0 to 2.0 ft  
Sample Location: Stockton Boulevard Onramp  
(Borings B1 through B12)

## **DATA SET STATISTICS**

---

Number of Valid Samples	12
Number of Distinct Samples	6
Minimum	2.5
Maximum	150
Mean	18.175
Median	2.5
Standard Deviation	42.036762
Variance	1767.089318
Coefficient of Variation	2.312889
Skewness	3.318466
Mean of log data	1.729057
Standard Deviation of log data	1.300656

### **90% Non-parametric UCLs**

Standard Bootstrap UCL 32.79564254

### **95% Non-parametric UCLs**

Standard Bootstrap UCL 37.56212183

## **DESCRIPTION OF DATA SET**

---

Project Name: State Route 50 (SAC-50) Ramp Meters Project  
Project No.: S9300-06-91  
Sample Interval: 2.0 to 3.0 ft  
Sample Location: Stockton Boulevard Onramp  
(Borings B1 through B12)

## **DATA SET STATISTICS**

---

Number of Valid Samples	12
Number of Distinct Samples	9
Minimum	2.5
Maximum	68
Mean	12.31666667
Median	5.55
Standard Deviation	18.346158
Variance	336.581515
Coefficient of Variation	1.489539
Skewness	2.977976
Mean of log data	1.952197
Standard Deviation of log data	0.977874

### **90% Non-parametric UCLs**

Standard Bootstrap UCL 18.74668673

### **95% Non-parametric UCLs**

Standard Bootstrap UCL 20.4135575

**State Route 50 Ramp Meters Project  
S9300-06-91**

**STOCKTON BOULEVARD ONRAMP**

Sample ID	Total Lead	WET Lead
B12-1	150	0.125
B2-0	71	2.7
B12-2	68	6.7
B1-0	79	7.9
B8-0	57	8.1
B6-0	60	9.8
B5-0	140	14
B7-0	420	29
B4-0	320	32
B10-0	460	36
B11-0	250	39
B9-0	290	42
B12-0	410	43

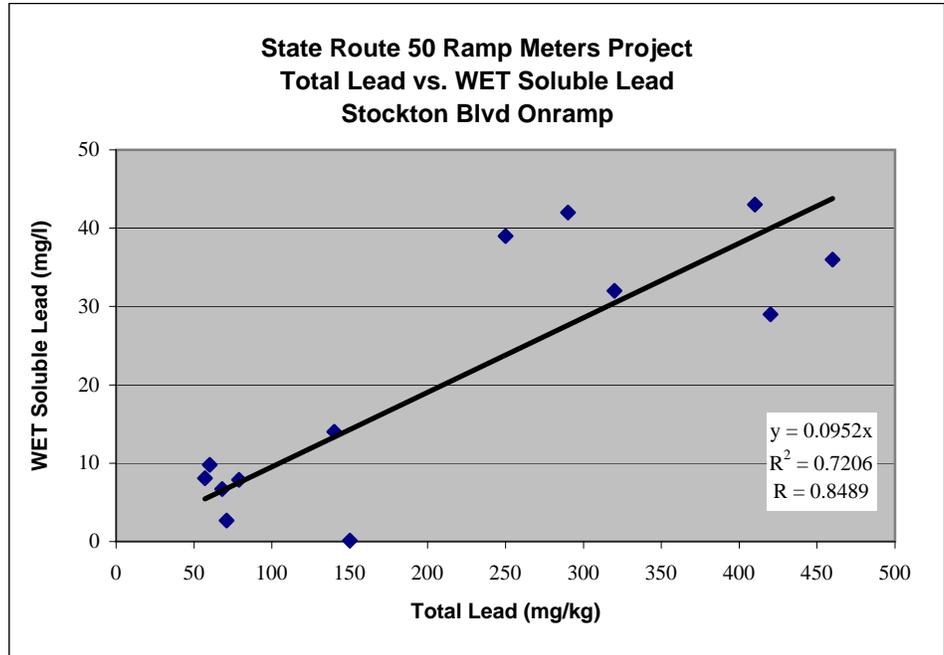


TABLE 3  
 SUMMARY OF STATISTICAL ANALYSIS  
 STATE ROUTE 50 RAMP METERS PROJECT  
 SACRAMENTO COUNTY, CALIFORNIA

**STOCKTON BOULEVARD ONRAMP**

Total Lead UCLs (mg/kg)		
Sample Interval (feet)	90% UCL	95% UCL
0.0 to 1.0	200.0	210.3
1.0 to 2.0	32.8	37.6
2.0 to 3.0	18.7	20.4

Excavation Scenarios				
Excavation Depth	90% UCL		95% UCL	
	Total Lead (mg/kg)	Soluble (WET) Lead * (mg/l)	Total Lead (mg/kg)	Soluble (WET) Lead * (mg/l)
0.0 to 1.0 foot	200.0	<b>19.0</b>	210.3	<b>20.0</b>
<i>Underlying Soil (1.0 to 3.0 feet)</i>	25.8	2.5	29.0	2.8
0.0 to 2.0 feet	116.4	<b>11.1</b>	124.0	<b>11.8</b>
<i>Underlying Soil (2.0 to 3.0 feet)</i>	18.7	1.8	20.4	1.9
0.0 to 3.0 feet	83.8	<b>8.0</b>	89.4	<b>8.5</b>

Notes:

UCL = Upper Confidence Level

90% UCL applicable for waste classification and onsite reuse

95% UCL applicable for risk assessment and offsite disposal

mg/kg = milligrams per kilogram

mg/l = milligrams per liter

\* = Soluble (WET) lead concentrations were predicted using slope of the regression line,

where  $y$  = predicted soluble (WET) lead and  $x$  = total lead

Regression Line Slope:  $y = 0.0952 x$

## **DESCRIPTION OF DATA SET**

---

Project Name: State Route 50 (SAC-50) Ramp Meters Project  
Project No.: S9300-06-91  
Sample Interval: 0.0 to 1.0 ft  
Sample Location: 65th Street Onramp - Loop  
(Borings B13 through B22)

## **DATA SET STATISTICS**

---

Number of Valid Samples	10
Number of Distinct Samples	10
Minimum	20
Maximum	620
Mean	126.5
Median	62.5
Standard Deviation	178.9334141
Variance	32017.16667
Coefficient of Variation	1.414493392
Skewness	2.816125645
Mean of log data	4.300956841
Standard Deviation of log data	0.996867343

### **90% Non-parametric UCLs**

Standard Bootstrap UCL	193.0792279
------------------------	-------------

### **95% Non-parametric UCLs**

Standard Bootstrap UCL	218.0859446
------------------------	-------------

### **DESCRIPTION OF DATA SET**

---

Project Name: State Route 50 (SAC-50) Ramp Meters Project  
Project No.: S9300-06-91  
Sample Interval: 1.0 to 2.0 ft  
Sample Location: 65th Street Onramp - Loop  
(Borings B13 through B22)

### **DATA SET STATISTICS**

---

Number of Valid Samples	10
Number of Distinct Samples	6
Minimum	2.5
Maximum	18
Mean	5.98
Median	4.1
Standard Deviation	4.991504
Variance	24.915111
Coefficient of Variation	0.834700
Skewness	1.782364
Mean of log data	1.533105
Standard Deviation of log data	0.722360

