

# **INFORMATION HANDOUT**

**For Contract No. 02-4G4804**

**At 02-Sha-299-PM 18.4/18.7**

**Identified by**

**Project ID 0214000003**

## **PERMITS**

PLAC - California Department of Parks and Recreation

Right of Entry Permit

Dated April 30, 2014

## **MATERIALS INFORMATION**

Revised Foundation Report for Old Shasta Retaining Wall, bridge Number 06E0008

Dated May 30, 2014

Old Shasta Retaining Wall and Sidewalks Aesthetics Package

Dated May 27, 2014

Aerially Deposited lead Site Investigation Report

Dated March 2014

Nonpotable Water Sources

Dated June 2014

## **PERMITS**

PLAC - California Department of Parks and Recreation

Right of Entry Permit

Dated April 30, 2014

**STATE AGENCY  
RIGHT OF ENTRY PERMIT**

Granting Agency: Department of Parks and Recreation  
Permittee: Department of Transportation

Project:  
Northern Buttes District,  
Shasta State Historic Park  
sidewalk construction

Dist. Shasta State Historic Park	Shasta	299	18.6
Parcel No.: 14212	Exp Auth:		

This Right of Entry Permit (Permit) is made and entered into this 30th day of April, 2014, between the State of California, acting by and through its Department of Parks and Recreation, hereinafter called State Parks, and State of California, Department of Transportation, hereinafter called Permittee; State Parks and Permittee may hereinafter be referred to as a Party, or collectively the Parties.

**RECITALS**

- **Whereas**, the State owns, operates and maintains the State Park known as Shasta State Historic Park, in the County of Shasta, State of California; and
- **Whereas**, Permittee has applied to State Parks for permission to access Shasta State Historic Park for purposes of carrying out Permittee's sidewalk construction project (the Project); and
- **Whereas**, State Parks desires to accommodate Permittee's application for permission to enter Shasta State Historic Park for purposes of the Project, as provided herein and as, and to the extent, such Project may be ultimately described, permitted, approved and conditioned by Permittee's environmental document entitled Department of transportation Environmental Planning Biological Evaluation and dated 1-17-2013. The Environmental Document, attached hereto as Exhibit "A" and herein incorporated by reference, and as may be conditioned by any other regulatory agency having jurisdiction, if applicable.

**TERMS AND CONDITIONS**

**Now therefore**, State Parks by this Permit hereby grants to the Permittee permission to enter upon the specified State Park property, conditioned upon the agreement of the Parties that this Permit does not create or vest in Permittee any interest in the real property herein described or depicted, that the Permit is revocable and non-transferable, and that the Permit is further subject to the following terms and conditions:

1. **Project Description:** By this Permit, the State Parks hereby grants to the Permittee permission to enter onto those lands depicted and/or described on Exhibit "B" (the Property), attached hereto and herein incorporated by this reference, solely for the purpose of to provide a work area for the construction of sidewalk, curb, and gutter within State Highway 299 right of way. Also to provide an ADA sidewalk between the Southside ruins and Buell alley in the town of Shasta to include a spur to the blacksmith shop. The permittee will, upon completion of construction leave the area described in exhibit B in as good or better condition than exists prior to construction, the limits of which are described in the Environmental Document.
2. **Permit Subject to Laws and Regulatory Agency Permits:** This Permit is expressly conditioned upon Permittee's obtaining any and all regulatory permits or approvals required by the relevant regulatory agencies for the Project and Permittee's use of the Property, and upon Permittee's compliance with all applicable municipal, state and federal laws, rules and regulations, including all State Park regulations. Permittee shall, at Permittee's sole cost and expense, comply with the Project Description, and requirements and mitigations contained in the Environmental Document.

Prior to commencement of any work, Permittee shall obtain all such legally required permits or approvals and submit to the State Parks full and complete copies of all permits and approvals, including documentation related to or referenced in such permits and approvals, along with the corresponding agency contact and telephone numbers, and related California Environmental Quality Act (CEQA) and/or National Environmental Policy Act (NEPA) documentation as applicable.

3. **Term of Permit:** This Permit shall only be for the period beginning on 11-1-2014, and ending on 11-1-2015, or as may be reasonably extended by written mutual agreement of the Parties.
4. **Consideration:** Permittee agrees to pay State Parks the sum of zero and No/100 Dollars (\$0.00) as consideration for the rights granted by this Permit. Payment is due upon execution of this Permit.
5. **Permit Subject to Existing Claims:** This Permit is subject to existing contracts, permits, licenses, encumbrances and claims which may affect the Property.
6. **Waiver of Claims and Indemnity:** Each party agrees to indemnify and defend the other in the event of any claim, demand, causes of action, judgments, obligations or liabilities, and all reasonable litigation and attorneys' expenses which each party may suffer as a direct and proximate result of the violation of any law, breach of any term of this permit, negligence or other wrongful act by a party to this Lease or such party's employees, representatives, contractors, or any other person or persons acting within the direct control or authority of such party or its employees. Permittee will further cause indemnification and waiver of claims in favor of State of California to be inserted in each contract that Permittee executes for the provision of services in connection with the Project for which this Permit is granted.
7. **Contractors:** Permittee shall incorporate the terms, conditions and requirements contained herein when contracting out all or any portion of the work permitted hereunder. Permittee shall be responsible for ensuring contractor/subcontractor compliance with the terms and conditions contained herein. Failure of Permittee's contractors to abide by State Parks' terms and conditions shall constitute default by Permittee (see DEFAULT paragraph below) allowing State Parks to terminate this Permit and seek all legal remedies.
8. **Insurance Requirements:** As a condition of this Permit and in connection with Permittee's indemnification and waiver of claims contained herein, Permittee shall require and ensure that all contractors and subcontractors have adequate insurance meeting the coverage requirements in this provision as follows:

**A. Commercial Contractors/Subcontractors**

Contractor/subcontractor(s) shall maintain motor vehicle liability with limits of not less than \$1,000,000 per accident. Such insurance shall cover liability arising out of a motor vehicle, including all owned, hired, and non-owned motor vehicles.

Contractor/subcontractor(s) shall maintain statutory Workers' Compensation and employer's liability insurance coverage in the amount of \$1,000,000/employee/disease/each accident, for all its employees who will be engaged in the performance of work on the Property, including special extensions where applicable. Said policy shall include a waiver of subrogation in favor of State Parks. If the permittee has no employees and/or the owner(s) have elected not to be covered by workers' compensation, Contractor/subcontractor shall provide State Parks with a written confirmation that Contractor/subcontractor is not required to be, and/or has elected not to be, covered by Workers' Compensation.

Contractor/subcontractor(s) shall procure commercial general liability insurance at least as broad as the most commonly available ISO policy form CG 0001 covering premises operations, products/completed operations, personal/advertising injury and contractual liability with limits not less than \$1,000,000 per occurrence and \$2,000,000 general aggregate. Said policy shall apply separately to each insured against whom any claim is made or suit is brought subject to the Contractor/subcontractor limits of liability

Each policy of insurance required by this provision shall: (a) be in a form, and written by an insurer, reasonably acceptable to State Parks; (b) be maintained at Contractor/subcontractor's sole expense; and (c) require at least thirty (30) days written notice to State Parks prior to any cancellation, non-renewal or material modification of insurance coverage.

Insurance companies issuing such policies shall have a rating classification of "A-" or better and financial size category ratings of "VII" or better according to the latest edition of the A.M. Best Key Rating Guide. All insurance companies issuing such policies shall be licensed admitted insurers or eligible surplus lines insurers authorized to do business in the State of California.

Said motor vehicle liability and commercial general liability policies shall contain an endorsement naming the CALIFORNIA DEPARTMENT OF PARKS AND RECREATION as an additional insured at no cost to State Parks.

Permittee shall provide to State Parks evidence that the insurance required to be carried by this Permit, including the endorsements affecting the additional insured status and waiver of subrogation, is in full force and effect and that premiums therefore have been paid. Such evidence shall, at State's

discretion, be in either the form of an ACORD Form (Certificate of Insurance) or DPR Form 169A (Certificate of Insurance for Concession Contracts/Special Events), or a certified copy of the original policy, including all endorsements.

Permittee's contractor/subcontractor(s) shall be responsible for any deductible or self-insured retention contained within the insurance program.

Should Permittee's contractor/subcontractor(s) fail to keep the specified insurance in effect at all times, Permittee shall be considered to be in default of this Permit, and State Parks may, in addition to any other remedies it has, terminate this Permit.

Any insurance required to be carried shall be primary and not excess to any other insurance carried by State.

Coverage shall be in force for the complete term of this Permit, including any extension thereof, and for all work being done for which this Permit is required.

9. **Reservation of Rights:** State Parks reserves the right to use the Property in any manner, provided such use does not unreasonably interfere with Permittee's rights herein.
10. **Access Limits and Conditions:** Access to the Property shall be limited to the access designated by State Parks as the area described in Exhibit B.
11. **Notice of Work:** Any required notices to State Parks shall be sent to the authorities in charge of Shasta State Historic Park State Park named below. At least forty-eight (48) hours prior to any entry upon the Property for any of the purposes hereinabove set forth, Permittee shall provide the State Parks contact[s] named below with written notice of Permittee's intent to enter the Property. Permittee shall also notify the State Parks contact[s] listed below in writing at least forty-eight (48) hours prior to any change in the Project schedule or cessation or completion of work. Should State Parks personnel need to contact Permittee, State Parks shall notify Permittee's contact person listed below:

**STATE PARKS:**

Contact: Eduardo Guaracha,  
District Superintendent

District: Northern Buttes  
Address: 400 Glen Drive  
Oroville, CA 95966

Telephone: 530-538-2200  
Fax: 530-538-2244

**PERMITTEE'S CONTACT:**

Contact: Steve Rodgers,  
Chief traffic Management

Address: 1657 Riverside Drive  
Redding, CA 96001  
Telephone: 530-225-3245  
Fax: 530-245-3271

12. **Limits of Work:** In no event shall this Permit authorize work in excess or contrary to the terms and conditions of any regulatory agency permit or approval. Under no circumstances, whether or not authorized by any regulatory agency, other permit or any person or entity other than State, shall work exceed that which is authorized by this Permit.
13. **Public Safety:** Permittee shall erect orange plastic temporary construction fencing and appropriate signage prior to commencement of work to prevent public access to the construction zone. Permittee shall remove such fencing within two (2) days after the completion of work. Permittee shall take, and shall cause its contractors or subcontractors to take, any and all necessary and reasonable steps to protect the public from harm in connection with the Project or implementation of this Permit.
14. **Compliance with Monitoring and Mitigation Measures:** Resource monitoring and mitigation measures identified by Lori Martin shall be completed in accordance with and to the satisfaction of the District Superintendent or designee.

Permittee's activities conducted under this Permit shall comply with all State and Federal environmental laws, including, but not limited to, the Endangered Species Act, CEQA, and Section 5024 of the Public Resources Code.

Any of Permittee's archaeological consultants working within the boundaries of the Property shall obtain a permit from the California State Parks Archaeology, History & Museums Division prior to commencing any archaeological or cultural investigations of the Property.

Permittee shall immediately advise State Parks' contact person if any new site conditions are found during the course of permitted work. State Parks will advise Permittee if any new historical resources (including archaeological sites), special status species, threatened/endangered species protocols, or other resource issues are identified within the Project site. Permittee shall abide by District Superintendent or designee's instructions to protect the resource(s) during the permitted work or risk revocation of the Permit.

Permittee shall make all excavation activities on the Property available to the State Parks Archaeologist for observation and monitoring. During excavation, the State Parks archaeological monitor may observe and report to the State Parks on all excavation activities. State Parks archaeological monitor shall be empowered to stop any construction activities as necessary to protect significant cultural resources from being disturbed.

In the event that previously unknown cultural resources, including, but not limited to, dark soil containing shell, bone, flaked stone, groundstone, or deposits of historic trash are encountered during Project construction by anyone, work will be suspended at that specific location, and the Permittee's work will be redirected to other tasks, until after a State-qualified archaeologist has evaluated the find and implemented appropriate treatment measures and disposition of artifacts, as appropriate, in compliance with all applicable laws and department resource directives.

If human remains are discovered during the Project, work will be immediately suspended at that specific location and the District Superintendent or designee shall be notified by Permittee. The specific protocol, guidelines and channels of communication outlined by the California Native American Heritage Commission (NAHC), and/or contained in Health and Safety Code Section 7050.5 and Public Resources Code Sections 5097.9 et seq., will be followed. Those statutes will guide the potential Native American involvement in the event of discovery of human remains.

Permittee shall provide a written work schedule to State Parks so that the State Parks archaeological monitor can arrange to be on site on the necessary days. Permittee shall provide reasonable advance notice of and invite the District Superintendent or designee to any preconstruction meetings with the prime contractor or subcontractors.

15. **Restoration of Property:** Permittee shall complete the restoration, repair, and revegetation of the Property in consultation with, and to the satisfaction of, the State Parks Environmental Scientist within one (1) year after completion of the Project or the expiration or termination of this Permit, whichever comes first. This obligation shall survive the expiration or termination of this Permit.
16. **Right to Halt Work:** The State Parks reserves the right to halt work and demand mitigation measures at any time, with or without prior notice to Permittee, in the event the State Parks determines that any provision contained herein has been violated, or in the event that cessation of work is necessary to prevent, avoid, mitigate or remediate any threat to the health and safety of the public or State Parks park personnel, or to the natural or cultural resources of the state park.
18. **Use Restrictions:** The use of the Property by Permittee, including its guests, invitees, employees, contractors and agents, shall be restricted to the daytime hours between sunrise and sunset on a day-by-day basis, unless otherwise approved in advance in writing by State Parks. No person shall use or occupy the Property overnight.

Activities on the Property shall be conducted only in a manner which will not interfere with the orderly operation of the state park. Permittee shall not engage in any disorderly conduct and shall not maintain, possess, store or allow any contraband on the Property. Contraband includes, but is not limited to: any illegal alcoholic beverages, drugs, firearms, explosives and weapons.

Roads and trails where motorized vehicles are normally prohibited may be used for vehicle access by Permittee, its employees, agents or contractors for patrol, maintenance or repair purposes only, and only to the extent specified by State Parks, and shall be otherwise subject to all other conditions and/or restrictions of this Permit and any applicable laws, state park regulations and state park policies.

Permittee shall not use or allow the Property to be used, either in whole or in part, for any purpose other than as set forth in this Permit, without the prior written consent of the State Parks.

19. **State Parks' Right to Enter:** At all times during the term of this Permit and any extension thereof, there shall be and is hereby expressly reserved to State Parks and to any of its agencies, contractors, agents, employees, representatives, invitees or licensees, the right at any and all times, and any and all places, to temporarily enter upon said Property to survey, inspect, or perform any other lawful State Parks purposes.

Permittee shall not interfere with State Parks' right to enter.

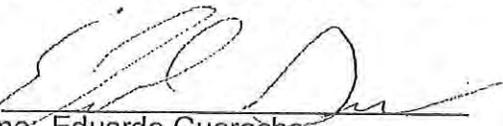
- 20. Protection of Property:** Permittee shall protect the Property, including all improvements and all natural and cultural features thereon, at all times at Permittee's sole cost and expense, and Permittee shall strictly adhere to the following restrictions:
- (a) Permittee shall not place or dump garbage, trash or refuse anywhere upon or within the Property, except in self-contained trash receptacles that are maintained to State Parks' satisfaction by Permittee.
  - (b) Permittee shall not commit or create, or suffer to be committed or created, any waste, hazardous condition or nuisance in, on, under, above or adjacent to the Property.
  - (c) Permittee shall not cut, prune or remove any vegetation upon the Property, except as identified in the Project description and herein permitted or subsequently approved in writing by the District Superintendent.
  - (d) Permittee shall not disturb, move or remove any rocks or boulders upon the Property, except as identified in the Project description and herein permitted or subsequently approved in writing by the District Superintendent.
  - (e) Permittee shall not grade or regrade, or alter in any way, the ground surface of the Property, except as herein permitted, or subsequently approved in writing by the District Superintendent.
  - (f) Permittee shall not bait, poison, trap, hunt, pursue, catch, kill or engage in any other activity which results in the taking, maiming or injury of wildlife upon the Property, except as identified in the Project description and herein permitted or subsequently approved in writing by the District Superintendent.
  - (g) Permittee shall not use, create, store, possess or dispose of hazardous substances (as defined in the California Hazardous Substances Act) on the Property except as herein permitted, or subsequently approved in writing by the District Superintendent.
  - (h) Permittee shall exercise due diligence to protect the Property against damage or destruction by fire, vandalism and any other causes.
- 21. Default:** In the event of a default or breach by Permittee of any of the terms or conditions set forth in this Permit, State Parks may at any time thereafter, without limiting State Parks in the exercise of any right of remedy at law or in equity which State Parks may have by reason of such default or breach:
- (a) Maintain this Permit in full force and effect and recover the consideration, if any, and other monetary charges as they become due, without terminating Permittee's right to use of the Property, regardless of whether Permittee has abandoned the Property; or
  - (b) Immediately terminate this Permit upon giving written notice to Permittee, whereupon Permittee shall immediately surrender possession of the Property to State Parks and remove all of Permittee's equipment and other personal property from the Property. In such event, State Parks shall be entitled to recover from Permittee all damages incurred or suffered by State Parks by reason of Permittee's default, including, but not limited to, the following:
    - (i) any amount necessary to compensate State Parks for all the detriment proximately caused by Permittee's failure to perform its obligations under this Permit, including, but not limited to, compensation for the cost of restoration, repair and revegetation of the Property, which shall be done at State Parks' sole discretion and compensation for the detriment which in the ordinary course of events would be likely to result from the default; plus
    - (ii) at State Parks' election, such other amounts in addition to or in lieu of the foregoing as may be permitted from time to time by applicable law.
- 22. State Parks' Right to Cure Permittee's Default:** At any time after Permittee is in default or in material breach of this Permit, State Parks may, but shall not be required to, cure such default or breach at Permittee's cost. If State Parks at any time, by reason of such default or breach, pays any sum or does any act that requires the payment of any sum, the sum paid by State Parks shall be due immediately from Permittee to State Parks at the time the sum is paid. The sum due from

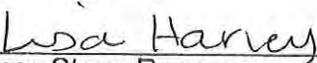
Permittee to State Parks shall bear the maximum interest allowed by California law from the date the sum was paid by State Parks until the date on which Permittee reimburses State Parks.