#### **90% Non-parametric UCLs**

Standard Bootstrap UCL 7.910260546

#### **95% Non-parametric UCLs**

Standard Bootstrap UCL 8.529938584

## **DESCRIPTION OF DATA SET**

---

Project Name: State Route 50 (SAC-50) Ramp Meters Project  
Project No.: S9300-06-91  
Sample Interval: 2.0 to 3.0 ft  
Sample Location: 65th Street Onramp - Loop  
(Borings B13 through B22)

## **DATA SET STATISTICS**

---

Number of Valid Samples	10
Number of Distinct Samples	6
Minimum	2.5
Maximum	6.8
Mean	4.32
Median	3.75
Standard Deviation	1.970787
Variance	3.884000
Coefficient of Variation	0.456201
Skewness	0.160227
Mean of log data	1.362921
Standard Deviation of log data	0.477230

### **90% Non-parametric UCLs**

Standard Bootstrap UCL 5.090744559

### **95% Non-parametric UCLs**

Standard Bootstrap UCL 5.264830537

**State Route 50 Ramp Meters Project  
S9300-06-91**

**65TH STREET ONRAMPS**

Sample ID	Total Lead (mg/kg)	WET Lead (mg/l)	Residual WET Lead (mg/l)	Squared Residual WET Lead (mg/l)
B22-0	130	7.9	0.09	0.01
B14-0	120	8.5	1.29	1.66
B16-0	80	3.8	-1.01	1.01
B25-0	130	6.9	-0.91	0.83
B30-0	210	12	-0.62	0.38
B29-0	67	6.4	2.37	5.64
B24-0	89	7.9	2.55	6.52
B28-0	93	3.2	-2.39	5.70
B18-0	140	5.0	-3.41	11.64
B17-0	620	48	10.75	115.54
B27-0	360	38	16.37	267.99
B23-0	1000	48	-12.08	145.98

slope	y-intercept	predicted WET	residual WET
0.0601	0	7.8	0.09
		7.2	1.29
		4.8	-1.01
		7.8	-0.91
		12.6	-0.62
		4.0	2.37
		5.3	2.55
		5.6	-2.39
		8.4	-3.41
		37.3	10.75
		21.6	16.37
		60.1	-12.08

**Not Used**

B31-0	190	48	36.58	1338.42	11.4	36.58
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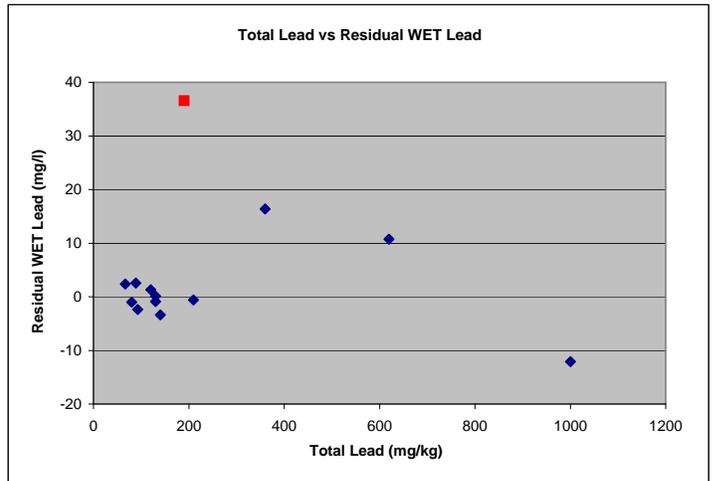
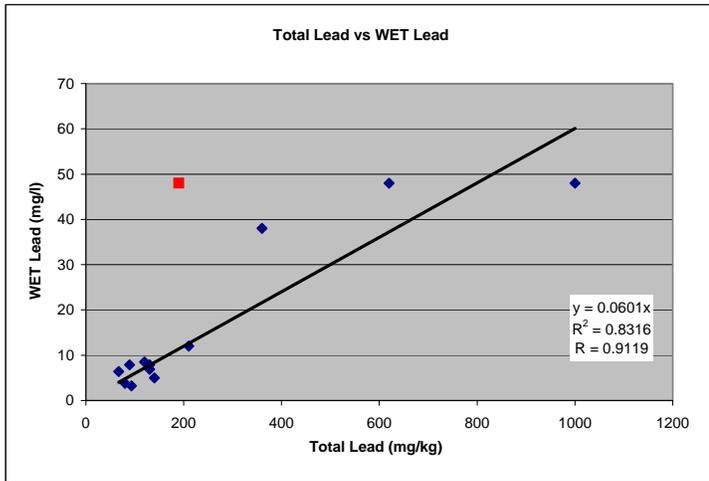


TABLE 3  
 SUMMARY OF STATISTICAL ANALYSIS  
 STATE ROUTE 50 RAMP METERS PROJECT  
 SACRAMENTO COUNTY, CALIFORNIA

**65th STREET ONRAMP (LOOP )**

Total Lead UCLs (mg/kg)		
Sample Interval (feet)	90% UCL	95% UCL
0.0 to 1.0	193.1	218.1
1.0 to 2.0	7.9	8.5
2.0 to 3.0	5.1	5.3

Excavation Scenarios				
Excavation Depth	90% UCL		95% UCL	
	Total Lead (mg/kg)	Soluble (WET) Lead * (mg/l)	Total Lead (mg/kg)	Soluble (WET) Lead * (mg/l)
0.0 to 1.0 foot	193.1	<b>11.6</b>	218.1	<b>13.1</b>
<i>Underlying Soil (1.0 to 3.0 feet)</i>	6.5	0.4	6.9	0.4
0.0 to 2.0 feet	100.5	<b>6.0</b>	113.3	<b>6.8</b>
<i>Underlying Soil (2.0 to 3.0 feet)</i>	5.1	0.3	5.3	0.3
0.0 to 3.0 feet	68.7	4.1	77.3	4.6

Notes:

UCL = Upper Confidence Level

90% UCL applicable for waste classification and onsite reuse

95% UCL applicable for risk assessment and offsite disposal

mg/kg = milligrams per kilogram

mg/l = milligrams per liter

\* = Soluble (WET) lead concentrations were predicted using slope of the regression line,

where  $y$  = predicted soluble (WET) lead and  $x$  = total lead

Regression Line Slope:  $y = 0.0601 x$

## **DESCRIPTION OF DATA SET**

---

Project Name: State Route 50 (SAC-50) Ramp Meters Project  
Project No.: S9300-06-91  
Sample Interval: 0.0 to 1.0 ft  
Sample Location: 65th Street Onramp (Slip)  
Borings B23 through B31, B33 and  
HA16 through HA50

## **DATA SET STATISTICS**

---

Number of Valid Samples	45
Number of Distinct Samples	36
Minimum	18
Maximum	1500
Mean	376.4
Median	190
Standard Deviation	434.4713297
Variance	188765.3364
Coefficient of Variation	1.154280897
Skewness	1.601136151
Mean of log data	5.324100876
Standard Deviation of log data	1.133900916
<b>90% Non-parametric UCLs</b>	
Standard Bootstrap UCL	460.259101
<b>95% Non-parametric UCLs</b>	
Standard Bootstrap UCL	483.3883909

## **DESCRIPTION OF DATA SET**

---

Project Name: State Route 50 (SAC-50) Ramp Meters Project  
Project No.: S9300-06-91  
Sample Interval: 1.0 to 2.0 ft  
Sample Location: 65th Street Onramp - Slip  
(Borings B23 through B31 and B33)

## **DATA SET STATISTICS**

---

Number of Valid Samples	10
Number of Distinct Samples	7
Minimum	2.5
Maximum	8.8
Mean	5.21
Median	5.4
Standard Deviation	2.280570
Variance	5.201000
Coefficient of Variation	0.437729
Skewness	0.300497
Mean of log data	1.554203
Standard Deviation of log data	0.478917

### **90% Non-parametric UCLs**

Standard Bootstrap UCL 6.091107935

### **95% Non-parametric UCLs**

Standard Bootstrap UCL 6.345414286

## **DESCRIPTION OF DATA SET**

---

Project Name: State Route 50 (SAC-50) Ramp Meters Project  
Project No.: S9300-06-91  
Sample Interval: 2.0 to 3.0 ft  
Sample Location: 65th Street Onramp - Slip  
(Borings B23 through B31 and B33)

## **DATA SET STATISTICS**

---

Number of Valid Samples	10
Number of Distinct Samples	6
Minimum	2.5
Maximum	24
Mean	7.62
Median	5.5
Standard Deviation	7.254087
Variance	52.621778
Coefficient of Variation	0.951980
Skewness	1.694421
Mean of log data	1.697352
Standard Deviation of log data	0.824211

### **90% Non-parametric UCLs**

Standard Bootstrap UCL 10.35510258

### **95% Non-parametric UCLs**

Standard Bootstrap UCL 11.14245909

State Route 50 Ramp Meters Project  
S9300-06-91

65TH STREET ONRAMPS

Sample ID	Total Lead (mg/kg)	WET Lead (mg/l)	Residual WET Lead (mg/l)	Squared Residual WET Lead (mg/l)
B22-0	130	7.9	0.09	0.01
B14-0	120	8.5	1.29	1.66
B16-0	80	3.8	-1.01	1.01
B25-0	130	6.9	-0.91	0.83
B30-0	210	12	-0.62	0.38
B29-0	67	6.4	2.37	5.64
B24-0	89	7.9	2.55	6.52
B28-0	93	3.2	-2.39	5.70
B18-0	140	5.0	-3.41	11.64
B17-0	620	48	10.75	115.54
B27-0	360	38	16.37	267.99
B23-0	1000	48	-12.08	145.98

slope	y-intercept	predicted WET	residual WET
0.0601	0	7.8	0.09
		7.2	1.29
		4.8	-1.01
		7.8	-0.91
		12.6	-0.62
		4.0	2.37
		5.3	2.55
		5.6	-2.39
		8.4	-3.41
		37.3	10.75
		21.6	16.37
		60.1	-12.08

Not Used

B31-0	190	48	36.58	1338.42	11.4	36.58
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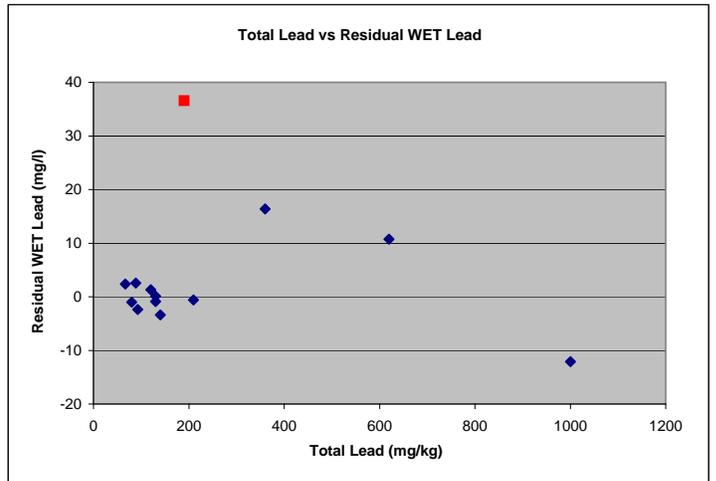
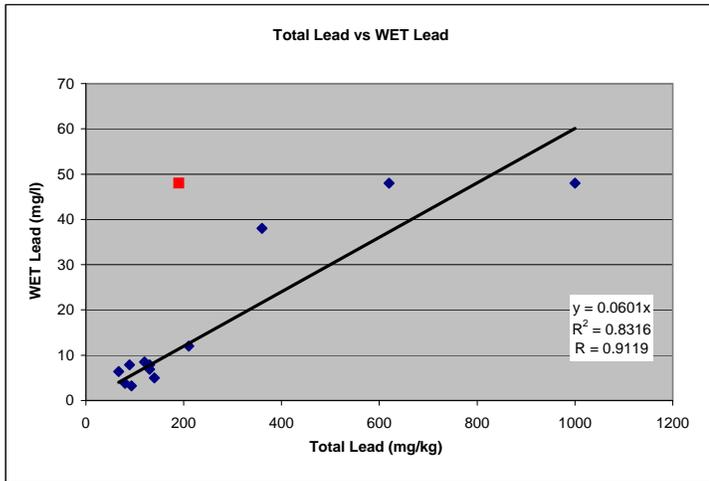


TABLE 3  
 SUMMARY OF STATISTICAL ANALYSIS  
 STATE ROUTE 50 RAMP METERS PROJECT  
 SACRAMENTO COUNTY, CALIFORNIA

**65th STREET ONRAMP (SLIP )**

<b>Total Lead UCLs (mg/kg)</b>		
Sample Interval (feet)	90% UCL	95% UCL
0.0 to 1.0	460.3	483.4
1.0 to 2.0	6.1	6.3
2.0 to 3.0	10.4	11.1

<b>Excavation Scenarios</b>				
Excavation Depth	90% UCL		95% UCL	
	Total Lead (mg/kg)	Soluble (WET) Lead * (mg/l)	Total Lead (mg/kg)	Soluble (WET) Lead * (mg/l)
0.0 to 1.0 foot	460.3	<b>27.7</b>	483.4	<b>29.1</b>
<i>Underlying Soil (1.0 to 3.0 feet)</i>	8.3	0.5	8.7	0.5
0.0 to 2.0 feet	233.2	<b>14.0</b>	244.9	<b>14.7</b>
<i>Underlying Soil (2.0 to 3.0 feet)</i>	10.4	0.6	11.1	0.7
0.0 to 3.0 feet	158.9	<b>9.6</b>	166.9	<b>10.0</b>

Notes:

UCL = Upper Confidence Level

90% UCL applicable for waste classification and onsite reuse

95% UCL applicable for risk assessment and offsite disposal

mg/kg = milligrams per kilogram

mg/l = milligrams per liter

\* = Soluble (WET) lead concentrations were predicted using slope of the regression line,

where  $y$  = predicted soluble (WET) lead and  $x$  = total lead

Regression Line Slope:  $y = 0.0601 x$

## **DESCRIPTION OF DATA SET**

---

Project Name: State Route 50 (SAC-50) Ramp Meters Project  
Project No.: S9300-06-91  
Sample Interval: 0.0 to 1.0 ft  
Sample Location: Bradshaw Road Onramp - Loop  
(Borings B34 through B40 and B53 through B56)