23. **Revocation of Permit:** The State Parks shall have the absolute right to revoke this Permit for any reason upon ten (10) days written notice to Permittee. Written notice to Permittee may be accomplished by electronic or facsimile transmission, and the notice period set forth in this paragraph shall begin on the date of the electronic or facsimile transmission, or, if sent by mail, on the date of delivery. If Permittee is in breach of the Permit or owes money to the State Parks pursuant to this Permit, any prepaid monies paid by Permittee to State Parks shall be held and applied by the State Parks as an offset toward damages and/or amounts owed. Nothing stated herein shall limit the State Parks' exercise of its legal and equitable remedies.
24. **Recovery of Legal Fees:** In any action brought to enforce or interpret any provisions of this Permit or to restrain the breach of any agreement contained herein, or for the recovery of possession of the Property, or to protect any rights given to the State Parks against Permittee, and in any actions or proceedings under Title 11 of the United States Code, if the State Parks shall prevail in such action on trial or appeal, the Permittee shall pay to the State Parks such amount in attorney's fees in said action as the court shall determine to be reasonable, which shall be fixed by the court as part of the costs of said action.
25. **Voluntary Execution and Independence of Counsel:** By their respective signatures below, each Party hereto affirms that they have read and understood this Permit and have received independent counsel and advice from their attorneys with respect to the advisability of executing this Permit.
26. **Reliance on Investigations:** Permittee declares that it has made such investigation of the facts pertaining to this Permit, the Property and all the matters pertaining thereto as it deems necessary, and on that basis accepts the terms and conditions contained in this Permit. Permittee acknowledges that State Parks has made, and makes, no representations or warranties as to the condition of the Property, and Permittee expressly agrees to accept the Property in its as-is condition for use as herein permitted.
27. **Entire Agreement:** The Parties further declare and represent that no inducement, promise or agreement not herein expressed has been made to them and this Permit contains the entire agreement of the Parties, and that the terms of this agreement are contractual and not a mere recital.
28. **Warranty of Authority:** The undersigned represents that they have the authority to, and do, bind the person or entity on whose behalf and for whom they are signing this Permit and the attendant documents provided for herein, and this Permit and said additional documents are, accordingly, binding on said person or entity.
29. **Assignment:** This Permit shall not be assigned, mortgaged, hypothecated, or transferred by Permittee, whether voluntarily or involuntarily or by operation of law, nor shall Permittee let, sublet or grant any license or permit with respect to the use and occupancy of the Property or any portion thereof, without the prior written consent of State Parks.
30. **Choice of Law:** This Permit will be governed and construed by the laws of the State of California.

STATE OF CALIFORNIA  
Department of Parks and Recreation

STATE OF CALIFORNIA  
Department of Transportation

By:   
Name: Eduardo Guaracha  
Title: District Superintendent

By:   
for Name: Steve Rogers  
Title: Chief, Traffic Management  
Address: 1657 Riverside Drive,  
Redding CA, 96049  
Phone: 530-225-3245;  
Fax: 530-245-3271

# **MATERIALS INFORMATION**

Revised Foundation Report

Dated May 30, 2014

# Memorandum

*Flex your power!  
Be energy efficient!*

**To:** DON NGUYEN-TAN  
Chief, Design Branch 6  
Office of Bridge Design North & Central

**Date:** May 30, 2014

Attention: Gloria Reyes-Gutierrez

**File:** 02-SHA-299-PM 18.4/18.7  
Structure No. 06E0008  
02-4G4800, 0214000003  
Old Shasta ADA  
Retaining Wall

**From:** DEPARTMENT OF TRANSPORTATION  
DIVISION OF ENGINEERING SERVICES  
GEOTECHNICAL SERVICES – MS 5

**Subject:** Revised Foundation Report

## Introduction

This report presents the Revised Foundation Report for the design and construction of a proposed retaining wall on Route 299 from PM 18.4 to 18.7 in the town of Shasta in Shasta County as shown in Plate No. 1, and supersedes the Foundation Report dated December 13, 2013 and the Revised Foundation Report dated May 9, 2014. The Office of Geotechnical Design North (OGDN) had prepared that Foundation Report for the retaining wall following the October 18, 2013 request by the Office of Bridge Design North and Central, Design Branch 6 and it was revised following the April 11, 2014 request for changes in the design of the proposed retaining wall.

The original foundation request included two design alternatives for the proposed retaining wall, a Type 7 retaining wall with ground anchors (Caltrans Bridge Standard Detail Sheets xs 14-375-1 and xs 14-375-2) and a modified Type 7B retaining wall with a larger footing width without ground anchors. The approximate dimensions of the proposed wall are 240 feet in length and 20 feet in height.

The revised Foundation Report dated May 9, 2014 reflected the Designer's proposed changes to the maximum height of the proposed retaining wall from 20 feet to 24 feet. The Designer requested permissible contact pressures for Service Limit State and bearing resistances for Strength Ia, Strength Ib, and Extreme Limit States for different footing sizes that corresponds to different wall heights. The Designer included in the request Bearing Stresses for the different footing sizes for the same limit states. It was also requested to determine the bearing capacity of the soils in an area where a pedestrian bridge is going to be constructed over a culvert. In addition to all the Designer's changes, the angle of internal friction presented on Table 3, Page 7, of the original report was

modified from 32 to 34 degrees for the fill and sand layers. The results of the soil, rock and corrosion testing that had been in progress at the time when the original Foundation Report was issued are presented in Appendix B.

This latest revised Foundation Report includes tables containing permissible contact pressures for Service Limit State and bearing resistances for Strength Ia, Strength Ib, and Extreme Limit States (Table Numbers 5, 6, and 7). All these tables include the effective footing width and the design height that corresponds to each limit state of the proposed retaining wall as requested by the Designer. This report also includes a table showing the foundation design recommendations for the pedestrian bridge (Table Num. 8).

**Project Description and Proposed Improvements**

The proposed project consists of constructing a retaining wall to reconfigure approximately 700 feet of SR 299 to accommodate a 5-foot bicycle lane, 12-foot right turn lane, 6-foot curb and shoulder, and 5-foot sidewalk on the eastbound side. The approximate length of the proposed wall is 240 feet. Table No. 1 shows a summary of extent of the proposed retaining wall. We understand that the accelerated schedule for this project would not allow enough time to acquire right of way for a soldier pile retaining wall, therefore a Type 7B retaining wall (Caltrans Standard Detail Sheets xs14-375-1 and xs14-375-2) is considered.

**Table No. 1: Summary of Extent of the Retaining Wall**

Wall Type	Stationing and Offset (feet)						Length (feet)	Max. Height (feet)
	"B" Line			"R1" (LOL) Line				
	Begin	Offset	End	Offset	Begin	End		
7B	259+46	27.00 Rt.	261+69	40.0 Rt.	59+49.3	61+73.3	224.0	24.0

The information in Table No. 1 above is based on the Foundation Plan, dated November 18, 2013 provided by your Office.

According with the Designer's latest request, the maximum height of the wall as well as the design of the wall were modified resulting in a seven sections with different heights and different footing sizes as shown in the following table and Plate No. 2

**Table No. 2: Proposed Retaining Wall Configuration**

Section	Stationing		Wall Height (H) (feet)	Footing Size	
	From (feet)	To (feet)		Length (L) (feet)	Width (B) (feet)
1	59+49.3	59+73.3	12.0	24.0	8.25
2	59+73.3	60+27.3	18.0	54.0	8.5
3	60+27.3	60+50.3	20.0	23.0	9.0
4	60+50.3	61+03.3	22.0	53.0	10.0
5	61+03.3	61+33.3	24.0	30.0	10.75
6	61+33.3	61+53.3	20.0	20.0	9.0
7	61+53.3	61+73.3	14.0	20.0	10.0

### **Scope of Work**

The scope of work included a literature and historical review in an effort to obtain geological and geotechnical data pertaining to the subject site that could provide insight into the design and construction of the proposed wall. A site investigation for the project included (see Subsurface Exploration and Laboratory Testing Program section) three exploratory borings and sample collections to characterize the subsurface conditions, laboratory testing of selected samples, engineering analysis and preparation of this report summarizing our findings, conclusions and recommendations.

### **Subsurface Exploration and Laboratory Testing**

#### Exploratory Borings

Our Office performed an exploratory boring subsurface investigation from November 12, 2013 to November 14, 2013. The subsurface investigation consisted of three vertical 5-inch diameter mud rotary borings (designated as RC-13-01 through RC-13-03). Equipment used for the subsurface investigation consisted of a CS-2000 truck-mounted drill rig equipped with a 140 pounds automatic hammer with a hammer efficiency of 97 percent (Reference No. 7). Boring elevations were based on the foundation plan (See Plate No. 3). All mud rotary borings were advanced with a self-casing wire line drilling method, and were placed at the locations shown on Plate No. 4, attached. Table No. 3 presents a summary of the borings performed.

**Table No. 3: Summary of Boring Exploration**

Boring Number <sup>(1)</sup>	Station (“B” Line) (ft)	Offset from Center Line (ft)	Top Elevation (ft)	Depth (ft)	Bottom Elevation (ft)
RC-13-01	256+35	15.0 Rt	1018.80	31.5	987.30
RC-13-02	259+63	10.0 Rt	1007.85	40.0	967.85
RC-13-03	261+21	11.0 Rt	1000.65	46.5	954.15

Notes: (1) Borings with prefix “RC” used mud rotary wash method with continuous sampling.

Sampling was achieved by utilizing a rock core barrel in all borings and intermittently performed Standard Penetration Tests (SPT). The SPT was utilized to characterize soils and decomposed rock encountered above bedrock at the proposed wall location. Representative samples were selected for subsequent laboratory testing.

The Logs of Test Boring (LOTB) are included in Appendix A at the end of this report.

### Laboratory Testing

Laboratory tests were performed to assess corrosivity and engineering properties of the near-surface soils. These tests included grain size analysis (ASTM D 422), and corrosion testing (CTM 643, CTM 471 and CTM 422). Laboratory tests were performed to estimate the strength of the underlying bedrock materials. Unconfined Compression Strength tests were performed on representative rock specimens per ASTM D 5731-08 and ASTM D 2938.

Laboratory results are provided in Appendix B at the end of the report.

### **Geology**

#### Regional Geology

The project site is located in the Klamath Mountains Geomorphic Province. This province is located in northwestern California between the Coast Ranges on the west and the Cascade Range on the east. The Klamath Mountains consist of Paleozoic meta-sedimentary and meta-volcanic rocks and Mesozoic igneous rocks that make up individual mountain ranges extending to the north. The Klamath Mountain Geomorphic

Province consists of four mountain belts: The eastern Klamath Mountain belt, Central Metamorphic belt, western Paleozoic and Triassic belt, and western Jurassic belt. Low-angle thrust faults occur between the belts and allow the eastern blocks to be pushed westward and upward.

The project is underlain by rocks of the intrusive igneous rock (diorite) of the eastern Klamath Mountain belt. According to published geological mapping of the area (References No. 1 and No. 2), intrusive rocks like those found at the project site, belong to the dioritic rocks of Mule Mountain stock of Late Jurassic age. A more detailed description of these rocks is offered by Hollister and Evans (Reference No. 2):

*“Rock exposures center about the village of Shasta...Most of the exposed rock is a weathered sodium-rich quartz diorite, containing medium-grained crystals of sodic oligoclase and quartz, with roughly 15 percent of very fine-grained and interstitial epidote, chlorite and biotite.”*

Rocks similar to the above description were encountered during our field investigations.

### Site Geologic Conditions

According to the Geologic Map of the Redding Quadrangle, California (1987) (Reference No. 1), the materials that underlay the project site are mainly Late Jurassic granitic rocks. The outcrops exposed around the town of Shasta compare favorably with those found in the subsurface exploration. (See Plates 5 and 6 Geologic Map, and Geologic Map Legend). Soils that are product of decomposition of dioritic rock are present within the project limits.

### **Site Conditions**

#### Surface Conditions

The project site is located in the commercial and historical section of the town of Shasta on the eastbound side of SR 299 between the city of Redding and Whiskeytown National Recreation area. The town is sparsely populated by private residences and few commercial buildings in a semi-rural area characterized by rolling hills moderately dissected by small streams. According to the web-based Caltrans Postmile Query Tool (Reference No. 8), the subject site is located at latitude and longitude coordinates of 40.598844° North and -122.491742° West, respectively. These coordinates are the basis for obtaining data in this report available through GIS related information sources. Within the project limits, State Route 299 is a two-lane highway paved with asphalt concrete (AC). The roadway is approximately 26 feet wide including 10 to 20-foot-wide

paved shoulders. Two corrugated metal culverts are located at each end of the proposed retaining wall. To the west, there is a 5-foot diameter culvert and to the east a 1.5-foot diameter culvert.

While performing our site visit, we observed underground utilities in numerous locations along both sides of SR 299. Residential homes and commercial structures were observed along the highway within the project limits.

### Subsurface Conditions

Based on borings performed, the near-surface materials consist of 2 to 5 feet of fill described as medium dense to dense silty sand with gravel. These fills are underlain by approximately 10 feet of medium dense to dense silty sand with gravel. Underlying the sands is 4 to 8 feet of decomposed and soft dioritic bedrock classified as medium dense to very dense silty sand. Below the decomposed rock to the bottom of the exploratory borings is a very hard, fresh to moderately weathered dioritic rock. Top of rock, which includes decomposed bedrock, was encountered in boring RC-13-01 at an elevation of 1002.3 feet, in boring RC-13-02 at an elevation of 994.3 feet, and in boring RC-13-03 at an elevation of 987.2 feet.

### Groundwater

A static groundwater table was measured at a depth of 17.5 feet in the exploratory boring, RC-13-02, a day after its completion. During our field visits to the project site, the sloping ground in the vicinity of the site appeared absent of seeps and springs. It should be noted that groundwater condition may change over time and vary by location conditions such as weather.

### Naturally Occurring Asbestos (NOA)

The Caltrans Map “Areas Likely to Contain Naturally Occurring Asbestos – District 2” (Reference No. 3) states:

*Natural occurrences of asbestos are more likely to be encountered in, and immediately adjacent to, areas of ultramafic rocks including landslide deposits or soils originating from ultramafic rock sources.*

The referenced Caltrans map depicts an area likely to contain Naturally Occurring Asbestos (NOA) within and immediately adjacent to the project limits. In review of available published geologic mapping (Reference Nos. 1, 2 and 3), and the aforementioned NOA mapping, the project area does not fall within an area of NOA or

ultramafic rocks (designated as “serpentinized ultramafic rocks”). Based on the geologic conditions observed during site visits and the subsurface exploration, the potential for the presence of ultramafic rocks within the project area is considered unlikely.

### **Faulting and Seismicity**

Based on the Caltrans ARS Online Tool (Version 2.3.06), the nearest active fault for the site is the Keswick Fault (Fault ID No. 35), which is referred to as a reverse fault with a MMax of 6.0. The fault is located approximately 5.9 miles north of the project site (See Plate No. 7). The closest distance to the fault rupture plane from the site is estimated to be 6.7 miles.

Based on the LOTB, a  $V_{S30}$  (the weighted average shear wave velocity for the top 100 feet of foundation materials) of about 1950 feet per second is considered to be applicable to the site materials.

Based on the “Methodology for Developing Design Response Spectrum for Use in Seismic Design Recommendations, November 2012,” (Reference No. 6) the design ground motion is the highest spectral acceleration as obtained by any or a combination of the following three methods for the Old Shasta Retaining Wall:

- 1) State wide minimum deterministic spectrum requirements with MMax of 6.5, vertical strike-slip event with a rupture distance of 7.5 miles.
- 2) The controlling active fault as shown on the ARS Online Tool (Version 2.3.06).
- 3) The USGS 5% Probability of Exceedance in 50 years (975 years return period).

Based on the  $V_{S30}$ , the peak ground acceleration is estimated to be 0.29g.

The potential for soil liquefaction based on the foundation materials is considered to be insignificant because the groundwater table is present below the soils where the proposed retaining wall will be founded.

The potential for surface fault rupture at the site is absent as there are no known faults Holocene or younger in age that fall within 1000 feet of the structure and the structure does not fall within an Alquist-Priolo fault zone.

## Slope Stability Analysis

Global slope stability analyses were performed using Slope/W, a commercial software (Version 7.20, Geo-Slope International Ltd., 2007) (Reference No. 5) and limit equilibrium methods developed by Bishop (1955), Janbu (1968) and Spencer (1967). Two dimensional models were developed based on the proposed wall dimensions and the subsurface conditions discussed above. The analyses studied a static loading condition and a seismic loading condition consisting of a horizontal acceleration of 0.1g equal to one third of the above estimated PGA

Based on the analysis, the proposed wall satisfies the minimum factor of safety for static ( $FS > 1.5$ ) and seismic ( $FS > 1.1$ ) required for global stability.

## Recommendations

Based on our field observations, subsurface investigations and engineering analyses, it is our opinion that the proposed alternatives, a Type 7B retaining wall with ground anchors (Caltrans Bridge Standard Detail Sheets xs14-375-1 and xs14-375-2), a modified Type 7B retaining wall with a larger footing width (3 feet wider) without ground anchors, or a combination of the first two alternatives will perform adequately. The following recommendations are provided for the design and construction of the proposed wall.

### Material Engineering Properties

The design soil parameters specified in the subject standard detail sheets are available at the site. Accordingly, Table No. 4 below summarizes the recommended engineering properties for the subsurface materials at the site.

**Table No. 4: Recommended Material Engineering Properties**

Material	Approximate Depth (ft)	Unit Weight, $\gamma$ (pcf)	Internal Friction Angle, $\phi$ (deg.)	Cohesion, c (psf)
Fill	0 - 5	120	34	0
Sands	5 - 20	120	34	0
Rock	> 20	145	40	0

Footing Permissible Contact Stress and Bearing Resistances, and Settlement

Bearing Resistance for the different footing sizes and Bearing Stress, which were provided by the Designer, for all the Limit States are presented in the following tables.

**Table No. 5. Permissible Contact Stress for Service I Limit State**

Wall Section No. <sup>(1)</sup>	Design Height (H) (ft)	Effective Footing Width, (B') (ft)	Service I Limit State	
			Bearing Stress (ksf)	Permissible Contact Stress <sup>(2)</sup> (ksf)
1	12	7.402	1.9	4.4
2	18	6.339	3.1	3.9
3	20	6.530	3.6	5.9
4	22	7.965	2.9	3.4
5	24	8.806	3.2	4.3
6	20	6.858	3.6	6.0
7	14	10.207	1.2	4.9

(1) See Table No. 2 for Wall Configuration

(2) Permissible Contact Stresses were calculated using an allowable settlement of 1 inch.

**Table No. 6. Factored Bearing Resistances for Strength Limit States**

Wall Section No. (1)	Design Height (H) (ft)	Strength Ia Limit State ( $\phi = 0.45$ )			Strength Ib Limit State ( $\phi = 0.45$ )		
		Effective Footing Width (B') (ft)	Bearing Stress (ksf)	Factored Bearing Resistance (ksf)	Effective Footing Width, (B') (ft)	Bearing Stress (ksf)	Factored Bearing Resistance (ksf)
1	12	6.198	2.3	12.2	6.890	2.5	12.1
2	18	4.326	4.6	12.8	5.412	4.3	12.7
3	20	4.363	5.5	13.1	5.513	5.1	13.0
4	22	5.703	4.3	14.2	7.048	4.1	14.1
5	24	6.354	4.6	14.7	7.769	4.5	14.6
6	20	4.867	5.5	13.0	5.959	5.1	12.8
7	14	8.836	1.4	13.4	9.665	1.6	13.3

(1) See Table No. 2 for Wall Configuration

**Table No. 7. Factored Bearing Resistances for Extreme Event Limit State**

Wall Section No. (1)	Design Height (H) (ft)	Extreme Event Limit State ( $\phi = 1.00$ )		
		Effective Footing Width (B') (ft)	Bearing Stress (ksf)	Factored Bearing Resistance (ksf)
1	12	6.918	2.1	26.9
2	18	5.719	3.5	28.2
3	20	5.902	4.7	28.8
4	22	5.920	4.1	31.5
5	24	6.634	4.4	32.6
6	20	5.085	4.7	28.7
7	14	9.008	1.4	29.7

(1) See Table No. 2 for Wall Configuration

Based on our calculations, the subsurface conditions are capable of supporting the bearing stresses specified by the Designer.

The estimated settlement is expected to be primarily elastic, therefore, should take place during and immediately after construction. No waiting period is recommended.

The bearing stress and settlement estimations are based on the above discussed subsurface conditions. Actual subsurface conditions encountered during construction may vary and should be evaluated by the Engineering Geologist/Engineer.

Ground Anchors

The Type 7B retaining wall will be constructed with ground anchors. The following recommendation is provided for the design and construction of the ground anchors.

Minimum Unbonded length: 15 feet, below footing bottom

Pedestrian Bridge

The dimensions and Bearing Resistance for the pedestrian bridge that will be constructed over an existing culvert are presented in the following table.

**Table No. 8. Foundation Design Recommendations for Spread Footings<sup>1,2</sup>**

Support	Footing Size		Bottom of Footing Elev. <sup>3</sup>  (ft)	Minimum Footing Embedment Depth (ft)	Total Permissible Support Settlement (in)	WSD (LRFD Service-I Limit State Load Combination)		LRFD		
	B (ft)	L (ft)				Permissible Gross Contact Stress (ksf)	Allowable Gross Bearing Capacity (ksf)	Service	Strength $\phi_b = 0.45$	Extreme Event $\phi_b = 1.00$
								Net Permissible Contact Stress (ksf)	Factored Gross Nominal Bearing Resistance (ksf)	Factored Gross Nominal Bearing Resistance (ksf)
Footing 1	2	6	1014	1	1	9.0	3.0	N/A	N/A	N/A
Footing 2	2	6	1014	1	1	9.0	3.0	N/A	N/A	N/A

Notes:

1. Recommendations are based on the foundation geometry and the load provided by Structures. The footing contact area is taken as equal to the effective footing area, where applicable.
2. See MTD 4-1 for definitions and applications of the recommended design parameters.
3. Bottom of footing elevations are approximate.

### Construction Considerations

The elevation of bedrock surface may be irregular and varying along the layout line of proposed retaining wall. Difficult excavation due to the presence of rock, boulders and cobbles may be encountered during construction. Excavation should be able to be achieved by conventional heavy excavation equipment. Blasting is not anticipated.

Groundwater was encountered in Boring RC-13-02 at a depth of about 18 feet below the existing ground surface. Localized groundwater condition, such as seepage may be present at shallow depths. Groundwater is not anticipated to significantly affect the proposed footing excavation. Groundwater will be encountered in ground anchor construction and grouting below water may be needed.

### Naturally Occurring Asbestos (NOA)

As discussed in the previous NOA section of this report, OGDN concludes that the project site is not located within an area likely to contain Naturally Occurring Asbestos (NOA) for the presence of ultramafic rocks.

## Project Information

“Project Information”, discloses to bidders and contractors a list of pertinent information available for their inspection prior to bid opening. The following is information originating from Geotechnical Services.

*Data and information attached with the project plans are:*

- A. *Log of Test Borings (Old Shasta Wall) dated 02/10/2014*

*Data and Information included in the Information Handout provided to the bidders and Contractors are:*

- A. *Revised Foundation Report for the Old Shasta Wall, dated 04/30/2014 by Caltrans Division of Engineering Services, Office of Geotechnical Design North.*

*Data and Information available for inspection at the District Office:*

- A. *None*

*Data and Information available for inspection at the Transportation Laboratory are:*

- A. *For Boring RC-13-01, two core boxes; RC-13-02, three core boxes; RC-13-03, three core boxes.*

If you have any questions or comments, please call Luis Paredes-Mejia at (916) 227-1047 or Ben Barnes at (916) 227-1039.



LUIS M. PAREDES-MEJIA, CEG  
Engineering Geologist  
Office of Geotechnical Design North



BENJAMIN M. BARNES, PE  
Transportation Engineer - Civil  
Office of Geotechnical Design North

e-copy: Steve J. Rogers District Project Manager  
Structure Construction RE Pending File  
Byron Berger DME D2  
DES OE, Office of PS&E  
GEODOG

ATTACHMENTS

REFERENCES

Plate No. 1. Vicinity Map  
Plate No. 2. Retaining Wall Configuration  
Plate No. 3. Topography of Project Site  
Plate No. 4. Subsurface Investigation Plan  
Plate No. 5. Geologic Map  
Plate No. 6. Geologic Map Legend  
Plate No. 7. Fault Map

APPENDIX A LOG OF TEST BORINGS (LOTB'S)

Log of Test Borings 1 of 2 through 2 of 2

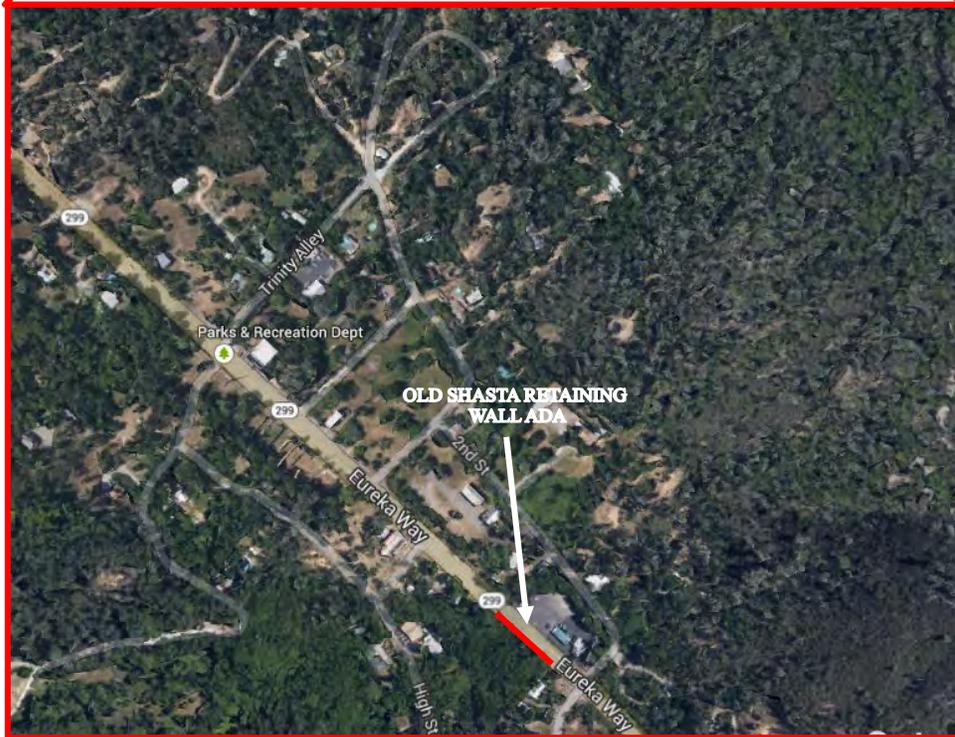
APPENDIX B LABORATORY TEST RESULTS

Plate No. B-1 Gradation Analysis Test Results  
Plate No. B-2 Unconfined Compression Test  
Plate No. B-3 Corrosion Test Results

## REFERENCES

1. CDMG (1977) “Geologic Map of California, Redding Sheet, - Scale 1: 250,000 (1962)”, published by California Division of Mines and Geology, third printing, 1977.
2. CDMG (1965), “Geology map of Redding Quadrangle, Shasta County, California, CDMG Map Sheet 31, by, V.F. Hollister and J. R. Evans, Scale 1:24,000.
3. Caltrans (2005) “Areas Likely to contain Naturally Occurring Asbestos – Caltrans District 2”, mapping prepared by the Division of Maintenance GIS in coordination with the Division of Environmental Analysis, 2005.
4. FHWA (2007) “Earth Retaining Structures”, Federal Highway Administration Publication No.: FHWA NHI-07-071, December 2007.
5. GeoStudio (2007) version 7.23, Built 5099, GEO-SLOPE International, Ltd.
6. Caltrans (2012) “Methodology for Developing Design Response Spectrum for Use in Seismic Design Recommendations”, prepared by Division of Engineering Services and Geotechnical Services, November 2012.
7. Caltrans (2012) “Standard Penetration Test (SPT) Hammer Efficiencies For Caltrans Drill Rigs”, Foundation Testing Branch, Caltrans Geotechnical Services, dated February 2012, from: [http://www.dot.ca.gov/hq/esc/geotech/requests/logging\\_manual/02\\_12\\_spt\\_het\\_summary.pdf](http://www.dot.ca.gov/hq/esc/geotech/requests/logging_manual/02_12_spt_het_summary.pdf).
8. Caltrans (2012) “Postmile Query Tool”, based on Google Maps, provided by the Caltrans GIS Services Branch at:  
<http://svhqgisapp1.dot.ca.gov/postmilewebclient/PostmileQueryTool.html>.
9. Caltrans (2013) “Request for Final Foundation Recommendation” prepared by Office of Bridge Design – North and Central, Design Branch 6, dated October 18, 2013.

N



**No Scale**



CALTRANS  
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Services  
Geotechnical Services  
Geotechnical Design – North

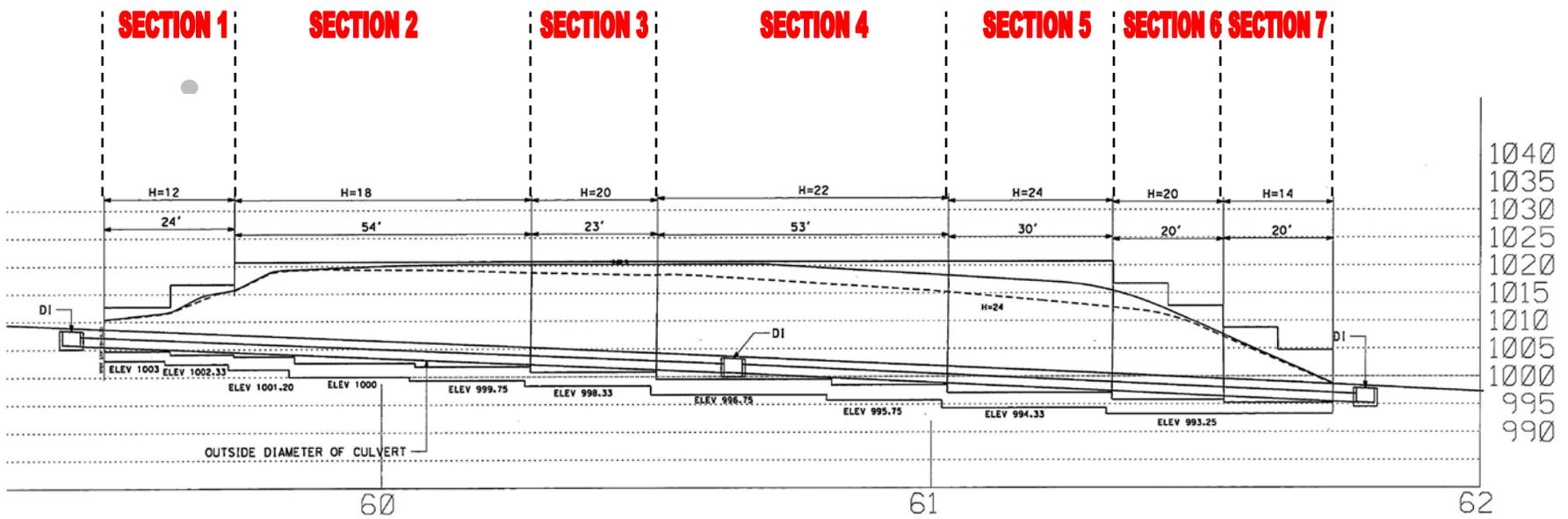
EA: 02-4G4800

Date: May 2014

**VICINITY MAP**

02-SHA-299-PM 18.4/18.7  
**OLD SHASTA RETAINING WALL ADA**

Plate No.  
1



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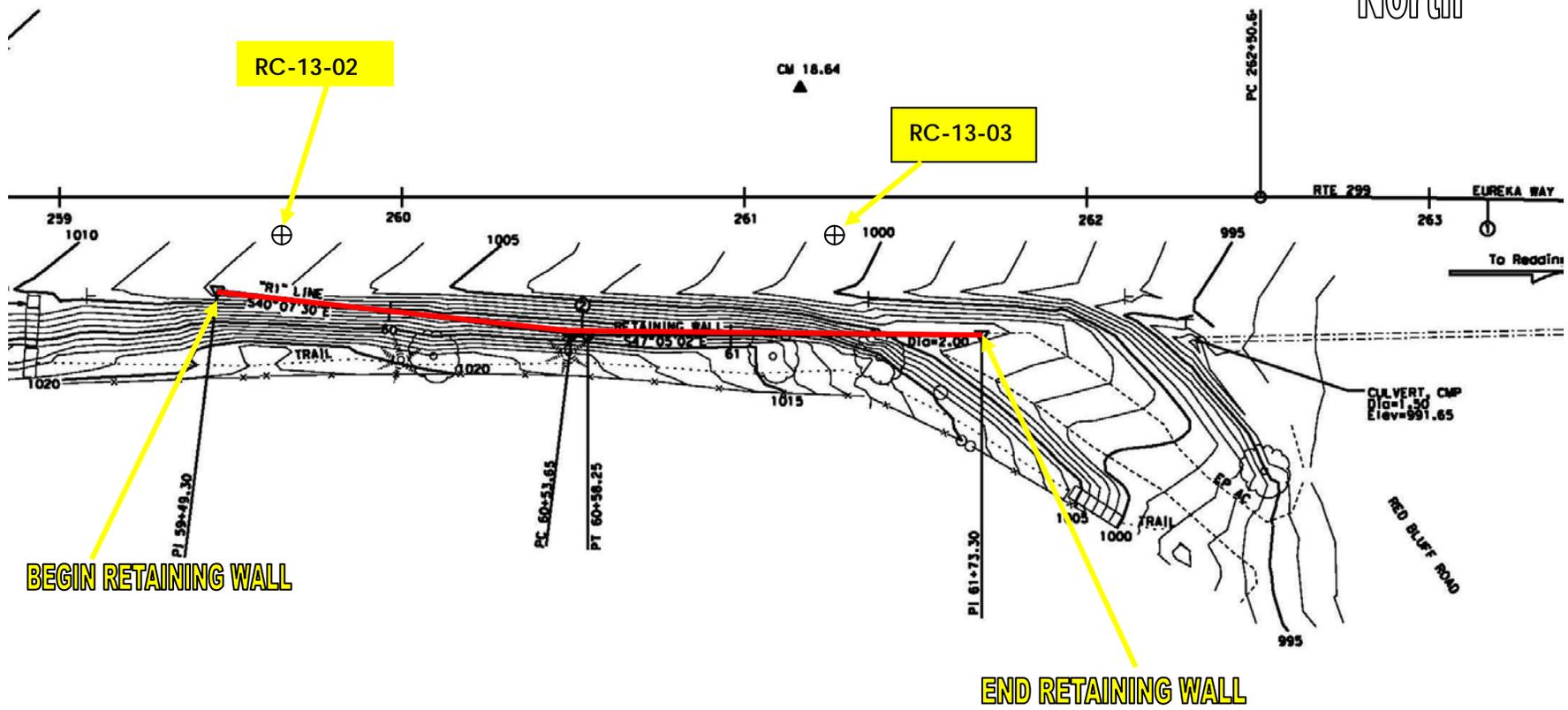
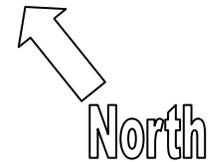
EA: 02-4G4800

Date: May 2014

**RETAINING WALL  
 CONFIGURATION**

02-SHA-299-PM 18.4/18.7  
 OLD SHASTA RETAINING WALL ADA

Plate No.  
 2



RC-13-02

RC-13-03

BEGIN RETAINING WALL

END RETAINING WALL

	CALTRANS Division of Engineering Services Geotechnical Services Geotechnical Design – North	EA: 02-4G4800	TOPOGRAPHY OF PROJECT SITE
		Date: May 2014	
		02-SHA-299-PM 18.4/18.7 OLD SHASTA RETAINING WALL ADA	



NO SCALE



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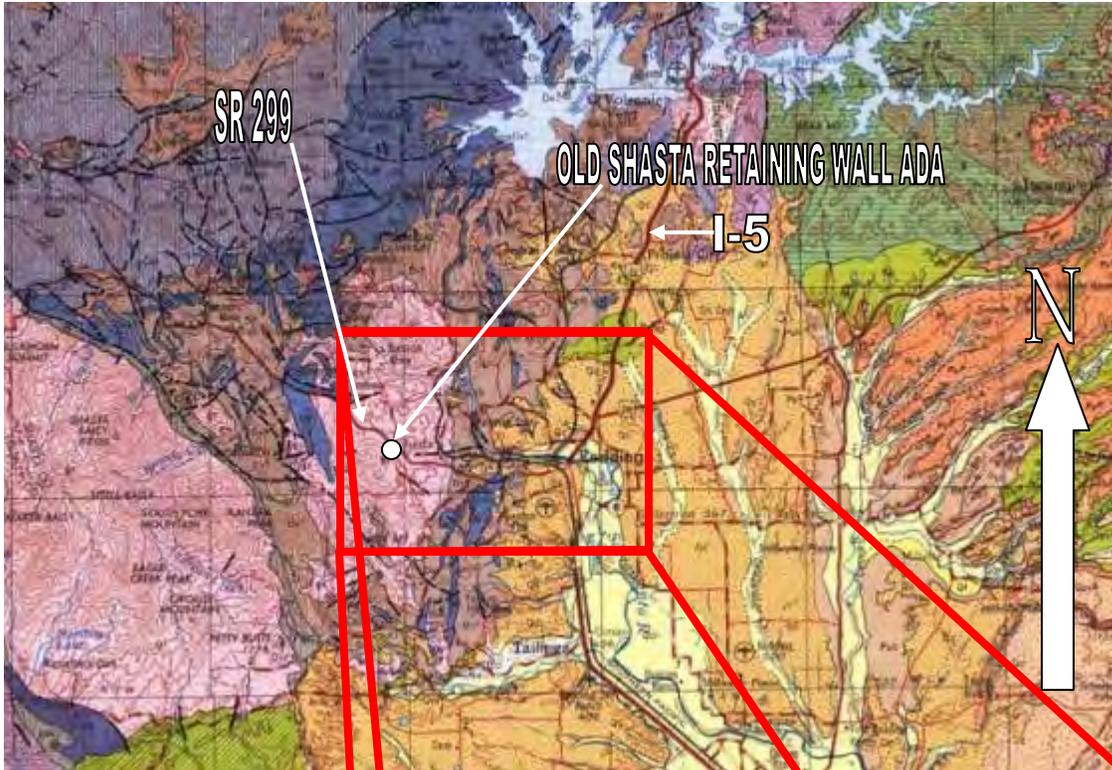
EA: 02-4G4800