## **DATA SET STATISTICS**

---

Number of Valid Samples	11
Number of Distinct Samples	11
Minimum	2.5
Maximum	43
Mean	16.8
Median	14
Standard Deviation	13.25186779
Variance	175.612
Coefficient of Variation	0.788801654
Skewness	0.977858445
Mean of log data	2.511426778
Standard Deviation of log data	0.86561226

### **90% Non-parametric UCLs**

Standard Bootstrap UCL 21.66904355

### **95% Non-parametric UCLs**

Standard Bootstrap UCL 23.11709823

## **DESCRIPTION OF DATA SET**

---

Project Name: State Route 50 (SAC-50) Ramp Meters Project  
Project No.: S9300-06-91  
Sample Interval: 1.0 to 2.0 ft  
Sample Location: Bradshaw Road Onramp - Loop  
(Borings B34 through B40 and B53 through B56)

## **DATA SET STATISTICS**

---

Number of Valid Samples	11
Number of Distinct Samples	8
Minimum	2.5
Maximum	24
Mean	13.33636364
Median	12
Standard Deviation	8.823976
Variance	77.862545
Coefficient of Variation	0.661648
Skewness	0.155281
Mean of log data	2.312649
Standard Deviation of log data	0.8599997

### **90% Non-parametric UCLs**

Standard Bootstrap UCL 16.65004619

### **95% Non-parametric UCLs**

Standard Bootstrap UCL 17.49168109

## **DESCRIPTION OF DATA SET**

---

Project Name: State Route 50 (SAC-50) Ramp Meters Project  
Project No.: S9300-06-91  
Sample Interval: 2.0 to 3.0 ft  
Sample Location: Bradshaw Road Onramp - Loop  
(Borings B34 through B40 and B53 through B56)

## **DATA SET STATISTICS**

---

Number of Valid Samples	10
Number of Distinct Samples	7
Minimum	2.5
Maximum	56
Mean	11.4
Median	5.6
Standard Deviation	16.938582
Variance	286.915556
Coefficient of Variation	1.485841
Skewness	2.493564
Mean of log data	1.802418
Standard Deviation of log data	1.053989

### **90% Non-parametric UCLs**

Standard Bootstrap UCL 17.88336632

### **95% Non-parametric UCLs**

Standard Bootstrap UCL 19.76980788

## **DESCRIPTION OF DATA SET**

---

Project Name: State Route 50 (SAC-50) Ramp Meters Project  
Project No.: S9300-06-91  
Sample Interval: 0.0 to 1.0 ft  
Sample Location: Bradshaw Road Onramp - Slip  
(Borings B41 through B45 and B57 through B64)

## **DATA SET STATISTICS**

---

Number of Valid Samples	13
Number of Distinct Samples	12
Minimum	6.2
Maximum	22
Mean	13.38461538
Median	13
Standard Deviation	4.844386124
Variance	23.46807692
Coefficient of Variation	0.361936894
Skewness	0.345641429
Mean of log data	2.529391396
Standard Deviation of log data	0.383942596

### **90% Non-parametric UCLs**

Standard Bootstrap UCL	15.04395698
------------------------	-------------

### **95% Non-parametric UCLs**

Standard Bootstrap UCL	15.51942298
------------------------	-------------

## **DESCRIPTION OF DATA SET**

---

Project Name: State Route 50 (SAC-50) Ramp Meters Project  
Project No.: S9300-06-91  
Sample Interval: 1.0 to 2.0 ft  
Sample Location: Bradshaw Road Onramp - Slip  
(Borings B41 through B45 and B57 through B64)

## **DATA SET STATISTICS**

---

Number of Valid Samples	13
Number of Distinct Samples	12
Minimum	2.5
Maximum	85
Mean	14.76923077
Median	8.5
Standard Deviation	21.386810
Variance	457.395641
Coefficient of Variation	1.448065
Skewness	3.440569
Mean of log data	2.280034
Standard Deviation of log data	0.790815

### **90% Non-parametric UCLs**

Standard Bootstrap UCL 22.12650904

### **95% Non-parametric UCLs**

Standard Bootstrap UCL 23.88613473

## **DESCRIPTION OF DATA SET**

---

Project Name: State Route 50 (SAC-50) Ramp Meters Project  
Project No.: S9300-06-91  
Sample Interval: 2.0 to 3.0 ft  
Sample Location: Bradshaw Road Onramp - Slip  
(Borings B41 through B45 and B57 through B64)

## **DATA SET STATISTICS**

---

Number of Valid Samples	13
Number of Distinct Samples	12
Minimum	5.5
Maximum	19
Mean	10.19230769
Median	7.7
Standard Deviation	4.719545
Variance	22.274103
Coefficient of Variation	0.463050
Skewness	0.773455
Mean of log data	2.227727
Standard Deviation of log data	0.445163

### **90% Non-parametric UCLs**

Standard Bootstrap UCL	11.77279569
------------------------	-------------

### **95% Non-parametric UCLs**

Standard Bootstrap UCL	12.24743526
------------------------	-------------

## **DESCRIPTION OF DATA SET**

---

Project Name: State Route 50 (SAC-50) Ramp Meters Project  
Project No.: S9300-06-91  
Sample Interval: 0.0 to 1.0 ft  
Sample Location: Hazel Avenue Onramp - Loop  
(Borings B65 through B77)

## **DATA SET STATISTICS**

---

Number of Valid Samples	13
Number of Distinct Samples	12
Minimum	5.7
Maximum	87
Mean	33.13076923
Median	20
Standard Deviation	26.59271155
Variance	707.1723077
Coefficient of Variation	0.802659044
Skewness	1.15679509
Mean of log data	3.201900902
Standard Deviation of log data	0.82266531

### **90% Non-parametric UCLs**

Standard Bootstrap UCL 42.16634551

### **95% Non-parametric UCLs**

Standard Bootstrap UCL 45.00630446

## **DESCRIPTION OF DATA SET**

---

Project Name: State Route 50 (SAC-50) Ramp Meters Project  
Project No.: S9300-06-91  
Sample Interval: 1.0 to 2.0 ft  
Sample Location: Hazel Avenue Onramp - Loop  
(Borings B65 through B77)

## **DATA SET STATISTICS**

---

Number of Valid Samples	10
Number of Distinct Samples	10
Minimum	5.8
Maximum	41
Mean	17.87
Median	17
Standard Deviation	11.185213
Variance	125.109000
Coefficient of Variation	0.625921
Skewness	0.914033
Mean of log data	2.700236
Standard Deviation of log data	0.649672

### **90% Non-parametric UCLs**

Standard Bootstrap UCL 22.22319141

### **95% Non-parametric UCLs**

Standard Bootstrap UCL 23.41116529

## **DESCRIPTION OF DATA SET**

---

Project Name: State Route 50 (SAC-50) Ramp Meters Project  
Project No.: S9300-06-91  
Sample Interval: 2.0 to 3.0 ft  
Sample Location: Hazel Avenue Onramp - Loop  
(Borings B65 through B77)

## **DATA SET STATISTICS**

---

Number of Valid Samples	9
Number of Distinct Samples	9
Minimum	2.5
Maximum	38
Mean	11.38888889
Median	7.6
Standard Deviation	10.850742
Variance	117.738611
Coefficient of Variation	0.952748
Skewness	2.251107
Mean of log data	2.143494
Standard Deviation of log data	0.764465

### **90% Non-parametric UCLs**

Standard Bootstrap UCL 15.80136353

### **95% Non-parametric UCLs**

Standard Bootstrap UCL 16.97180783

**State Route 50 Ramp Meters Project  
S9300-06-91**

**HAZEL AVENUE ONRAMPS**

Sample ID	Total Lead	WET Lead
B52-0	51	0.125
B50-0	150	0.53
B51-0	130	0.84
B49-2	51	1.0
B78-0	54	2.3
B47-0	57	2.7
B81-0	87	3.0
B82-1	60	3.1
B79-0	170	4.5
B82-0	64	4.5
B80-0	120	4.9
B81-2	92	5.1
B47-1	78	5.2
B81-1	99	5.8
B49-0	220	9.9
B49-1	390	18

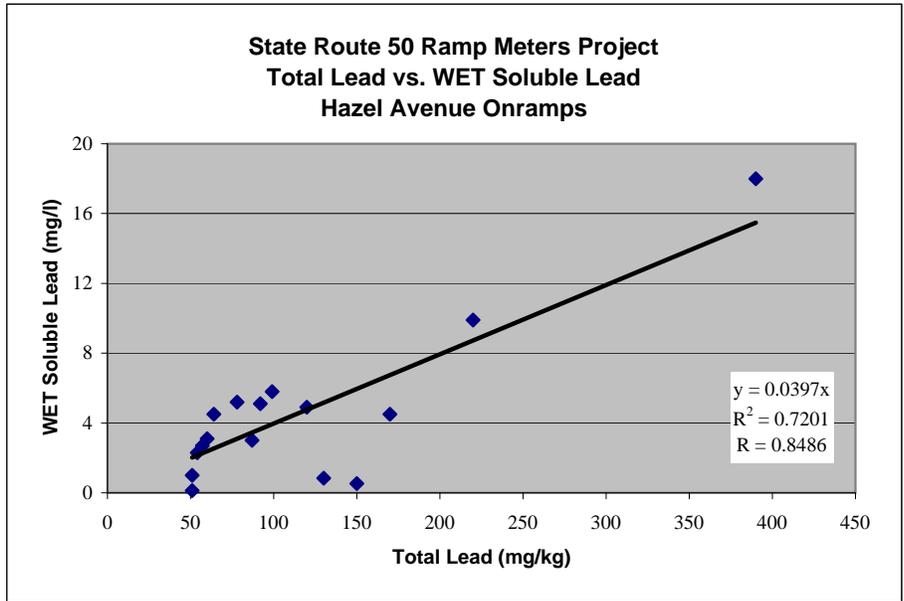


TABLE 3  
 SUMMARY OF STATISTICAL ANALYSIS  
 STATE ROUTE 50 RAMP METERS PROJECT  
 SACRAMENTO COUNTY, CALIFORNIA

**HAZEL AVENUE ONRAMP (LOOP )**

Total Lead UCLs (mg/kg)		
Sample Interval (feet)	90% UCL	95% UCL
0.0 to 1.0	42.2	45.0
1.0 to 2.0	22.2	23.4
2.0 to 3.0	15.8	17.0

**Excavation Scenarios**

Excavation Depth	90% UCL		95% UCL	
	Total Lead (mg/kg)	Soluble (WET) Lead * (mg/l)	Total Lead (mg/kg)	Soluble (WET) Lead * (mg/l)
0.0 to 1.0 foot	42.2	1.7	45.0	1.8
<i>Underlying Soil (1.0 to 3.0 feet)</i>	19.0	0.8	20.2	0.8
0.0 to 2.0 feet	32.2	1.3	34.2	1.4
<i>Underlying Soil (2.0 to 3.0 feet)</i>	15.8	0.6	17.0	0.7
0.0 to 3.0 feet	26.7	1.1	28.5	1.1

Notes:

UCL = Upper Confidence Level

90% UCL applicable for waste classification and onsite reuse

95% UCL applicable for risk assessment and offsite disposal

mg/kg = milligrams per kilogram

mg/l = milligrams per liter

\* = Soluble (WET) lead concentrations were predicted using slope of the regression line,

where  $y$  = predicted soluble (WET) lead and  $x$  = total lead

Regression Line Slope:  $y = 0.0397 x$

## **DESCRIPTION OF DATA SET**

---

Project Name: State Route 50 (SAC-50) Ramp Meters Project  
Project No.: S9300-06-91  
Sample Interval: 0.0 to 1.0 ft  
Sample Location: Hazel Avenue Onramp - Slip  
(Borings B46 through B52 and B78 through B82)

## **DATA SET STATISTICS**

---

Number of Valid Samples	12
Number of Distinct Samples	12
Minimum	30
Maximum	220
Mean	97.75
Median	75.5
Standard Deviation	59.82569378
Variance	3579.113636
Coefficient of Variation	0.612027558
Skewness	0.812383299
Mean of log data	4.406151371
Standard Deviation of log data	0.628936248

### **90% Non-parametric UCLs**

Standard Bootstrap UCL	119.2492516
------------------------	-------------

### **95% Non-parametric UCLs**

Standard Bootstrap UCL	124.6353826
------------------------	-------------

## **DESCRIPTION OF DATA SET**

---

Project Name: State Route 50 (SAC-50) Ramp Meters Project  
Project No.: S9300-06-91  
Sample Interval: 1.0 to 2.0 ft  
Sample Location: Hazel Avenue Onramp - Slip  
(Borings B46 through B52 and B78 through B82)

## **DATA SET STATISTICS**

---

Number of Valid Samples	8
Number of Distinct Samples	6
Minimum	2.5
Maximum	390
Mean	85.1875
Median	53.5
Standard Deviation	128.595417
Variance	16536.781250
Coefficient of Variation	1.509557
Skewness	2.378529
Mean of log data	3.201417
Standard Deviation of log data	1.993003

### **90% Non-parametric UCLs**

Standard Bootstrap UCL 141.5433538

### **95% Non-parametric UCLs**

Standard Bootstrap UCL 154.4093319

## **DESCRIPTION OF DATA SET**

---

Project Name: State Route 50 (SAC-50) Ramp Meters Project  
Project No.: S9300-06-91  
Sample Interval: 2.0 to 3.0 ft  
Sample Location: Hazel Avenue Onramp - Slip  
(Borings B46 through B52 and B78 through B82)

## **DATA SET STATISTICS**

---

Number of Valid Samples	6
Number of Distinct Samples	4
Minimum	2.5
Maximum	92
Mean	27.08333333
Median	7.25
Standard Deviation	36.950530
Variance	1365.341667
Coefficient of Variation	1.364327
Skewness	1.422687
Mean of log data	2.281232
Standard Deviation of log data	1.635557

### **90% Non-parametric UCLs**

Standard Bootstrap UCL 45.03160897

### **95% Non-parametric UCLs**

Standard Bootstrap UCL 50.19460673

**State Route 50 Ramp Meters Project  
S9300-06-91**

**HAZEL AVENUE ONRAMPS**

Sample ID	Total Lead	WET Lead
B52-0	51	0.125
B50-0	150	0.53
B51-0	130	0.84
B49-2	51	1.0
B78-0	54	2.3
B47-0	57	2.7
B81-0	87	3.0
B82-1	60	3.1
B79-0	170	4.5
B82-0	64	4.5
B80-0	120	4.9
B81-2	92	5.1
B47-1	78	5.2
B81-1	99	5.8
B49-0	220	9.9
B49-1	390	18