Date: May 2014

**Subsurface  
 Investigation Plan**

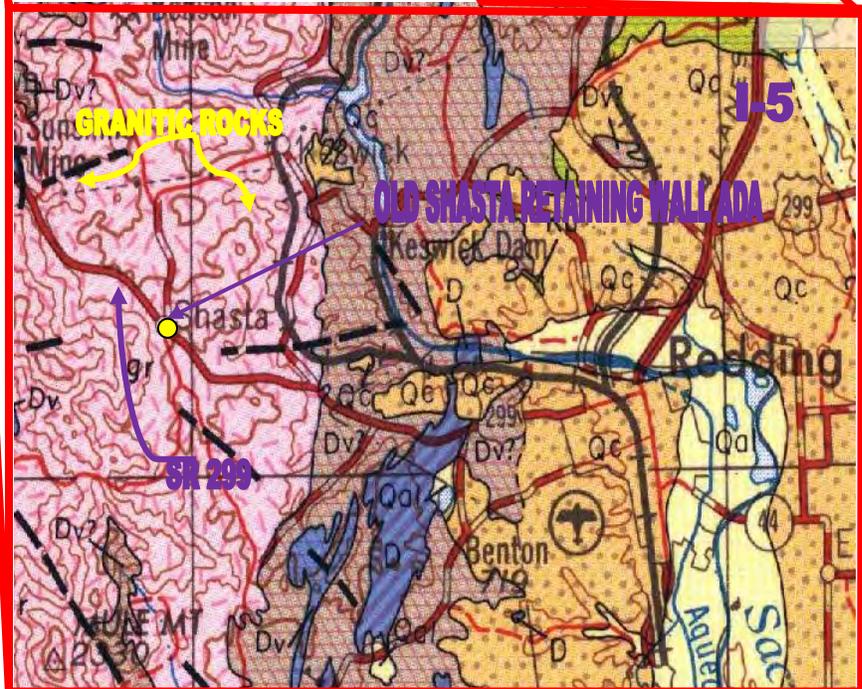
02-SHA-299-PM 18.4/18.7  
 OLD SHASTA RETAINING WALL ADA

Plate No.  
 4



NO SCALE

See Plate 5B for Explanations



From Jenkins O. P, and Strand, R. G., 1977, Geologic map of California Redding Sheet, CDMG, Third printing, scale 1:250,000



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 Geotechnical Services  
 Geotechnical Design – North

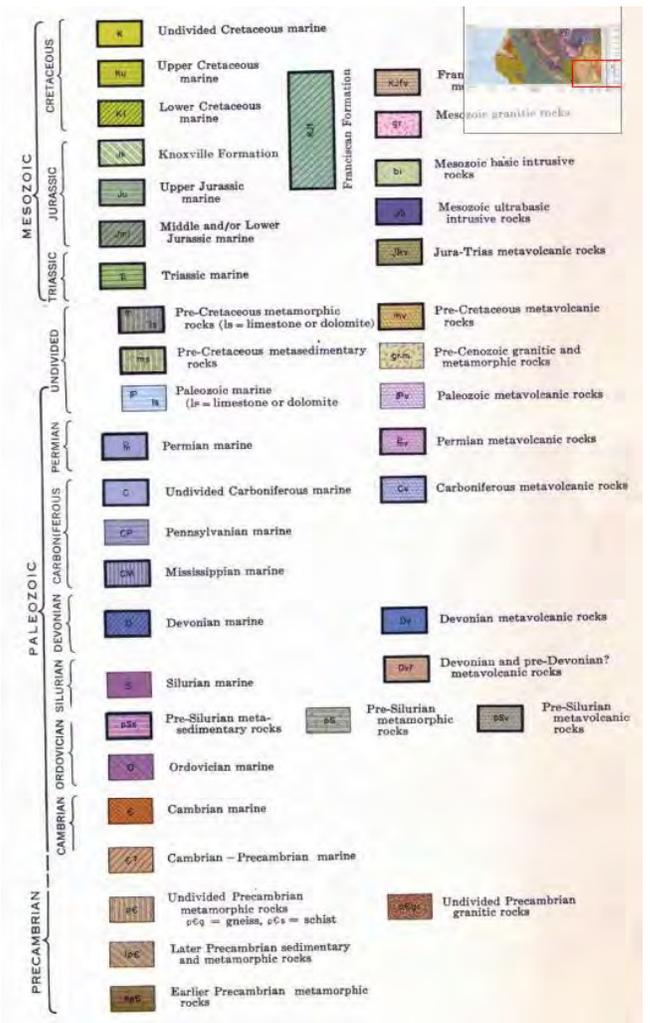
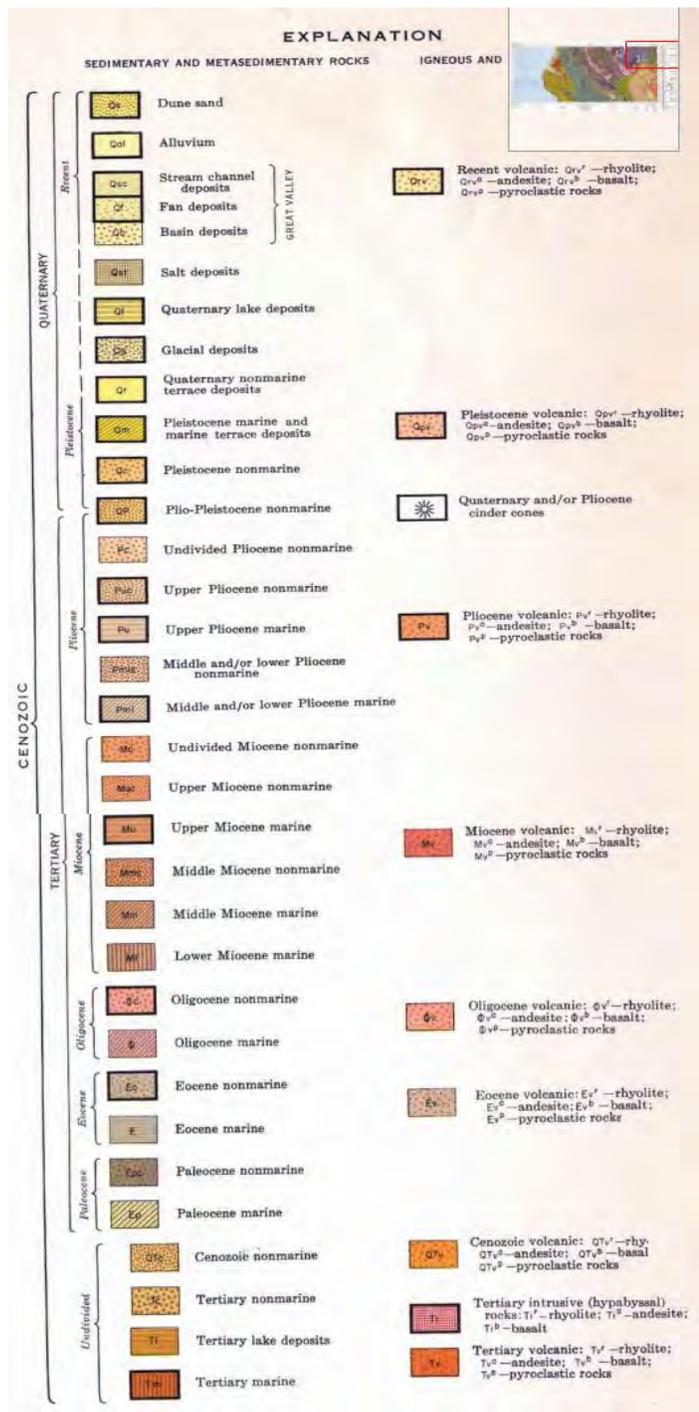
EA: 02-4G4800

Date: May 2014

**GEOLOGIC MAP**

02-SHA-299-PM18.4/18.7  
 OLD SHASTA RETAINING WALL ADA

Plate No.  
 5



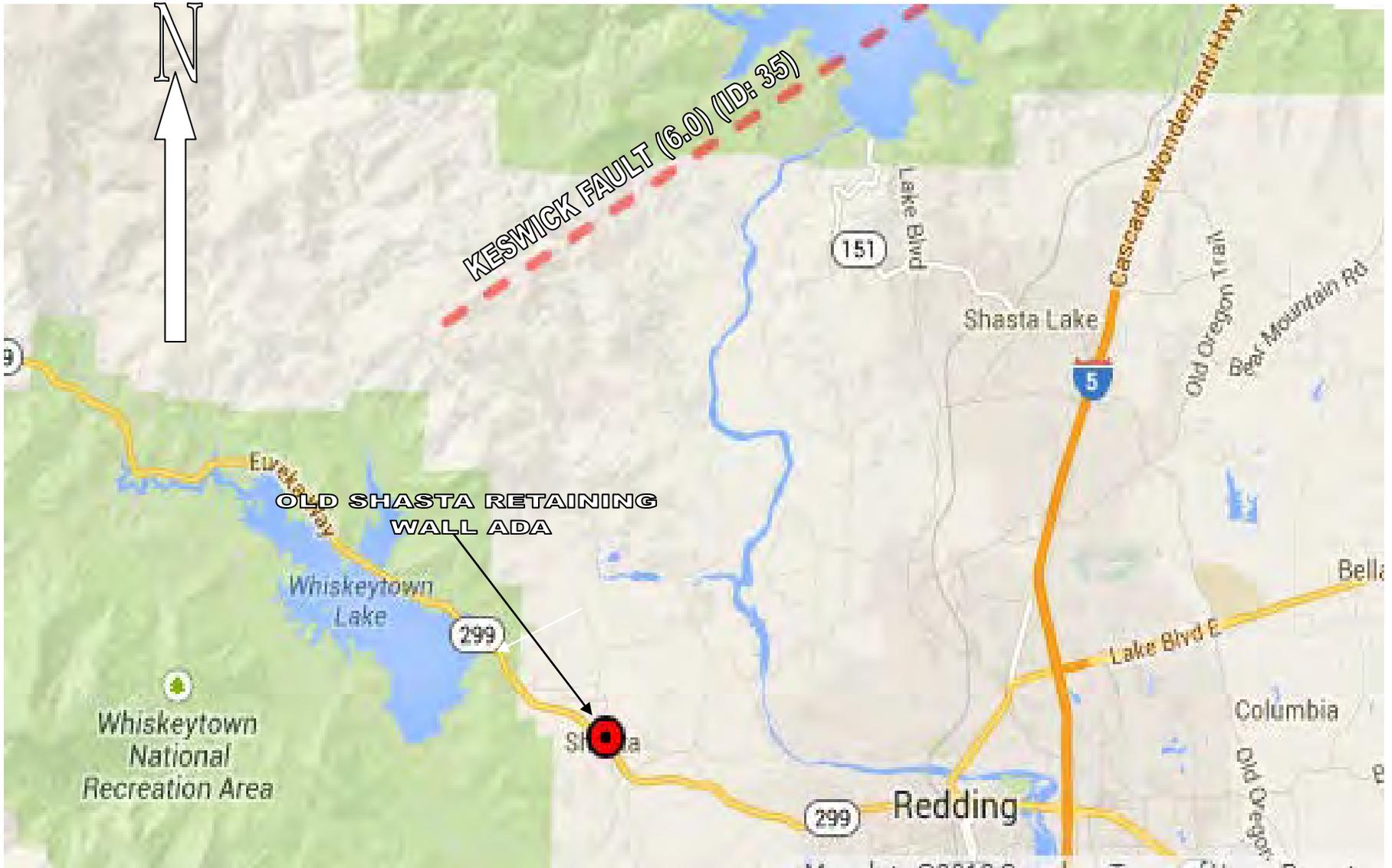
**CALTRANS**  
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**EA: 02-4G4800**  
**Date: May 2014**

**GEOLOGIC MAP LEGEND**

**02-SHA-299-PM18.4/18.7**  
**OLD SHASTA RETAINING WALL ADA**

Plate No. 6



NO SCALE



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EA: 02-4G4800

Date: May 2014

**FAULT MAP**

02-SHA-299-PM18.4/18.7  
 OLD SHASTA WALL RETAINING

Plate No.  
 7

# **APPENDIX A**

## **LOG OF TEST BORINGS (LOTB'S)**

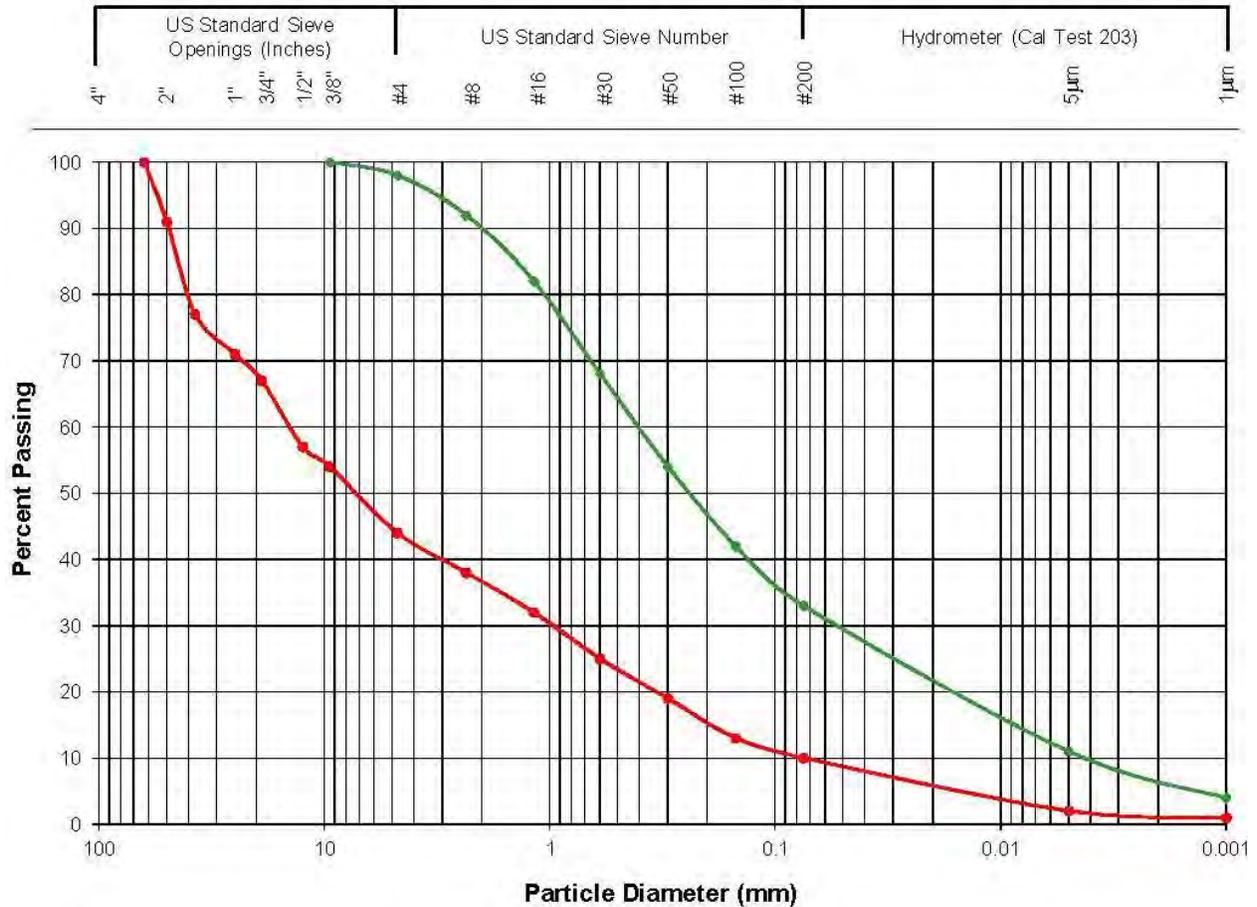


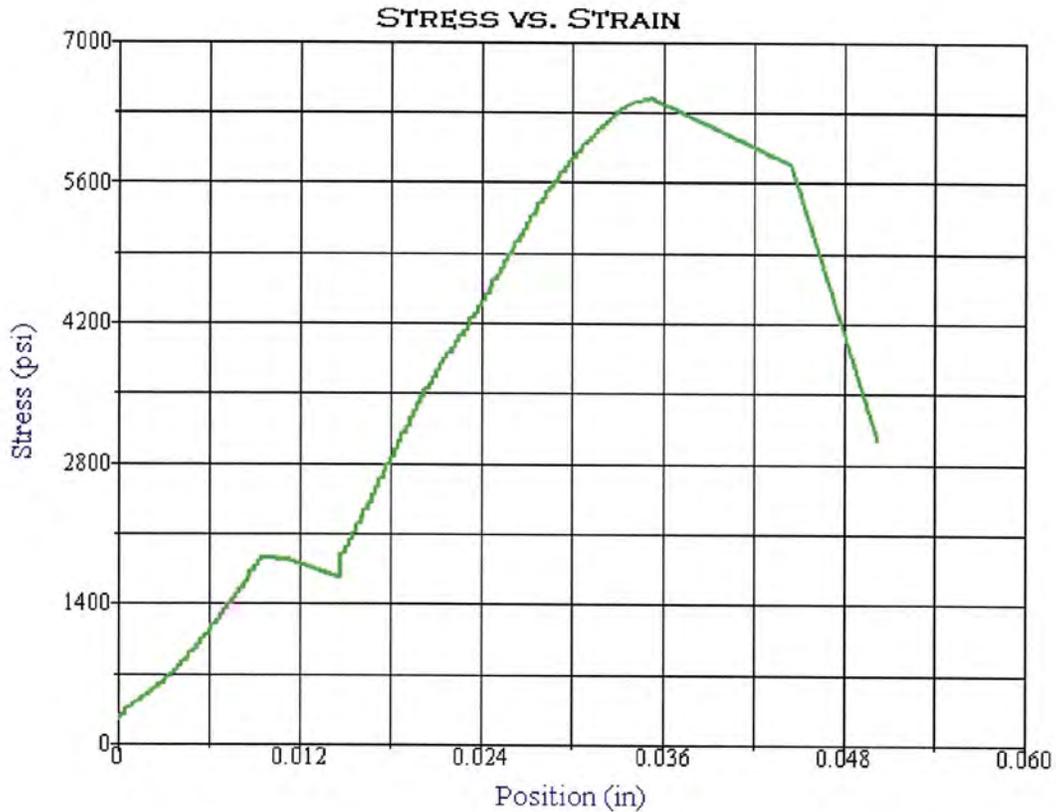


# **APPENDIX B**

## **LABORATORY TEST RESULTS**

## Gradation Analysis Test Results





**Test Summary**

Counter: 2467  
 Elapsed Time: 00:02:55  
 Operator: jg  
 Sample: RC-13-03-15  
 Resident Engineer: Luis Paredes  
 Ticket: Q13-089  
 E.A./CONTRACT NUMBER: 02-4G4800  
 Procedure Name: ASTM D7012  
 Method C  
 Start Date: 1/7/2014  
 Start Time: 8:31:23 AM  
 End Date: 1/7/2014  
 End Time: 8:34:18 AM  
 Workstation: D1K00YB1  
 Tested By: jg  
 Lab: GL-13-084

**Test Results**

Specimen Gage Length: 3.2200 in  
 Diameter: 2.4000 in  
 Area: 4.5239 in<sup>2</sup>  
 Maximum Load: 29100 lbf  
 Compressive Strength: 6433 psi



**Sample RC-13-03-15 from 33.0 to 34.5 feet deep.**



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 Geotechnical Design – North

EA: 02-4G4800

Date: May 2014

**UNCONFINED  
 COMPRESSION TEST**

02-SHA-299-PM 18.4/18.7  
**OLD SHASTA RETAINING WALL ADA**

Plate No.  
 B-2

EFIS: **0214000003**

Dist/Co/Rte/PM **02 / SHA /299/ / 18.4-18.7 PM**

CORROSION			FIELD SAMPLE #	DEPTH (FT)		MINIMUM RESISTIVITY <sup>1</sup> (ohm-cm)	pH <sup>1</sup>	CHLORIDE CONTENT <sup>2</sup> (ppm)	SULFATE CONTENT <sup>3</sup> (ppm)	IS SAMPLE CORROSIVE?
LAB #	TL101 #	BORE #		START	END					
SOIL SAMPLE FROM: OLD SHASTA WALL										
CR20130430	C875052A	RC-13-03	135	0	10	5798	6.15	170.9	130.8	<b>NO</b>

This site is not corrosive to MSE walls (see note below).