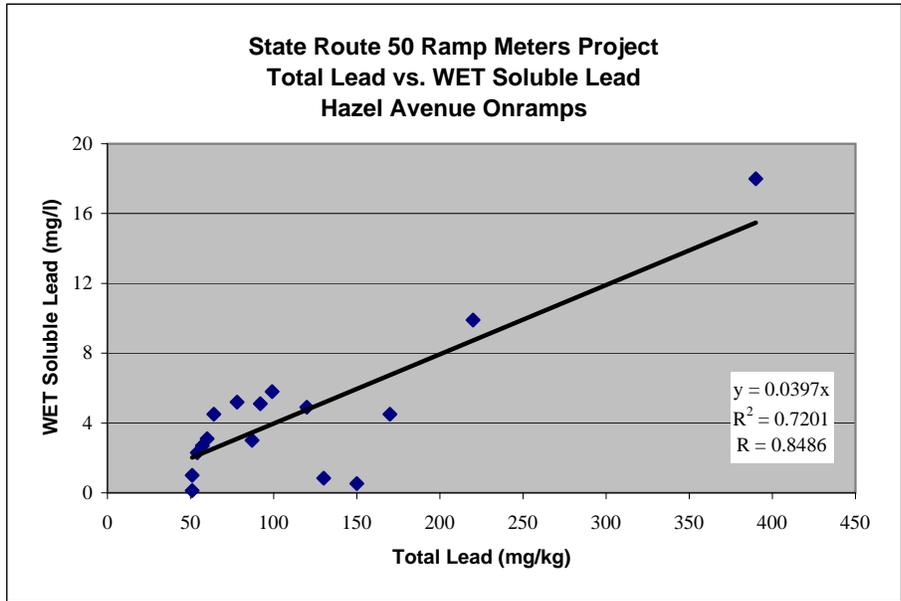


TABLE 3  
 SUMMARY OF STATISTICAL ANALYSIS  
 STATE ROUTE 50 RAMP METERS PROJECT  
 SACRAMENTO COUNTY, CALIFORNIA

**HAZEL AVENUE ONRAMP (SLIP )**

<b>Total Lead UCLs (mg/kg)</b>		
Sample Interval (feet)	90% UCL	95% UCL
0.0 to 1.0	119.2	124.6
1.0 to 2.0	141.5	154.4
2.0 to 3.0	45.0	50.2

<b>Excavation Scenarios</b>				
Excavation Depth	90% UCL		95% UCL	
	Total Lead (mg/kg)	Soluble (WET) Lead * (mg/l)	Total Lead (mg/kg)	Soluble (WET) Lead * (mg/l)
0.0 to 1.0 foot	119.2	4.7	124.6	4.9
<i>Underlying Soil (1.0 to 3.0 feet)</i>	93.3	3.7	102.3	4.1
0.0 to 2.0 feet	130.4	<b>5.2</b>	139.5	<b>5.5</b>
<i>Underlying Soil (2.0 to 3.0 feet)</i>	45.0	1.8	50.2	2.0
0.0 to 3.0 feet	101.9	4.0	109.7	4.4

Notes:

UCL = Upper Confidence Level

90% UCL applicable for waste classification and onsite reuse

95% UCL applicable for risk assessment and offsite disposal

mg/kg = milligrams per kilogram

mg/l = milligrams per liter

\* = Soluble (WET) lead concentrations were predicted using slope of the regression line,

where  $y$  = predicted soluble (WET) lead and  $x$  = total lead

Regression Line Slope:  $y = 0.0397 x$

## **DESCRIPTION OF DATA SET**

---

Project Name: State Route 50 (SAC-50) Ramp Meters Project  
Project No.: S9300-06-91  
Sample Interval: 0.0 to 1.0 ft  
Sample Location: Folsom Boulevard Onramp  
(Borings B83 through B97)

## **DATA SET STATISTICS**

---

Number of Valid Samples	15
Number of Distinct Samples	15
Minimum	5.4
Maximum	720
Mean	87.24666667
Median	35
Standard Deviation	180.4353341
Variance	32556.90981
Coefficient of Variation	2.068105763
Skewness	3.528900405
Mean of log data	3.591200152
Standard Deviation of log data	1.182135473

### **90% Non-parametric UCLs**

Standard Bootstrap UCL 145.1077203

### **95% Non-parametric UCLs**

Standard Bootstrap UCL 160.1416968

## **DESCRIPTION OF DATA SET**

---

Project Name: State Route 50 (SAC-50) Ramp Meters Project  
Project No.: S9300-06-91  
Sample Interval: 1.0 to 2.0 ft  
Sample Location: Folsom Boulevard Onramp  
(Borings B83 through B97)

## **DATA SET STATISTICS**

---

Number of Valid Samples	12
Number of Distinct Samples	10
Minimum	2.5
Maximum	26
Mean	11.56666667
Median	8.4
Standard Deviation	8.078179
Variance	65.256970
Coefficient of Variation	0.698402
Skewness	0.637916
Mean of log data	2.186414
Standard Deviation of log data	0.798272

### **90% Non-parametric UCLs**

Standard Bootstrap UCL 14.40450475

### **95% Non-parametric UCLs**

Standard Bootstrap UCL 15.21773729

## **DESCRIPTION OF DATA SET**

---

Project Name: State Route 50 (SAC-50) Ramp Meters Project  
Project No.: S9300-06-91  
Sample Interval: 2.0 to 3.0 ft  
Sample Location: Folsom Boulevard Onramp  
(Borings B83 through B97)

## **DATA SET STATISTICS**

---

Number of Valid Samples	8
Number of Distinct Samples	7
Minimum	2.5
Maximum	19
Mean	9.525
Median	7.95
Standard Deviation	5.957408
Variance	35.490714
Coefficient of Variation	0.625450
Skewness	0.353090
Mean of log data	2.032249
Standard Deviation of log data	0.770319