Note: For Structural Elements, the Department considers a site corrosive if one or more of the following conditions exist: pH is 5.5 or less, chloride concentration is 500 ppm or greater, sulfate concentration is 2000 ppm or greater. Resistivity is not considered for Structural Elements. MSE backfill shall conform to the requirements of section 47-2.02C Structure Backfill in the 2010 Standard Specifications.

<sup>1</sup>CT 643, <sup>2</sup>CT 422, <sup>3</sup>CT 417

	CALTRANS Division of Engineering Services Geotechnical Services Geotechnical Design – North	<b>EA: 02-4G4800</b>	<b>CORROSION TEST RESULTS</b>
		<b>Date: May 2014</b>	
		<b>02-SHA-299-PM 18.4/18.7 OLD SHASTA RETAINING WALL ADA</b>	Plate No. B-3

## **MATERIALS INFORMATION**

Old Shasta Retaining Wall and Sidewalks Aesthetics Package

Dated May 27, 2014

# OLD SHASTA

## Retaining Wall and Sidewalks Aesthetics Package



EA: 02-4G4804  
County: Shasta  
Route 299  
Post Mile: 18.6



May 27, 2014

## Concrete Relief Motif

A degree of artistic expression and styling as expressed in the following photographs is encouraged. These photos exemplify the detail, style and relief that must be attained for acceptance.

Note the attention to detail with the horses mane, musculature, and features.

The relief and details of the reins and harness are another good representative of the relief and detail required.



*courtesy of Scott Systems*

This example illustrates how the design background recesses and foreground relief comes forward. The detail in the plowman's clothing and physical features are another great example of the style and expression we are looking for.

The relief on the house windows is recessed while the roof eaves and fascia are extruded. This level of detail and relief conveys the approach we are seeking.



*courtesy of Scott Systems*



courtesy of Scott Systems



courtesy of Linda Patterson/Artist/Mold Maker

This example comes close to the level of detail required, however the relief is a bit flat and not as defined as required for acceptance.



courtesy of Spec Formliners

### Design Inspiration

These photos served as a basis for the design of the concrete relief motifs. They are available to the moldmaker/formliner fabricator upon request.

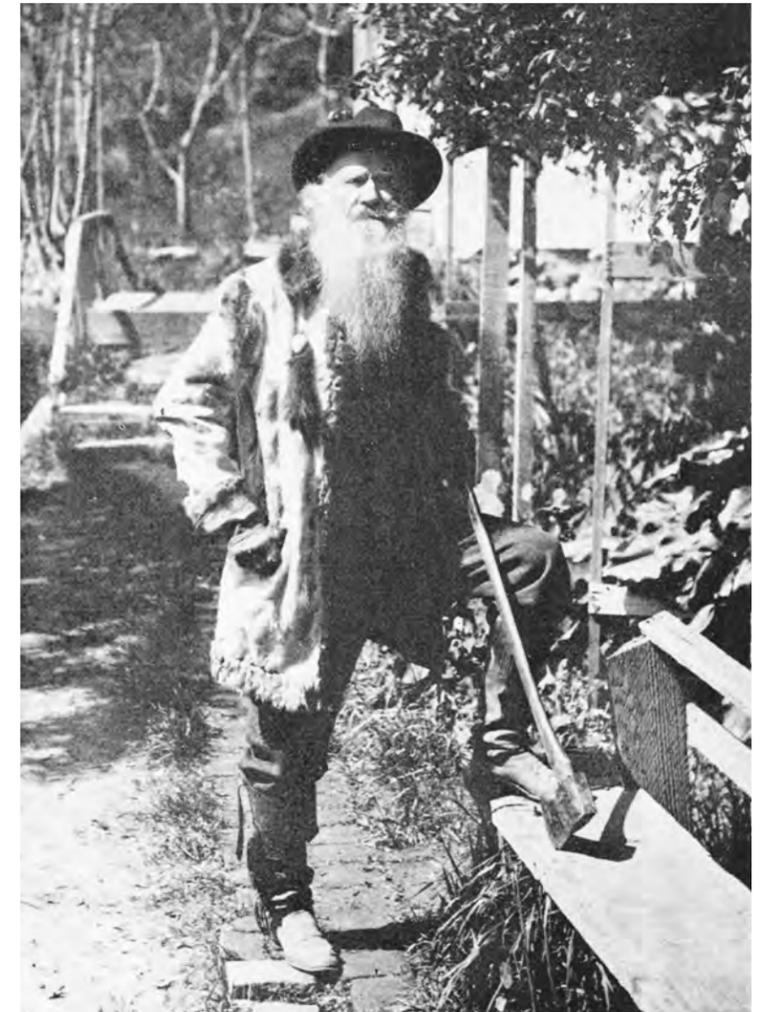
Right: (Panel 1) Joaquin Miller



courtesy of Fitzgerald Formliners



courtesy of Fitzgerald Formliners



A photo of Joaquin in the full glory of his physical strength on "The Hights," ready for work.



*Panel 2: Mule Team Mail Carriers at old Litsch Store.*



*Panel 2: Litsch Store today.*



*Panel 2: Litsch Store from another angle.*



*Panel 3: Gold panning in local creek.*

**Architectural Veneers-Brick** These photos exemplify the colors, detail, style and texture that must be attained for acceptance.



*McNear Brick Sandmold Series. "Salthouse"*



*Brick Sawtooth and Rowlock*

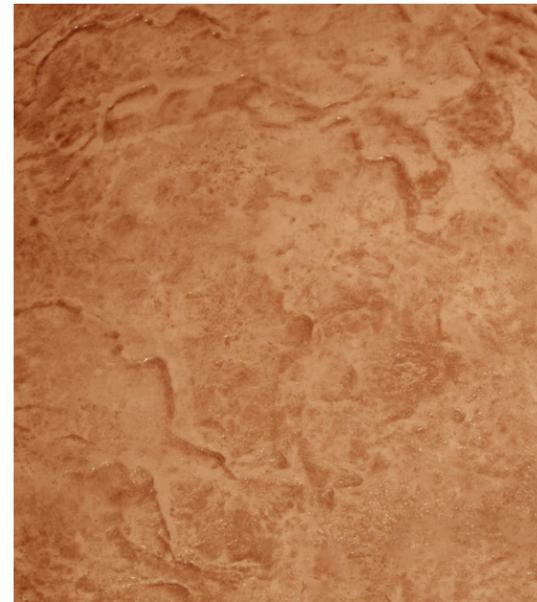
**Sidewalk and Sidewalk Slab colors and Textures**  
These photos exemplify the colors, detail, style and texture that must be attained for acceptance.



*Seamless Limestone/Rock Salt Texture*



*Wood Plank Texture*



*Seamless Slate/Flagstone*



*Brick Herringbone Band Texture*

## **MATERIALS INFORMATION**

Aerially Deposited lead Site Investigation Report

Dated March 2014

# AERIALLY DEPOSITED LEAD SITE INVESTIGATION REPORT



State Route 299 (02-SHA-299)  
Post Mile 18.4 to 18.7  
Shasta County, California

**PREPARED FOR:**

**CALIFORNIA DEPARTMENT OF TRANSPORTATION – DISTRICT 3  
ENVIRONMENTAL ENGINEERING OFFICE  
703 B STREET  
MARYSVILLE, CALIFORNIA 95901**



**PREPARED BY:**

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



**GEOCON PROJECT NO. S9805-01-08  
TASK ORDER NO. 8, EA 02-4G4800  
CONTRACT NO. 03A2132**

**MARCH 2014**

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CONSULTANTS, INC.

G E O T E C H N I C A L ■ E N V I R O N M E N T A L ■ M A T E R I A L S



Project No. S9805-01-08

March 5, 2014

Rajive Chadha

California Department of Transportation - District 3

Environmental Engineering Office

703 B Street

Marysville, California 95901

Subject: AERIALY DEPOSITED LEAD SITE INVESTIGATION REPORT  
STATE ROUTE 299 (02-SHA-299) POST MILE 18.4 TO 18.7  
SHASTA COUNTY, CALIFORNIA  
CONTRACT NO. 03A2132, TASK ORDER NO. 8, EA 02-4G4800

Dear Mr. Chadha:

In accordance with California Department of Transportation (Caltrans) Contract No. 03A2132, Task Order No. 8, and Expense Authorization 02-4G4800, we have performed environmental engineering services at the project site. The Site consists of State Route 299 at approximate Post Mile 18.4 to 18.7 in Shasta County, California. The accompanying report summarizes the services performed including the excavation of 38 hand-auger borings for the collection of soil samples for aerially deposited lead analysis.

*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 you have any questions concerning the contents of this report or if we may be of further service.

Sincerely,

GEOCON CONSULTANTS, INC.

Gemma G. Reblando  
Project Geologist

John E. Juhrend, PE, CEG  
Principal/Senior Engineer



(2 + 2 CD) Addressee

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# AERIALY DEPOSITED LEAD SITE INVESTIGATION REPORT

## 1.0 INTRODUCTION

This Aerially Deposited Lead (ADL) Site Investigation Report for State Route 299 (SR-299) Post Mile (PM) 18.4 to 18.7 was prepared under California Department of Transportation (Caltrans) Contract No. 03A2132, Task Order (TO) No. 8, and Expense Authorization (EA) 02-4G4800.

### 1.1 Project Description and Proposed Improvements

The project area consists of Caltrans right-of-way (ROW) along eastbound (EB) SR-299 between High Street and Red Bluff Road (PM 18.4 to PM 18.7) (the Site) in the town of Shasta just west of Redding in Shasta County, California. The approximate project location is depicted on the attached Vicinity Map, Figure 1. Caltrans proposes constructing a sidewalk, curb, gutter and retaining wall within the project boundaries. The proposed improvements will also include construction of drainage inlets and 18-inch-diameter culvert within the project boundaries. The approximate sampling locations are depicted on the attached Site Plan, Figure 2.

### 1.2 General Objectives

Construction of planned roadway improvements along SR-299 will require the disturbance of soil at the Site and may generate excess soil. The purpose of the scope of services outlined in TO No. 8 was to evaluate the Site for potential impacts due to ADL from motor vehicle exhaust in the surface and near-surface soils. The investigative results will be used by Caltrans to inform the construction contractor if ADL-impacted soil is present within the project boundaries for construction worker health and safety, and soil management and disposal purposes.

## 2.0 BACKGROUND

Caltrans requested the site investigation to provide data regarding the potential presence of ADL within the proposed roadway improvement areas.

Regulatory criteria to classify a waste as "California hazardous" for handling and disposal purposes are contained in the California Code of Regulations (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), § 261.

### 2.1 Potential Lead Soil Impacts

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

## 2.2 Hazardous Waste Determination Criteria

For waste containing metals, the waste is classified as California hazardous when: 1) the representative total metal content equals or exceeds the respective Total Threshold Limit Concentration (TTLC); or 2) the representative soluble metal content equals or 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 representative soluble metal content equals or exceeds the Federal regulatory level 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 and corrosivity; however, for the purposes of this investigation, toxicity (i.e., representative lead concentrations) is the primary factor considered for waste classification since waste generated during the construction activities would not likely warrant testing for ignitability or 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.

### 3.0 SCOPE OF SERVICES

The scope of services requested by Caltrans in TO No. 8 included the collection of soil samples for analysis to determine lead content and the preparation of this report.

#### 3.1 Pre-field Activities

- Utilized a *Health and Safety Plan* from a previous ADL TO in the project vicinity to provide guidelines on the use of personal protective equipment and the health and safety procedures implemented during the field activities.
- Retained the services of Advanced Technologies Laboratories (ATL), a Caltrans-approved and California-certified analytical laboratory, to perform the chemical analyses of soil samples.

#### 3.2 Field Activities

On October 21, 2013, 46 soil samples were collected from 20 hand-auger borings (HA1 through HA20) located approximately 5.0 feet from the edge of pavement along the unpaved areas adjacent to the EB shoulders of SR-299. The soil borings were advanced to the maximum sampling depth of 3.0 feet. Soil samples were collected at depth intervals of 0.0 to 1.0 foot, 1.0 to 2.0 feet, and 2.0 to 3.0 feet.

On December 5, 2013, we collected additional soil samples along the proposed sidewalk and retaining wall locations. Thirty-nine additional soil samples were collected from 18 hand-auger borings (HA21 through HA38) located along the unpaved shoulders of EB SR-299 10 feet further to the south from the initial boring locations. The soil borings were advanced to the maximum sampling depth of 4.0 feet. Soil samples were collected at depth intervals of 0.0 to 0.5 foot, 0.5 to 1.0 foot, 1.0 to 2.0 feet, 2.0 to 3.0 feet, and 3.0 to 4.0 feet.

The sample locations were selected in the field by the Caltrans' TO Manager. Following sample collection, the borings were backfilled with excess soil cuttings. Details of the field activities are presented in the following sections.

### 4.0 INVESTIGATIVE METHODS

#### 4.1 Soil Sampling Procedures

A total of 85 soil samples were collected for lead analysis from 38 borings (HA1 through HA38) advanced along the EB shoulders of SR-299. Refusal conditions were encountered in several borings at depths between 1.5 and 3.0 feet. The approximate boring locations are depicted on Figure 2.

The soil samples were collected using a hand-auger and placed in Ziploc<sup>®</sup> re-sealable plastic bags for field homogenization and subsequently labeled, placed in an ice chest, and delivered to ATL for analytical testing under chain-of-custody (COC) documentation. Following sample collection, the borings were backfilled with excess soil cuttings. Soil types were noted on the daily field log.

## **4.2 Quality Assurance/Quality Control (QA/QC) Procedures**

QA/QC procedures were performed during the field exploration activities. These procedures included the decontamination of sampling equipment before each sample was collected and providing COC documentation for each sample submitted to the laboratory. The soil sampling equipment was cleansed between borings by washing the equipment with an Alconox<sup>®</sup> solution followed by a double rinse with deionized water. The decontamination water was discharged to the ground surface within the Caltrans right-of-way, away from the roadway and storm drain inlets.

## **4.3 Laboratory Analyses**

### **4.3.1 ADL Soil Samples**

The soil samples were analyzed under a standard turnaround time (TAT) for the following analyses. The laboratory was instructed to homogenize the soil samples prior to analysis in accordance with Contract 03A2132 requirements.

- Each soil sample was analyzed for total lead following Environmental Protection Agency (EPA) Test Method 6010B.
- Thirty-six soil samples with total lead concentrations greater than or equal to ten times the lead STLC were further analyzed for soluble lead using the WET method.
- Eleven soil samples that exhibit a WET soluble lead concentration greater than the lead STLC were analyzed for soluble lead following the WET method using de-ionized water (DI-WET).
- Eleven soil samples were analyzed for TCLP soluble lead using EPA Test Method 6010B.
- Six soil samples were analyzed for pH following EPA Method 9045C.

### **4.3.2 Laboratory QA/QC Procedures**

QA/QC procedures were performed by ATL as applicable for the method of analysis with specificity for each analyte listed in the test method's QA/QC. QA/QC measures for the lead analysis 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 detection limit or at the analyte level.

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

## 5.0 FIELD OBSERVATIONS AND INVESTIGATIVE RESULTS

### 5.1 Soil Description

Soil encountered during the excavation of borings generally consisted of reddish brown to light brown gravelly, silty clay to the maximum sampling depth of 4.0 feet. Surficial fill material containing metal debris was encountered in boring HA36. Groundwater was not encountered in the soil borings.

### 5.2 Soil Analytical Results

Total lead was detected in each of the 85 soil samples at concentrations ranging from 2.3 to 5,300 mg/kg. Thirty-six of the 85 soil samples had reported total lead concentrations greater than 50 mg/kg (ten times the STLC value for lead of 5.0 mg/l) and were further analyzed for WET soluble lead. Eleven of the 85 soil samples with the highest total lead concentrations were further analyzed for TCLP soluble lead.

WET soluble lead was reported for 34 of the 36 soil samples analyzed at concentrations ranging from 1.1 to 77 mg/l. Eleven of the 36 soil samples analyzed had WET soluble lead concentrations greater than the STLC value for lead of 5.0 mg/l and were further analyzed for DI-WET soluble lead.

DI-WET soluble lead was reported for 4 of the 11 samples analyzed at concentrations ranging from 1.1 mg/l to 2.2 mg/l.

TCLP soluble lead was reported for 9 of the 11 samples analyzed at concentrations ranging from 0.057 mg/l (HA30-0) to 340 mg/l (HA9-1). Sample HA9-1 with a significantly elevated TCLP result was re-analyzed for total lead, WET soluble lead and TCLP soluble lead simultaneously. The re-analysis results are in Table 1.

Soil pH values for the soil samples analyzed ranged from 5.7 to 6.9.

A summary of the ADL analytical results are presented on Table 1. Copies of the ATL laboratory reports and COC documentation are in Appendix A.

### 5.3 Laboratory QA/QC

We reviewed the QA/QC provided with the ATL laboratory reports. The relative percent differences for a few sample duplicates were outside acceptance criteria. Calculation is based on raw values as noted in the laboratory report. The laboratory reports also noted that matrix spike recovery outside of acceptance limit. The analytical batch was validated by the laboratory control sample. 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.

## 5.4 Statistical Evaluation for Lead Detected in Soil Samples

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 lead concentrations exists that would allow the prediction of WET lead concentrations based on calculated UCLs.

Caltrans provided the following excavation designs for utilization of lead data for samples collected within the proposed construction areas:

- No excavation will be performed along the SR-299 shoulders at locations represented by borings HA1 through HA4, HA10, and HA29 through HA34. Thus, the total lead data for samples collected from these borings were not included in the statistical analysis.
- Soil excavation for sidewalk, curb, and gutter to a maximum depth of 4.0 feet will be performed along the SR-299 shoulders at locations represented by borings HA5 through HA9, HA11 through HA15, HA20, HA21, and HA35 through HA38. In addition, soil excavations for construction of drainage inlets and 18-inch-diameter culvert to a maximum depth of 4.0 feet will occur within these boring locations. Thus, the total lead data for samples collected from the top 4.0 feet from these borings were utilized in the statistical analysis.
- Soil excavation to a maximum depth of 18 feet will be performed along the SR-299 shoulders at locations represented by borings HA16 through HA19 and HA22 through HA28. Thus, the total lead data for samples collected from the top 4.0 feet from these borings were utilized in the statistical analysis.

Based on proposed construction excavations provided by Caltrans, the total lead data were evaluated using the following sample populations for statistical analysis. We determined an area of an apparent hot-spot at borings HA36/HA37 within the proposed sidewalk, curb, and gutter location; thus, lead data from these borings were not included in the statistical analysis.

- **Sidewalk, Curb, and Gutter Locations** consists of soil samples from the top 4.0 feet collected from borings HA5 through HA9, HA11 through HA15, HA20, HA21, HA35, and HA38 located within the proposed sidewalk, curb, and gutter excavation areas.
- **Retaining Wall Locations** consists of soil samples from the top 4.0 feet collected from borings HA16 through HA19 and HA22 through HA28 located within the proposed retaining wall excavation areas.

### 5.4.1 Calculating the UCLs for the True Mean

Non-parametric bootstrap techniques were used to calculate the UCLs. 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 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.

The bootstrap results are in Appendix B. The calculated UCLs and statistical results for lead data for the three data populations are summarized in the following tables:

**Sidewalk, Curb, and Gutter Locations**  
(Borings HA5 through HA9, HA11 through HA15, HA20, HA21, HA35, and HA38)

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	114.2	119.3	95.0	5.1	230
1.0 to 2.0	147.3	161.6	94.5	6.5	570
2.0 to 3.0*	28.0	28.0	18.7	9.6	28
3.0 to 4.0*	3.5	3.5	3.5	3.5	3.5

\* Insufficient number of data obtained for this interval. Highest total lead concentration from this interval was used for the UCL.  
mg/kg = milligrams per kilogram

**Retaining Wall Location**  
(Borings HA16 through HA19 and HA22 through HA28)

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 2.0	84.2	93.6	51.3	3.6	420
2.0 to 3.0	10.4	11.0	8.1	3.0	18
3.0 to 4.0*	6.1	6.1	4.1	2.3	6.1

\* Insufficient number of data obtained for this interval. Highest total lead concentration from this interval was used for the UCL.  
mg/kg = milligrams per kilogram

#### **5.4.2 Correlation of Total and Soluble Lead**

Total and corresponding WET lead concentrations are bivariate data with a linear structure. This linear structure should allow for the prediction of WET lead concentrations based on the maximum total lead concentrations presented in the table above.

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

The *correlation coefficient* calculated for the 20 ( $x, y$ ) data points (i.e., soil samples analyzed for both total lead [ $x$ ] and WET lead [ $y$ ]) was 0.8498. A *correlation coefficient* greater than or equal to 0.8 is an acceptable indicator that a correlation exists. Consequently, an acceptable correlation between total and soluble lead concentrations was established for the data points since the *correlation coefficient* is greater than 0.8.

For the *correlation coefficient* that indicates a linear relationship between total and WET 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  $y = 0.0466(x)$ , where  $x$  represents total lead concentrations and  $y$  represents predicted WET lead concentrations.

This equation was used to estimate the expected WET lead concentrations for the total lead UCLs for the data set (see Section 5.4.1). Regression analysis results and a scatter plot depicting the ( $x, y$ ) data points along with the regression line are included in Appendix B. The 90% and 95% UCL-predicted WET soluble lead concentrations are presented in Section 6.0.

## 6.0 CONCLUSIONS AND RECOMMENDATIONS

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

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

### 6.1 Sidewalk, Curb, and Gutter Locations

#### 6.1.1 Borings HA36 and HA37 (Hot-spot)

Based on laboratory analytical results, soil excavated to a depth of 1.0 foot at locations represented by borings HA36 and HA37 within the proposed sidewalk, curb, and gutter locations would be classified as a California-hazardous waste since the total lead concentrations are greater than the lead TTLC of 1,000 mg/kg and/or the WET soluble lead concentrations are greater than the lead STLC of 5.0 mg/l. Consequently, soil excavated from the top 1.0 foot 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. It should be noted that other elevated metal concentrations may be present in excavated fill soil containing debris (i.e. boring HA36).

#### ***Cost Estimate for Soil Excavation, Stockpiling, Loading, Transport and Disposal***

Per Caltrans, the total volume of soil to be excavated at and in the vicinity of borings HA36 and HA37 is approximately 18 cubic yards. For preliminary planning purposes, we recommend using a soil conversion factor of 1.4 tons per cubic yard. We estimate a total of approximately 25.2 tons of material may be generated during excavation in the vicinity of borings HA36 and HA37.

The costs for excavation, stockpiling, loading, transport and disposal of soil characterized as Class I non-RCRA hazardous waste generated in the vicinity of borings HA36 and HA37 based on lead content are estimated at \$13,447. The estimated costs assume in-state Class I disposal. The breakdown of estimated costs for two days of handling of Class I non-RCRA hazardous soil by a certified contractor is summarized below:

- Excavating, stockpiling, covering, confirmation sampling and laboratory analysis of Class I non-RCRA hazardous waste is estimated at \$4,470 (including backhoe rental, operator/labor, and materials for stockpile composite sampling).
- Loading excavated soil material is estimated at \$2,205.

- Transport of Class I non-RCRA hazardous waste to Clean Harbor in Bakersfield, California, is estimated at \$4,000.
- Disposal of Class I non-RCRA hazardous waste to Clean Harbor in Bakersfield, California, is estimated at \$2,772.

**6.1.2 Borings HA5 through HA9, HA11 through HA15, HA20, HA21, HA35, and HA38**

Total lead concentrations ranged from 3.5 to 570 mg/kg, with an average total lead concentration of 82.4 mg/kg. The table below summarizes the predicted WET soluble lead concentrations and the waste classification for excavated soil within the proposed sidewalk, curb, and gutter locations as represented by borings HA5 through HA9, HA11 through HA15, HA20, HA21, HA35, and HA38 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 to 1.0 foot	114.2	5.3	119.3	5.6	Hazardous
Underlying soil (1.0 to 4.0 feet)	59.6	2.8	64.4	3.0	Non-hazardous
0 to 2.0 feet	130.8	6.1	140.5	6.5	Hazardous
Underlying soil (2.0 to 4.0 feet)	15.8	0.7	15.8	0.7	Non-hazardous
0 to 3.0 feet	96.5	4.5	103.0	4.8	Non-hazardous
Underlying soil (3.0 to 4.0 feet)	3.5	0.2	3.5	0.2	Non-hazardous
0 to 4.0 feet	73.3	3.4	78.1	3.6	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:  $y = 0.0466x$ .

Based on the above table, soil excavated from the surface to a depth of 2.0 feet or shallower would be classified as a California hazardous waste since the 90% UCL-predicted WET soluble lead concentration is greater than the STLC value for lead of 5.0 mg/l. Soil excavated from the top 2.0 feet or shallower cannot be reused and 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.

If the top 3.0 to 4.0 feet of soil is excavated and managed as a whole, then soil generated from the top 3.0 to 4.0 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 STLC value for lead of 5.0 mg/l. Consequently, the top 3.0 to 4.0 feet of excavated soil could be reused, relinquished to the contractor, or disposed of as non-hazardous soil with respect to lead content.

One of the soil samples collected from the proposed sidewalk, curb, and gutter locations (HA9-1) and analyzed for TCLP soluble lead had a TCLP soluble lead concentration exceeding the RCRA hazardous waste threshold of 5.0 mg/l. This sample was re-analyzed for TCLP soluble lead and the TCLP result was 1.5 mg/l, less than the RCRA hazardous waste threshold of 5.0 mg/l. The highest calculated total lead UCL of 119.3 mg/kg for the samples collected from the proposed sidewalk, curb, and gutter locations is significantly lower than the total lead concentration (590 mg/kg) that yielded a TCLP soluble lead concentration greater than the RCRA hazardous waste threshold of 5.0 mg/l. In addition, a representative total lead concentration of 100 mg/kg or greater has the potential to have a representative TCLP soluble lead level of 5.0 mg/l or greater. Since the calculated total lead 95% UCL for the planned excavation depth of 4.0 feet is less than 100 mg/kg, it is unlikely that soil excavated from the surface to 4.0 feet within the sidewalk, curb, and gutter locations would be classified as a RCRA hazardous waste. The designated disposal facility may require additional testing to confirm waste classification.

## 6.2 Retaining Wall Location

Total lead concentrations ranged from 2.3 to 420 mg/kg, with an average total lead concentration of 32.6 mg/kg. The table below summarizes the excavation scenarios, the predicted WET soluble lead concentrations and the waste classification for excavated soil within the project limits as represented by borings HA16 through HA19 and HA22 through HA28 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 to 2.0 feet	84.2	3.9	93.6	4.4	Non-hazardous
Underlying soil (2.0 to 4.0 feet)	8.3	0.4	8.6	0.4	Non-hazardous
0 to 3.0 feet	59.6	2.8	66.1	3.1	Non-hazardous
Underlying soil (3.0 to 4.0 feet)	6.1	0.3	6.1	0.3	Non-hazardous
0 to 4.0 feet	46.2	2.2	51.1	2.4	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:  $y = 0.0466x$ .

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

Based on the TCLP soluble lead result of less than 5.0 mg/l for the sample collected within the proposed retaining wall excavations, soil generated within the proposed retaining wall excavations will not be classified as RCRA hazardous waste.

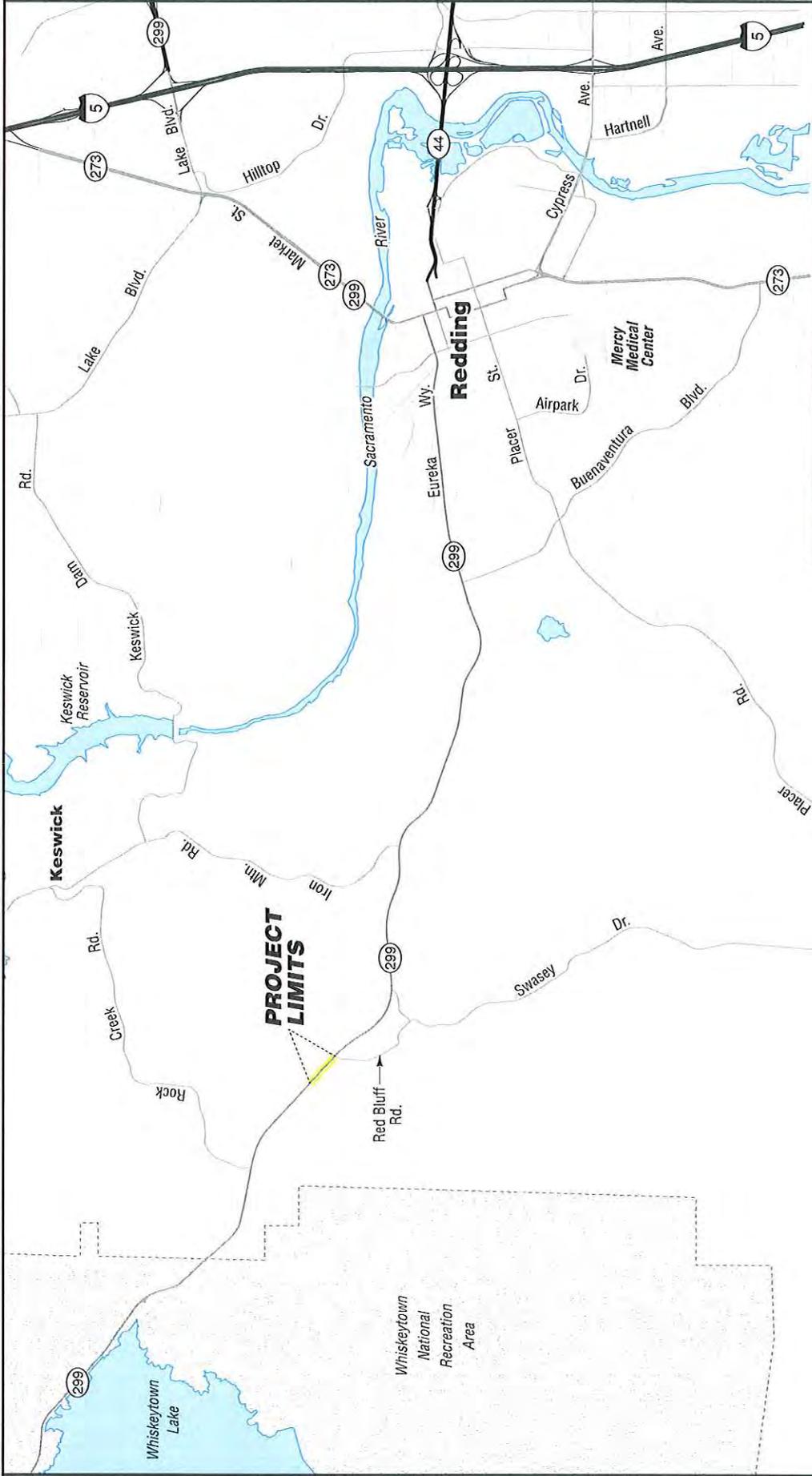
### **6.3 Worker Protection**

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.

## 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.

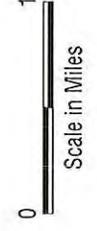
This report is not a comprehensive site characterization and should not be construed as such. The findings as presented in this report are predicated on the results of the limited sampling and laboratory testing performed. In addition, the information obtained is not intended to address potential impacts 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

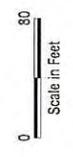
Shasta 299 PM 18.4/18.7	
Shasta County, California	<b>VICINITY MAP</b>
GEOCON Proj. No. S9805-01-08	
Task Order No. 8, EA 02-4G4800	March 2014
Figure 1	





**LEGEND:**

- HA# X Approximate Boring Location along the Proposed Sidewalk, Curb and Gutter Location
- HA# O Approximate Boring Location in Areas with No Excavations
- HA# O Approximate Boring Location along the Proposed Retaining Wall Location
- Yellow Highlighted Area Approximate Location of Soil Characterized as California Hazardous Waste



Shasta 299 PM 18.4/18.7	
Shasta County, California	<b>SITE PLAN</b>
GEOCON Proj. No. S9905-01-08	
Task Order No. 8. EA.02-4G4800	March 2014
Figure 2	



Photo No. 1 Typical sample location along southbound SR-299 near boring HA1

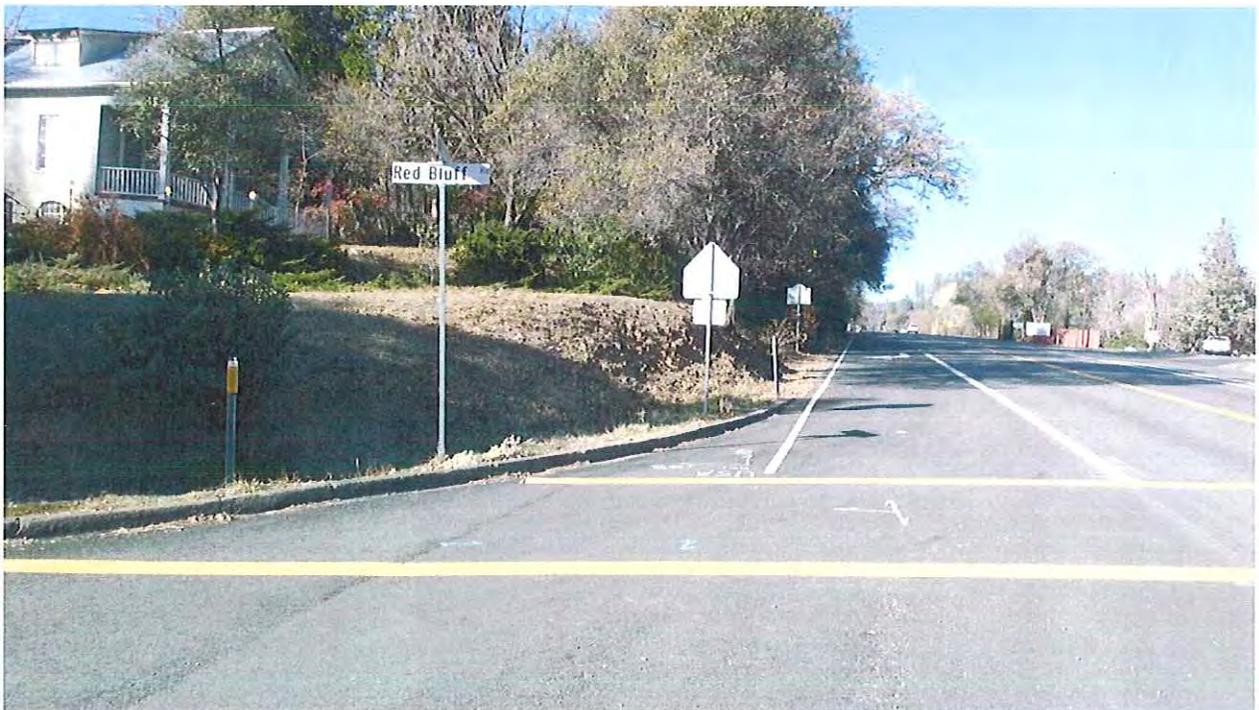


Photo No. 2 Typical sample location along southbound SR-299 near borings HA20 and HA21

**PHOTOS NO. 1 & 2**



**GEOCON**  
CONSULTANTS, INC.

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Shasta 299 PM 18.4/18.7

GEOCON Proj. No. S9805-01-08

Shasta County,  
California

Task Order No. 8, EA 02-4G4800

March 2014

TABLE I  
 SUMMARY OF SOIL ANALYTICAL RESULTS - LEAD  
 EA 02-4G4800  
 STATE ROUTE 299 POST MILE 18.4 TO 18.7  
 SHASTA COUNTY, CALIFORNIA