### **90% Non-parametric UCLs**

Standard Bootstrap UCL 12.03362026

### **95% Non-parametric UCLs**

Standard Bootstrap UCL 12.78269431

**State Route 50 Ramp Meters Project  
S9300-06-91**

**FOLSOM BOULEVARD ONRAMP**

Sample ID	Total Lead	WET Lead
B96-0	62	2.0
B90-0	190	13
B95-0	720	35

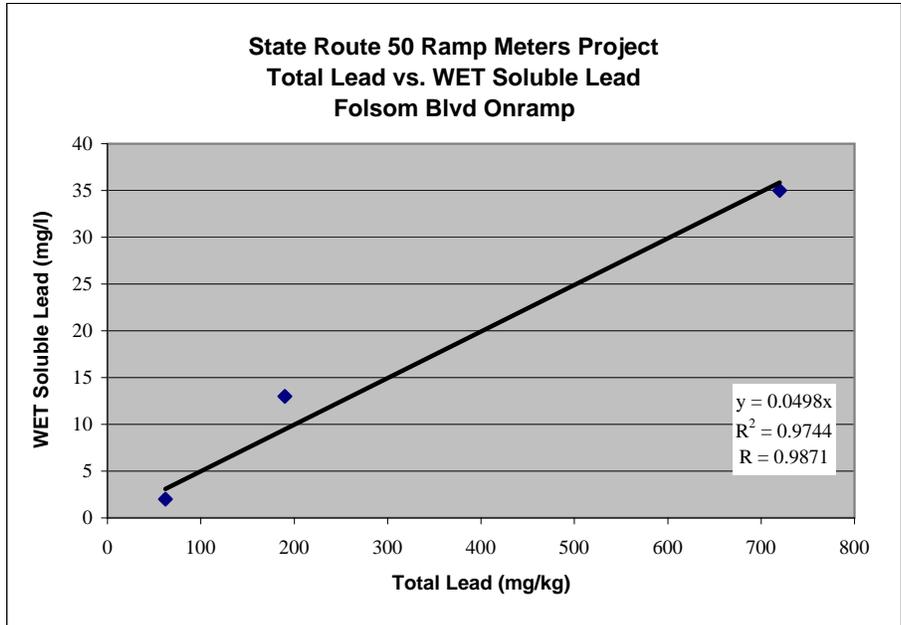


TABLE 3  
 SUMMARY OF STATISTICAL ANALYSIS  
 STATE ROUTE 50 RAMP METERS PROJECT  
 SACRAMENTO COUNTY, CALIFORNIA

**FOLSOM BOULEVARD ONRAMP**

<b>Total Lead UCLs (mg/kg)</b>		
Sample Interval (feet)	90% UCL	95% UCL
0.0 to 1.0	145.1	160.1
1.0 to 2.0	14.4	15.2
2.0 to 3.0	12.0	12.8

<b>Excavation Scenarios</b>				
Excavation Depth	90% UCL		95% UCL	
	Total Lead (mg/kg)	Soluble (WET) Lead * (mg/l)	Total Lead (mg/kg)	Soluble (WET) Lead * (mg/l)
0.0 to 1.0 foot	145.1	<b>7.2</b>	160.1	<b>8.0</b>
<i>Underlying Soil (1.0 to 3.0 feet)</i>	13.2	0.7	14.0	0.7
0.0 to 2.0 feet	79.8	4.0	87.7	4.4
<i>Underlying Soil (2.0 to 3.0 feet)</i>	12.0	0.6	12.8	0.6
0.0 to 3.0 feet	57.2	2.8	62.7	3.1

Notes:

UCL = Upper Confidence Level

90% UCL applicable for waste classification and onsite reuse

95% UCL applicable for risk assessment and offsite disposal

mg/kg = milligrams per kilogram

mg/l = milligrams per liter

\* = Soluble (WET) lead concentrations were predicted using slope of the regression line,

where  $y$  = predicted soluble (WET) lead and  $x$  = total lead

Regression Line Slope:  $y = 0.0498 x$

# Memorandum

*Flex your power!  
Be energy efficient!*

**To:** MR. GUDMUND SETBERG, CHIEF  
Bridge Design, Branch 2  
Office of Bridge Design North  
Division of Engineering Services  
Structure Design, MS 9 4/11G

**Date:** January 23, 2014  
**File:** 03-SAC-50-17.01  
03-4F0701  
Natoma Overhead  
Br. No. 24-0120R  
(widen)

**From:** DEPARTMENT OF TRANSPORTATION  
DIVISION OF ENGINEERING SERVICES  
Geotechnical Services  
Office of Geotechnical Design – North

**Subject:** Foundation Recommendations

This memorandum is in response to your request dated April 28, 2008 regarding foundation recommendations for the proposed Natoma Overhead right-side bridge widening project located on Route 50 in the County of Sacramento.

The information in this report is based on review of the following resources:

1. Two exploratory borings completed in 1999, for the median widening.
2. A Final Foundation Recommendations report dated November 17, 1999 for the median widening.
3. Pile quantity and driving records for both the original bridge and median widening.
4. The Caltrans Seismic Hazard Map, 1996 and Seismic Design Criteria.
5. Planning study sheets dated February, 2007.

## Site Geology

The project site underlain by alluvium consisting of medium dense to very dense sand, silty sand, sandy clay with gravel, gravelly sand and cobbles and scattered boulders. Bedrock was encountered in the 1999 exploratory borings at an elevation of approximately 140 feet. The bedrock consists of coarse grained sandstone, siltstone and conglomerate.

## Groundwater

Groundwater was encountered in the 1999 exploratory borings at an elevation of 141 feet. Groundwater is not expected to be a factor for design or construction.

## **Seismicity**

Based on the Caltrans California Seismic Hazard Map 1996, the controlling fault is the Prairie Creek-Spenceville-Dentman (PSD, normal) with a maximum credible earthquake moment magnitude of  $M_w=6.5$ , and is located about 7 miles northeast of the site. The Peak Bedrock Acceleration, based on the above map is 0.3g.

Based on the log of test borings, a modified final Caltrans Seismic Design Criteria (CSDC) Acceleration Response Spectrum (ARS) curve corresponding to soil profile Type D is recommended for design. Please note that due to the close proximity of this structure to the fault, we have performed a second modification to the CSDC ARS curve (see attached Figure 1). The modification is such that there is no increase in spectral accelerations (SA) for periods less than 0.5 second, and a 20% increase in SA for periods greater than 1 second. Between the periods of 0.5 and 1 second, a linear interpolation was used to estimate the SA.

## **Surface Fault Rupture Hazard**

The site is not located within any Earthquake Fault Zone (EFZ) as defined by the California Department of Conservation (Special Publication 42, 1997). There are no known faults crossing beneath or extending directly toward the site. Therefore, the potential hazard due to ground rupture is considered to be very low.

## **Corrosivity**

Composite soil samples were taken from the 1999 exploratory borings for the median widening. The test results indicate that the subsurface materials are non-corrosive to construction materials or structural elements.

## **Liquefaction Potential**

The site is not located in an area shown as potentially liquefiable on the State of California Seismic Hazard Map and the liquefaction potential should be considered low.

## **As-Built Bridge Foundation**

The original structure was constructed in 1962. It is supported by spread footings at the bent locations using an allowable soil bearing pressure of 3.5 tons/sq. ft. The abutments are supported by 45-ton design load steel-shell lined concrete piles. The left side of the structure was widened in the median in 2000. The widening is supported by 11 feet wide spread footings at the bent locations using an allowable soil bearing pressure of 5.1 tons/sq. ft. The abutments for the median widening are supported by HP 10X57 steel H-piles.

**Final Foundation Recommendations**

Bents

The optimum foundation support type for the right-side bridge widening at the bent locations is spread footings.

Table 1 lists the recommended soil bearing and stress limits for spread footings:

**Table 1  
 Spread Footing Data Table  
 Bent Locations**

Support Location	Footing Size (ft)		Bottom of Footing Elevation (ft)	Minimum Footing Embedment Depth (ft)	Total Permissible Settlement (in)	WSD (LRFD) Service-I Limit Load State Combination		LRFD		
	B	L				Permissible Gross Contact Stress (ksf)	Allowable Gross Bearing Capacity (ksf)	Service	Strength $\phi_b = 0.45$	Extreme $\phi_b = 1.0$
								Permissible Net Contact Stress (ksf)	Factored Gross Nominal Bearing Resistance (ksf)	Factored Gross Nominal Bearing Resistance (ksf)
Bents 2-5	10.0	10.0	155	3	1	N/A	N/A	10.5	12.6	28.1

Abutments

The optimum foundation support type for the abutments is steel H-piles, HP 10 x 57.