BORING ID	SAMPLE DEPTH (feet)	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	DI-WET LEAD (mg/l)	TCLP LEAD (mg/l)	pH
<b>SIDEWALK, CURB, AND GUTTER LOCATIONS ALONG SR-299</b>						
HA5-0	0.0	88	2.2	---	---	---
HA5-1	1.0	8.3	---	---	---	---
HA5-2	2.0	16	---	---	---	---
HA6-0	0.0	170	3.9	---	---	---
HA6-1	1.0	8.5	---	---	---	---
HA6-2	2.0	28	---	---	---	---
HA7-0	0.0	60	1.2	---	---	---
HA7-1	1.0	73	1.1	---	---	---
HA7-2	2.0	21	---	---	---	---
HA8-0	0.0	230	5.3	1.8	---	5.8
HA8-1	1.0	47	---	---	---	---
HA9-0	0.0	150	2.1	---	---	---
HA9-1	1.0	590 (570)	28 (41)	1.1	340 (1.5)	5.7
HA11-0	0.0	98	2.8	---	---	---
HA11-1	1.0	73	1.3	---	---	---
HA12-0	0.0	160	3.0	---	---	---
HA12-1	1.0	100	2.2	---	---	---
HA13-0	0.0	5.1	---	---	---	---
HA13-1	1.0	6.5	---	---	---	---
HA14-0	0.0	97	1.6	---	---	---
HA14-1	1.0	93	1.3	---	---	---
HA15-0	0.0	85	1.4	---	---	---
HA15-1	1.0	91	1.3	---	---	---
HA20-0	0.0	82	1.6	---	---	---
HA20-1	1.0	36	---	---	---	---
HA21-1-2	1.0	28	---	---	---	---
HA21-2-3	2.0	9.6	---	---	---	---
HA21-3-4	3.0	3.5	---	---	---	---
HA35-0	0.0	39	---	---	---	---
HA35-0.5	0.5	25	---	---	---	---
HA36-0	0.0	780	30	1.1	0.77	---
HA36-0.5	0.5	1,400	77	2.2	2.3	---
HA37-0	0.0	120	7.2	<1.0	0.17	---
HA37-0.5	0.5	270	18	<1.0	2.2	6.3

TABLE 1  
 SUMMARY OF SOIL ANALYTICAL RESULTS - LEAD  
 EA 02-4G4800  
 STATE ROUTE 299 POST MILE 18.4 TO 18.7  
 SHASTA COUNTY, CALIFORNIA

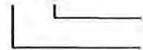
BORING ID	SAMPLE DEPTH (feet)	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	DI-WET LEAD (mg/l)	TCLP LEAD (mg/l)	pH
HA38-0	0.0	100	8.8	<1.0	0.45	---
HA38-0.5	0.5	36	---	---	---	---
<b>RETAINING WALL LOCATION ALONG SR-299</b>						
HA16-0	0.0	63	1.1	---	---	---
HA16-1	1.0	22	---	---	---	---
HA17-0	0.0	76	1.5	---	---	---
HA17-1	1.0	17	---	---	---	---
HA18-0	0.0	30	---	---	---	---
HA18-1	1.0	8.6	---	---	---	---
HA18-2	2.0	3.8	---	---	---	---
HA19-0	0.0	420	13	<1.0	0.34	6.2
HA19-1	1.0	35	---	---	---	---
HA19-2	2.0	8.7	---	---	---	---
HA22-1-2	1.0	16	---	---	---	---
HA22-2-3	2.0	14	---	---	---	---
HA22-3-4	3.0	6.1	---	---	---	---
HA23-1-2	1.0	32	---	---	---	---
HA23-2-3	2.0	18	---	---	---	---
HA24-1-2	1.0	22	---	---	---	---
HA24-2-3	2.0	7.7	---	---	---	---
HA25-1-2	1.0	6.4	---	---	---	---
HA25-2-3	2.0	4.5	---	---	---	---
HA26-1-2	1.0	9.9	---	---	---	---
HA27-1-2	1.0	8.3	---	---	---	---
HA27-2-3	2.0	5.0	---	---	---	---
HA27-3-4	3.0	3.9	---	---	---	---
HA28-1-2	1.0	3.6	---	---	---	---
HA28-2-3	2.0	3.0	---	---	---	---
HA28-3-4	3.0	2.3	---	---	---	---
<b>AREAS WITH NO CONSTRUCTION EXCAVATIONS</b>						
HA1-0	0.0	40	---	---	---	---
HA1-1	1.0	30	---	---	---	---
HA2-0	0.0	160	2.5	---	---	---
HA2-1	1.0	160	3.3	---	---	---
HA3-0	0.0	65	<1.0	---	---	---
HA3-1	1.0	8.0	---	---	---	---

TABLE 1  
 SUMMARY OF SOIL ANALYTICAL RESULTS - LEAD  
 EA 02-4G4800  
 STATE ROUTE 299 POST MILE 18.4 TO 18.7  
 SHASTA COUNTY, CALIFORNIA

BORING ID	SAMPLE DEPTH (feet)	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	DI-WET LEAD (mg/l)	TCLP LEAD (mg/l)	pH
HA3-2	2.0	3.5	---	---	---	---
HA4-0	0.0	110	2.1	---	---	---
HA4-1	1.0	85	1.4	---	---	---
HA10-0	0.0	59	<1.0	---	---	---
HA10-1	1.0	24	---	---	---	---
HA29-0	0.0	66	1.5	---	---	---
HA29-0.5	0.5	29	---	---	---	---
HA30-0	0.0	120	8.0	<1.0	0.057	6.9
HA30-0.5	0.5	6.0	---	---	---	---
HA31-0	0.0	19	---	---	---	---
HA31-0.5	0.5	11	---	---	---	---
HA32-0	0.0	120	3.4	---	<0.05	---
HA32-0.5	0.5	71	2.7	---	---	---
HA33-0	0.0	140	7.1	<1.0	<0.05	---
HA33-0.5	0.5	44	---	---	---	---
HA34-0	0.0	5,300	10	<1.0	0.12	6.5
HA34-0.5	0.5	12	---	---	---	---

Notes:

HA1-0



Top of 0.5-foot sampling interval in feet below ground surface

Boring identification

WET = Waste Extraction Test

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

TCLP = Toxicity Characteristic Leaching Procedure

mg/kg = Milligrams per kilogram

mg/l = Milligrams per liter

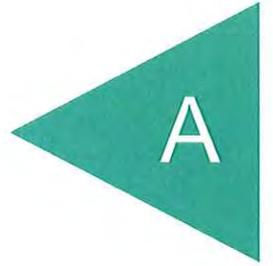
< = Less than the laboratory reporting limit

--- = Not analyzed

Values in parenthesis are results from re-analysis

Shaded cells represent samples characterized as California hazardous waste

APPENDIX



ADVANCED TECHNOLOGY  
LABORATORIES

October 30, 2013

Rebecca Silva  
Geocon Consultants, Inc.  
3160 Gold Valley Drive, Suite 800  
Rancho Cordova, CA 95742  
Tel: (916) 852-9118  
Fax: (916) 852-9132



Re: ATL Work Order Number : 1303327  
Client Reference : Shasta Hwy 299 ADL Survey, S9805-01-08

Enclosed are the results for sample(s) received on October 23, 2013 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

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

Sincerely,

A handwritten signature in black ink, appearing to read "E Rodriguez".

Eddie Rodriguez  
Laboratory Director

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

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[www.atlglobal.com](http://www.atlglobal.com)



## Certificate of Analysis

Atcon Consultants, Inc.  
3160 Gold Valley Drive, Suite 800  
Rancho Cordova, CA 95742

Project Number : Shasta Hwy 299 ADL Survey, S9805-01-08

Report To : Rebecca Silva

Reported : 10/30/2013

### SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HA1-0	1303327-01	Soil	10/21/13 12:40	10/23/13 8:20
HA1-1	1303327-02	Soil	10/21/13 12:42	10/23/13 8:20
HA2-0	1303327-03	Soil	10/21/13 12:50	10/23/13 8:20
HA2-1	1303327-04	Soil	10/21/13 12:52	10/23/13 8:20
HA3-0	1303327-05	Soil	10/21/13 13:05	10/23/13 8:20
HA3-1	1303327-06	Soil	10/21/13 13:07	10/23/13 8:20
HA3-2	1303327-07	Soil	10/21/13 13:09	10/23/13 8:20
HA4-0	1303327-08	Soil	10/21/13 13:15	10/23/13 8:20
HA4-1	1303327-09	Soil	10/21/13 13:17	10/23/13 8:20
HA5-0	1303327-10	Soil	10/21/13 13:25	10/23/13 8:20
HA5-1	1303327-11	Soil	10/21/13 13:27	10/23/13 8:20
HA5-2	1303327-12	Soil	10/21/13 13:29	10/23/13 8:20
HA6-0	1303327-13	Soil	10/21/13 13:40	10/23/13 8:20
HA6-1	1303327-14	Soil	10/21/13 13:42	10/23/13 8:20
HA6-2	1303327-15	Soil	10/21/13 13:44	10/23/13 8:20
HA7-0	1303327-16	Soil	10/21/13 13:50	10/23/13 8:20
HA7-1	1303327-17	Soil	10/21/13 13:52	10/23/13 8:20
HA7-2	1303327-18	Soil	10/21/13 13:54	10/23/13 8:20
HA8-0	1303327-19	Soil	10/21/13 14:05	10/23/13 8:20
HA8-1	1303327-20	Soil	10/21/13 14:07	10/23/13 8:20
HA9-0	1303327-21	Soil	10/21/13 14:15	10/23/13 8:20
HA9-1	1303327-22	Soil	10/21/13 14:17	10/23/13 8:20
HA10-0	1303327-23	Soil	10/21/13 14:30	10/23/13 8:20
HA10-1	1303327-24	Soil	10/21/13 14:32	10/23/13 8:20
HA11-0	1303327-25	Soil	10/21/13 14:45	10/23/13 8:20
HA11-1	1303327-26	Soil	10/21/13 14:47	10/23/13 8:20
HA12-0	1303327-27	Soil	10/21/13 15:00	10/23/13 8:20
HA12-1	1303327-28	Soil	10/21/13 15:02	10/23/13 8:20
HA13-0	1303327-29	Soil	10/21/13 15:10	10/23/13 8:20
HA13-1	1303327-30	Soil	10/21/13 15:12	10/23/13 8:20
HA14-0	1303327-31	Soil	10/21/13 15:20	10/23/13 8:20
HA14-1	1303327-32	Soil	10/21/13 15:22	10/23/13 8:20
HA15-0	1303327-33	Soil	10/21/13 15:30	10/23/13 8:20
HA15-1	1303327-34	Soil	10/21/13 15:32	10/23/13 8:20



## Certificate of Analysis

Atfglobal Consultants, Inc.  
3160 Gold Valley Drive, Suite 800  
Rancho Cordova, CA 95742

Project Number : Shasta Hwy 299 ADL Survey, S9805-01-08  
Report To : Rebecca Silva  
Reported : 10/30/2013

HA16-0	1303327-35	Soil	10/21/13 15:40	10/23/13 8:20
HA16-1	1303327-36	Soil	10/21/13 15:42	10/23/13 8:20
HA17-0	1303327-37	Soil	10/21/13 15:50	10/23/13 8:20
HA17-1	1303327-38	Soil	10/21/13 15:52	10/23/13 8:20
HA18-0	1303327-39	Soil	10/21/13 16:00	10/23/13 8:20
HA18-1	1303327-40	Soil	10/21/13 16:02	10/23/13 8:20
HA18-2	1303327-41	Soil	10/21/13 16:04	10/23/13 8:20
HA19-0	1303327-42	Soil	10/21/13 16:10	10/23/13 8:20
HA19-1	1303327-43	Soil	10/21/13 16:12	10/23/13 8:20
HA19-2	1303327-44	Soil	10/21/13 16:14	10/23/13 8:20
HA20-0	1303327-45	Soil	10/21/13 16:20	10/23/13 8:20
HA20-1	1303327-46	Soil	10/21/13 16:22	10/23/13 8:20



## Certificate of Analysis

Atcon Consultants, Inc.

Project Number : Shasta Hwy 299 ADL Survey, S9805-01-08

3160 Gold Valley Drive, Suite 800

Report To : Rebecca Silva

Rancho Cordova , CA 95742

Reported : 10/30/2013

### Lead by ICP-AES EPA 6010B

Analyte: Lead

Analyst: SB

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time		Notes
									Analized		
1303327-01	HA1-0	40	mg/kg	1.0	NA	1	B3J0528	10/25/2013	10/25/13	14:36	
1303327-02	HA1-1	30	mg/kg	1.0	NA	1	B3J0528	10/25/2013	10/25/13	14:36	
1303327-03	HA2-0	160	mg/kg	1.0	NA	1	B3J0528	10/25/2013	10/25/13	14:37	
1303327-04	HA2-1	160	mg/kg	1.0	NA	1	B3J0528	10/25/2013	10/25/13	14:38	
1303327-05	HA3-0	65	mg/kg	1.0	NA	1	B3J0528	10/25/2013	10/25/13	14:38	
1303327-06	HA3-1	8.0	mg/kg	0.99	NA	1	B3J0528	10/25/2013	10/25/13	14:39	
1303327-07	HA3-2	3.5	mg/kg	1.0	NA	1	B3J0528	10/25/2013	10/25/13	14:40	
1303327-08	HA4-0	110	mg/kg	0.99	NA	1	B3J0528	10/25/2013	10/25/13	14:42	
1303327-09	HA4-1	85	mg/kg	1.0	NA	1	B3J0528	10/25/2013	10/25/13	14:43	
1303327-10	HA5-0	88	mg/kg	1.0	NA	1	B3J0528	10/25/2013	10/25/13	14:44	
1303327-11	HA5-1	8.3	mg/kg	1.0	NA	1	B3J0528	10/25/2013	10/25/13	14:46	
1303327-12	HA5-2	16	mg/kg	1.0	NA	1	B3J0528	10/25/2013	10/25/13	14:46	
1303327-13	HA6-0	170	mg/kg	0.99	NA	1	B3J0528	10/25/2013	10/25/13	14:47	
1303327-14	HA6-1	8.5	mg/kg	1.0	NA	1	B3J0528	10/25/2013	10/25/13	14:48	
1303327-15	HA6-2	28	mg/kg	1.0	NA	1	B3J0528	10/25/2013	10/25/13	14:48	
1303327-16	HA7-0	60	mg/kg	1.0	NA	1	B3J0528	10/25/2013	10/25/13	14:51	
1303327-17	HA7-1	73	mg/kg	1.0	NA	1	B3J0528	10/25/2013	10/25/13	14:52	
1303327-18	HA7-2	21	mg/kg	0.99	NA	1	B3J0528	10/25/2013	10/25/13	14:52	
1303327-19	HA8-0	230	mg/kg	1.0	NA	1	B3J0528	10/25/2013	10/25/13	14:53	
1303327-20	HA8-1	47	mg/kg	1.0	NA	1	B3J0528	10/25/2013	10/25/13	14:54	
1303327-21	HA9-0	150	mg/kg	1.0	NA	1	B3J0529	10/25/2013	10/25/13	15:01	
1303327-22	HA9-1	590	mg/kg	1.0	NA	1	B3J0529	10/25/2013	10/25/13	15:02	
1303327-23	HA10-0	59	mg/kg	1.0	NA	1	B3J0529	10/25/2013	10/25/13	15:02	
1303327-24	HA10-1	24	mg/kg	1.0	NA	1	B3J0529	10/25/2013	10/25/13	15:03	
1303327-25	HA11-0	98	mg/kg	1.0	NA	1	B3J0529	10/25/2013	10/25/13	15:04	
1303327-26	HA11-1	73	mg/kg	0.99	NA	1	B3J0529	10/25/2013	10/25/13	15:04	
1303327-27	HA12-0	160	mg/kg	1.0	NA	1	B3J0529	10/25/2013	10/25/13	15:05	
1303327-28	HA12-1	100	mg/kg	0.99	NA	1	B3J0529	10/25/2013	10/25/13	15:06	
1303327-29	HA13-0	5.1	mg/kg	1.0	NA	1	B3J0529	10/25/2013	10/25/13	15:06	
1303327-30	HA13-1	6.5	mg/kg	1.0	NA	1	B3J0529	10/25/2013	10/25/13	15:09	



## Certificate of Analysis

Atcon Consultants, Inc.  
3160 Gold Valley Drive, Suite 800  
Rancho Cordova, CA 95742

Project Number : Shasta Hwy 299 ADL Survey, S9805-01-08  
Report To : Rebecca Silva  
Reported : 10/30/2013

### Lead by ICP-AES EPA 6010B

Analyte: Lead

Analyst: SB

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time		Notes
									Analized		
1303327-31	HA14-0	97	mg/kg	1.0	NA	1	B3J0529	10/25/2013	10/25/13 15:11		
1303327-32	HA14-1	93	mg/kg	1.0	NA	1	B3J0529	10/25/2013	10/25/13 15:12		
1303327-33	HA15-0	85	mg/kg	1.0	NA	1	B3J0529	10/25/2013	10/25/13 15:12		
1303327-34	HA15-1	91	mg/kg	1.0	NA	1	B3J0529	10/25/2013	10/25/13 15:13		
1303327-35	HA16-0	63	mg/kg	1.0	NA	1	B3J0529	10/25/2013	10/25/13 15:14		
1303327-36	HA16-1	22	mg/kg	1.0	NA	1	B3J0529	10/25/2013	10/25/13 15:14		
1303327-37	HA17-0	76	mg/kg	1.0	NA	1	B3J0529	10/25/2013	10/25/13 15:15		
1303327-38	HA17-1	17	mg/kg	1.0	NA	1	B3J0529	10/25/2013	10/25/13 15:18		
1303327-39	HA18-0	30	mg/kg	1.0	NA	1	B3J0529	10/25/2013	10/25/13 15:18		
1303327-40	HA18-1	8.6	mg/kg	1.0	NA	1	B3J0529	10/25/2013	10/25/13 15:19		
1303327-41	HA18-2	3.8	mg/kg	1.0	NA	1	B3J0530	10/25/2013	10/25/13 15:23		
1303327-42	HA19-0	420	mg/kg	1.0	NA	1	B3J0530	10/25/2013	10/25/13 15:24		
1303327-43	HA19-1	35	mg/kg	1.0	NA	1	B3J0530	10/25/2013	10/25/13 15:27		
1303327-44	HA19-2	8.7	mg/kg	1.0	NA	1	B3J0530	10/25/2013	10/25/13 15:27		
1303327-45	HA20-0	82	mg/kg	1.0	NA	1	B3J0530	10/25/2013	10/25/13 15:28		
1303327-46	HA20-1	36	mg/kg	1.0	NA	1	B3J0530	10/25/2013	10/25/13 15:29		



## Certificate of Analysis

Atlglobal Consultants, Inc.  
 3160 Gold Valley Drive, Suite 800  
 Rancho Cordova, CA 95742