Table 2 lists the foundation recommendation parameters for H-piles.

**Table 2. Foundation Recommendations for Abutments**  
 Steel H-piles

<b>Abutment Foundation Design Recommendations</b>									
Support Location	Pile Type	Cut-off Elevation (ft)	LRFD Service-I Limit State Load Per Support (kips)		LRFD Service-I Limit State Total Load Per Pile (kips)	Nominal Resistance (kips)	Design Tip Elevation (ft)	Specified Tip Elevation (ft)	Nominal Driving Resistance Required (kips)
			Total	Permanent	Compression				
Abut 1	HP 10X57	176	800	510	100	200	148.0	148.0	200
Abut 6	HP 10X57	183	590	410	100	200	148.0	148.0	200

Note: (a) Design tip elevations are controlled by compression.

Tables 3 and 4 are the foundation data tables to be included in the project contract documents.

**Table 3**  
**Spread Footing Data for Contract Plans**

Support Location	Working Stress Design (WSD)		Load and Resistance Factor Design (LRFD)		
	Permissible Gross Contact Stress (Settlement) (ksf)	Allowable Gross Bearing Capacity (ksf)	Service Permissible Net Contact Stress (ksf)	Strength Factored Gross Nominal Bearing Resistance $\phi_b = 0.45$ (ksf)	Extreme Factored Gross Nominal Bearing Resistance $\phi_b = 1.0$ (ksf)
Bents 2-5	N/A	N/A	10.5	12.6	28.1

**Table 4**  
**Pile Data Table for Contract Plans**

Support Location	Pile Type (ft)	Nominal Resistance (kips)		Design Tip Elevations (ft)	Specified Tip Elevation (ft)	Nominal Driving Resistance Required (kips)
		Compression	Tension			
Abut 1	HP 10X57	200	N/A	148.0 (a)	148.8	200
Abut 6	HP 10X57	200	N/A	148.0 (a)	148.8	200

Note: (a) Design tip elevations are controlled by compression.

### **Construction Considerations**

Spread footing excavation areas may contain cobbles and/or boulders.

All foundation excavations, when completed, shall be inspected and approved by a representative of this Office prior to placement of any steel reinforcement or concrete.

Due to the granular nature of the soil at the site, primary settlement is expected to occur immediately and concurrent with embankment fill placement. No waiting period is required prior to installing piles through any new embankment fills.

Difficult driving conditions may be encountered below elevation 170.

Piles at the abutments may be cut of to within 10 feet of specified tip elevation with the Engineers approval if the acceptance criteria are met.

### **Project Information**

Standard Special Provision S5-280, "Project Information", discloses to bidders and contractors a list of pertinent information available for their inspection prior to bid opening. The following is an excerpt from SSP S5-280 disclosing information originating from Geotechnical Services. Items listed to be included in the Information Handout will be provided in Acrobat (.pdf) format to the addressee(s) of this report via electronic mail.

*Data and information attached with the project plans are:*

One Log of Test Borings, 1999 (2 borings).

*Data and information included in the Information Handout provided to the bidders and contractors are: None.*

*Data and information available for inspection at the District Office: None.*

*Data and information available for inspection at the Transportation Laboratory are:*

This report..

For further information, contact Christopher Koepke at 916-227-1040.


Christopher Koepke  
Engineering Geologist  
Office of Geotechnical Design – North  
Branch E

Natoma Overhead Bridge (widen)  
Br. No. 24-0120 R

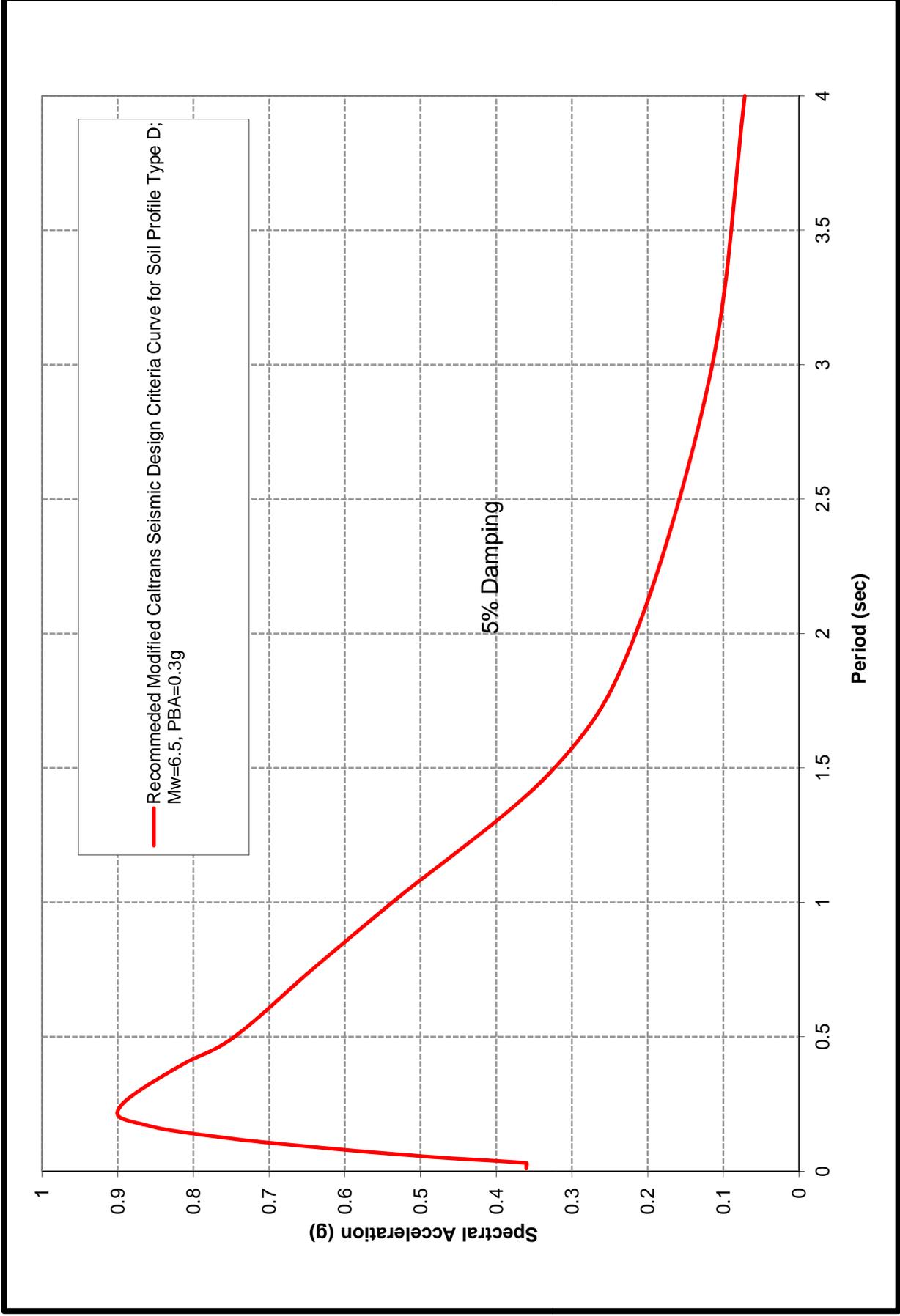


Figure 1. Acceleration Response Spectrum Recommended for Design