Project Number : Shasta Hwy 299 ADL Survey, S9805-01-08  
 Report To : Rebecca Silva  
 Reported : 10/30/2013

### QUALITY CONTROL SECTION

#### Lead by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec % Rec	Limits	RPD RPD	RPD Limit	Notes
<b>Batch B3J0528 - EPA 3050 Modified</b>									
<b>Blank (B3J0528-BLK1)</b>					Prepared: 10/25/2013 Analyzed: 10/25/2013				
Lead	ND	1.0			NR				
<b>Blank (B3J0528-BLK2)</b>					Prepared: 10/25/2013 Analyzed: 10/25/2013				
Lead	ND	1.0			NR				
<b>LCS (B3J0528-BS1)</b>					Prepared: 10/25/2013 Analyzed: 10/25/2013				
Lead	51.0954	1.0	50.0000		102	80 - 120			
<b>Duplicate (B3J0528-DUP1)</b>					Prepared: 10/25/2013 Analyzed: 10/25/2013				
Lead	48.0342	1.0		46.5209	NR		3.20	20	
<b>Duplicate (B3J0528-DUP2)</b>					Prepared: 10/25/2013 Analyzed: 10/25/2013				
Lead	134.829	1.0		88.3720	NR		41.6	20	R
<b>Matrix Spike (B3J0528-MS1)</b>					Prepared: 10/25/2013 Analyzed: 10/25/2013				
Lead	292.814	1.0	250.000	46.5209	98.5	51 - 106			
<b>Matrix Spike (B3J0528-MS2)</b>					Prepared: 10/25/2013 Analyzed: 10/25/2013				
Lead	365.658	1.0	250.000	88.3720	111	51 - 106			M1
<b>Matrix Spike Dup (B3J0528-MSD1)</b>					Prepared: 10/25/2013 Analyzed: 10/25/2013				
Lead	281.480	1.0	250.000	46.5209	94.0	51 - 106	3.95	20	
<b>Batch B3J0529 - EPA 3050 Modified</b>									
<b>Blank (B3J0529-BLK1)</b>					Prepared: 10/25/2013 Analyzed: 10/25/2013				
Lead	ND	1.0			NR				
<b>Blank (B3J0529-BLK2)</b>					Prepared: 10/25/2013 Analyzed: 10/25/2013				
Lead	ND	1.0			NR				
<b>LCS (B3J0529-BS1)</b>					Prepared: 10/25/2013 Analyzed: 10/25/2013				
Lead	49.5051	1.0	50.0000		99.0	80 - 120			
<b>Duplicate (B3J0529-DUP1)</b>					Prepared: 10/25/2013 Analyzed: 10/25/2013				
Lead	11.2592	1.0		8.57978	NR		27.0	20	R
<b>Duplicate (B3J0529-DUP2)</b>					Prepared: 10/25/2013 Analyzed: 10/25/2013				
Lead	6.53494	1.0		6.54230	NR		0.113	20	
<b>Matrix Spike (B3J0529-MS1)</b>					Prepared: 10/25/2013 Analyzed: 10/25/2013				
Lead	259.946	1.0	250.000	8.57978	101	51 - 106			
<b>Matrix Spike (B3J0529-MS2)</b>					Prepared: 10/25/2013 Analyzed: 10/25/2013				
Lead	239.026	1.0	250.000	6.54230	93.0	51 - 106			



## Certificate of Analysis

Attaglobal Consultants, Inc.  
 3160 Gold Valley Drive, Suite 800  
 Rancho Cordova, CA 95742

Project Number : Shasta Hwy 299 ADL Survey, S9805-01-08  
 Report To : Rebecca Silva  
 Reported : 10/30/2013

### Lead by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
<b>Batch B3J0529 - EPA 3050 Modified (continued)</b>									
<b>Matrix Spike Dup (B3J0529-MSD1)</b>		<b>Source: 1303327-40</b>			<b>Prepared: 10/25/2013 Analyzed: 10/25/2013</b>				
Lead	243.502	1.0	250.000	8.57978	94.0	51 - 106	6.53	20	
<b>Batch B3J0530 - EPA 3050 Modified</b>									
<b>Blank (B3J0530-BLK1)</b>					<b>Prepared: 10/25/2013 Analyzed: 10/25/2013</b>				
Lead	ND	1.0					NR		
<b>LCS (B3J0530-BS1)</b>					<b>Prepared: 10/25/2013 Analyzed: 10/25/2013</b>				
Lead	47.8729	1.0	50.0000		95.7	80 - 120			
<b>Duplicate (B3J0530-DUP1)</b>		<b>Source: 1303327-46</b>			<b>Prepared: 10/25/2013 Analyzed: 10/25/2013</b>				
Lead	35.9500	1.0		35.7545			0.545	20	
<b>Matrix Spike (B3J0530-MS1)</b>		<b>Source: 1303327-46</b>			<b>Prepared: 10/25/2013 Analyzed: 10/25/2013</b>				
Lead	311.473	1.0	250.000	35.7545	110	51 - 106			MI
<b>Matrix Spike Dup (B3J0530-MSD1)</b>		<b>Source: 1303327-46</b>			<b>Prepared: 10/25/2013 Analyzed: 10/25/2013</b>				
Lead	287.814	1.0	250.000	35.7545	101	51 - 106	7.90	20	
<b>Batch S3J0319 - B3J0565</b>									
<b>Instrument Blank (S3J0319-IBL1)</b>					<b>Prepared: 10/25/2013 Analyzed: 10/25/2013</b>				
Lead	ND	1.0					NR		



## Certificate of Analysis

Atcon Consultants, Inc.  
3160 Gold Valley Drive, Suite 800  
Rancho Cordova, CA 95742

Project Number : Shasta Hwy 299 ADL Survey, S9805-01-08

Report To : Rebecca Silva

Reported : 10/30/2013

### Notes and Definitions

R	RPD value outside acceptance criteria. Calculation is based on raw values.
MI	Matrix spike recovery outside of acceptance limit. The analytical batch was validated by the laboratory control sample.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA1	CA-NELAP (CDPH)
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPIL)
TX1	TX-NELAP (TCEQ)

#### Notes:

(1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.

The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.

# CHAIN OF CUSTODY RECORD

1/5

**FOR LABORATORY USE ONLY**

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

Client: GEOCON Consultants, Inc  
 Attention: Rebecca Silva  
 Project Name: Shasta Hwy 299 ADL Survey  
 Project #: S9805-01-08

Address: 3160 Gold Valley Drive  
 City: Rancho Cordova State: CA Zip Code: 95742  
 Tel: 916.852.9118 Fax: 916.852.9132

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

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

Received by: (Signature and Printed Name) Mike O'Brien Date: 10/21/13 Time: 2:00  
 Received by: (Signature and Printed Name) Sean Stange Date: 10/21/13 Time: 11:00  
 Received by: (Signature and Printed Name) C. Bepko Date: 10/21/13 Time: 8:30

Special Instructions/Comments:  
 Caltrans 03A2132  
 Homogenize Samples prior to analysis.  
 Please copy Kari Cook on the results and include an excel file. Thank you. (cook@geoconinc.com)

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

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

I hereby authorize ATL to perform the work indicated below:

Project Manager/Submitter: Rebecca Silva Date: 10/21/13

Relinquished by: (Signature and Printed Name) Sean Stange Date: 10/21/13

Relinquished by: (Signature and Printed Name) Mike O'Brien Date: 10/21/13

Samples/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)

LAB USE ONLY:	Sample ID / Location	Date	Time	Sample Description
1	1303327-1 HA1-0	10/21/13	12:40	
2	HA1-1		12:42	
3	HA2-0		12:50	
4	HA2-1		12:52	
5	HA3-0		13:05	
6	HA3-1		13:07	
7	HA4-2		13:09	
8	HA4-0		13:15	
9	HA4-1		13:17	
10	HA5-0		13:25	

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=Beaker 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>

# CHAIN OF CUSTODY RECORD

2/5

## FOR LABORATORY USE ONLY

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

Client: GEOCON Consultants, Inc  
 Attention: Rebecca Silva  
 Project Name: Shasta Hwy 299 ADL Survey  
 Project #: S9805-01-08

Address: 3160 Gold Valley Drive  
 City: Rancho Cordova State: CA Zip Code: 95742  
 Tel: 916.852.9118 Fax: 916.852.9132

Method of Transport:  1. CHILLED  2. SEALED  3. PRESERVED  
 Client:  ATL  CA OverN  FedEx  Other: \_\_\_\_\_  
 Logged By: \_\_\_\_\_ Date: \_\_\_\_\_

Relinquished by: (Signature and Printed Name) Rebecca Silva Date: 10/21/13  
 Relinquished by: (Signature and Printed Name) Sean Storage / R Silva Date: 10/21/13  
 Relinquished by: (Signature and Printed Name) U. Byrle Date: 10/23/13

Received by: (Signature and Printed Name) Mike O'Brien Date: 10/21/13 Time: 2:00  
 Received by: (Signature and Printed Name) ANTAC Date: 10/21/13 Time: 1:00  
 Received by: (Signature and Printed Name) \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Special Instructions/Comments:  
 Caltrans 03A2132  
 Homogenize Samples prior to analysis.  
 Please copy Kari Cook on the results and include an excel file. Thank you. (cook@geoconinc.com)

Bill To: \_\_\_\_\_ Attn: \_\_\_\_\_  
 Co: SAME AS ABOVE  
 Addr: \_\_\_\_\_ City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Circle or Add Analysis(es) Requested: \_\_\_\_\_

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

I hereby authorize ATL to perform the work indicated below:  
 Project Mgr: Rebecca Silva Date: 10/21/13  
 Print Name: \_\_\_\_\_ Signature: \_\_\_\_\_

**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)

LAB USE ONLY:	Lab No.	Sample Description	Sample ID / Location	Date	Time	SPECIFY APPROPRIATE MATRIX		CONTAINER(S)	TAT #	Type	REMARKS
						WATER	SOIL				
T	1353327-0	HAS-1		10/21/13	1327	X			E	1	baggie
E	-1	HAS-2			1329						
M	-13	HAG-0			1340						
	-14	↓ 1			1342						
	-15	↓ 2			1344						
	-16	HAG-0			1350						
	-17	↓ 1			1352						
	-18	↓ 2			1354						
	-19	HAG-0			1405						
	-20	HAG-1			1407						



# CHAIN OF CUSTODY RECORD

4/3

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

**FOR LABORATORY USE ONLY**

Method of Transport:  CHILLED  N  4. SEALED  Y  N

Client: ATL  CA OverN  FedEx  Other: \_\_\_\_\_

Sample Condition Upon Receipt:  1. CHILLED  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

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

Logged By: \_\_\_\_\_

Address: 3160 Gold Valley Drive  
 City: Rancho Cordova State: CA Zip Code: 95742  
 Tel: 916.852.9118 Fax: 916.852.9132

Project #: S9805-01-08  
 Sampler: (Printed Name) Mike O'Brien (Signature) *[Signature]*

Received by: (Signature and Printed Name) *[Signature]* Date: 10/21/13 Time: 2:00  
 Received by: (Signature and Printed Name) *[Signature]* Date: 10/22/13 Time: 11:00  
 Received by: (Signature and Printed Name) *[Signature]* Date: 10/21/13 Time: 8:00

Special Instructions/Comments:  
 Caltrans 03A2132  
 Homogenize Samples prior to analysis.  
 Please copy Kari Cook on the results and include an excel file. Thank you. (cook@geoconinc.com)

Relinquished by: (Signature and Printed Name) *[Signature]* Date: 10/21/13  
 Relinquished by: (Signature and Printed Name) *[Signature]* Date: 10/22/13  
 Relinquished by: (Signature and Printed Name) *[Signature]* Date: 10/21/13

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

Circle or Add Analysis(es) Requested:  
 8001 (Pesticides)  8020 (PCBs)  82608 (Volatiles)  8270C (SVOCs)  80108 (Total Lead)  80158 (GRO)  80158 (DRO)(ORO)  8021 (BTEX)  80158 (DRO)(ORO)  CAM 17  MTBE (2509)  PH (9045)

Container(s) Type: \_\_\_\_\_  
 TAT # \_\_\_\_\_  
 E 1 baggie

QA/QC: RTNE  CT  SWRCB Logcode  OTHER \_\_\_\_\_

LAB USE ONLY:	Sample ID / Location	Date	Time	Remarks
303327-31	HA14-0	10/21/13	1520	
-32	HA14-1		1522	
-33	HA15-0		1530	
-34	HA15-1		1532	
-35	HA16-0		1540	
-36	HA16-1		1542	
-37	HA17-0		1550	
-38	HA17-1		1552	
-39	HA18-0		1600	
-40	HA18-1		1602	

■ TAT starts 8AM the following day if samples received after 3 PM

Container Types: T=Tube V=VOA L=Liter P=Print J=Jar B=Tedlar M=Metal G=Glass P=Plastic E= Routine 7 Workdays D= Urgent 3 Workdays C= Critical 2 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>

# CHAIN OF CUSTODY RECORD

5/5

## FOR LABORATORY USE ONLY

**Advanced Technology Laboratories**

3275 Walnut Avenue  
Signal Hill, CA 90755

Tel: (562) 989-4045 • Fax: (562) 989-4040

Client: GEOCON Consultants, Inc  
Attention: Rebecca Silva

### Method of Transport

Client  ATL  CA OverN  FedEx  Other: \_\_\_\_\_

### Sample Condition Upon Receipt

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

Address: 3160 Gold Valley Drive State: CA Zip Code: 95742 Tel: 916.852.9118

City: Rancho Cordova State: CA Zip Code: 95742 Fax: 916.852.9132

Project Name: Shasta Hwy 299 ADL Survey Project #: S9805-01-08 Sampler: (Printed Name) Mike O'Brien (Signature)

Relinquished by: (Signature and Printed Name) Mike O'Brien Date: 10/21/13 Time: 2:00

Relinquished by: (Signature and Printed Name) Sean Storage Date: 10/22/13 Time: 1:00

Relinquished by: (Signature and Printed Name) Sean Storage Date: 10/22/13 Time: 1:00

Special Instructions/Comments: Caltrans 03A2132 Homogenize Samples prior to analysis.

Bill To: Attn: Co: Addr: City: State: Zip: Same as above

Circle or Add Analysis(es) Requested: 8081A (Pesticides), 8260a (PCB), 8270c (Volatiles), 8015b (GRO), 8015b (Total Lead) Bid Item #67, 8015b (DRO)(GRO), 8021 (BTEX), CAM 17, MTE (2209), PH (9045)

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)

LAB USE ONLY:	Sample ID / Location	Sample Description	Date	Time
135327-41	HA 18-2		10/21/13	1604
-42	HA 19-0			1610
-43				1612
-44				1614
-45	HA 20-0			1620
-46	HA 20-1			1622

Container(s)	TAT #	Type	REMARKS
SOIL	E	1	baggie
WATER			
GROUND WATER			
WASTEWATER			
CARBON			

QA/QC RTM  CT  SWRCB Logcode  OTHER

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=Plastic M=Metal

TAT: A = Overnight ≤ 24 hrs B = Emergency Next Workday C = Critical 2 Workdays D = Urgent 3 Workdays E = Routine 7 Workdays

ADVANCED TECHNOLOGY  
LABORATORIES

November 07, 2013

Rebecca Silva  
Geocon Consultants, Inc.  
3160 Gold Valley Drive, Suite 800  
Rancho Cordova, CA 95742  
Tel: (916) 852-9118  
Fax: (916) 852-9132



Re: ATL Work Order Number : 1303327  
Client Reference : Shasta Hwy 299 ADL Survey, S9805-01-08

Enclosed are the results for sample(s) received on October 23, 2013 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

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

Sincerely,

A handwritten signature in black ink, appearing to be "E. Rodriguez".

Eddie Rodriguez  
Laboratory Director

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

3275 Walnut Avenue, Signal Hill, CA 90755 • Tel: 562-989-4045 • Fax: 562-989-4040  
[www.atlglobal.com](http://www.atlglobal.com)



## Certificate of Analysis

Atlglobal Consultants, Inc.  
3160 Gold Valley Drive, Suite 800  
Rancho Cordova, CA 95742

Project Number : Shasta Hwy 299 ADL Survey, S9805-01-08  
Report To : Rebecca Silva  
Reported : 11/07/2013

### SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HA2-0	1303327-03	Soil	10/21/13 12:50	10/23/13 8:20
HA2-1	1303327-04	Soil	10/21/13 12:52	10/23/13 8:20
HA3-0	1303327-05	Soil	10/21/13 13:05	10/23/13 8:20
HA4-0	1303327-08	Soil	10/21/13 13:15	10/23/13 8:20
HA4-1	1303327-09	Soil	10/21/13 13:17	10/23/13 8:20
HA5-0	1303327-10	Soil	10/21/13 13:25	10/23/13 8:20
HA6-0	1303327-13	Soil	10/21/13 13:40	10/23/13 8:20
HA7-0	1303327-16	Soil	10/21/13 13:50	10/23/13 8:20
HA7-1	1303327-17	Soil	10/21/13 13:52	10/23/13 8:20
HA8-0	1303327-19	Soil	10/21/13 14:05	10/23/13 8:20
HA9-0	1303327-21	Soil	10/21/13 14:15	10/23/13 8:20
HA9-1	1303327-22	Soil	10/21/13 14:17	10/23/13 8:20
HA10-0	1303327-23	Soil	10/21/13 14:30	10/23/13 8:20
HA11-0	1303327-25	Soil	10/21/13 14:45	10/23/13 8:20
HA11-1	1303327-26	Soil	10/21/13 14:47	10/23/13 8:20
HA12-0	1303327-27	Soil	10/21/13 15:00	10/23/13 8:20
HA12-1	1303327-28	Soil	10/21/13 15:02	10/23/13 8:20
HA14-0	1303327-31	Soil	10/21/13 15:20	10/23/13 8:20
HA14-1	1303327-32	Soil	10/21/13 15:22	10/23/13 8:20
HA15-0	1303327-33	Soil	10/21/13 15:30	10/23/13 8:20
HA15-1	1303327-34	Soil	10/21/13 15:32	10/23/13 8:20
HA16-0	1303327-35	Soil	10/21/13 15:40	10/23/13 8:20
HA17-0	1303327-37	Soil	10/21/13 15:50	10/23/13 8:20
HA19-0	1303327-42	Soil	10/21/13 16:10	10/23/13 8:20
HA20-0	1303327-45	Soil	10/21/13 16:20	10/23/13 8:20



## Certificate of Analysis

acon Consultants, Inc.  
3160 Gold Valley Drive, Suite 800  
Rancho Cordova , CA 95742

Project Number : Shasta Hwy 299 ADL Survey, S9805-01-08  
Report To : Rebecca Silva  
Reported : 11/07/2013

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

Analyte: Lead

Analyst: SB

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time	
									Analyzed	Notes
1303327-22	HA9-1	340	mg/L	1.0	NA	20	B3K0099	11/06/2013	11/06/13 14:36	D6
1303327-42	HA19-0	0.34	mg/L	0.050	NA	1	B3K0099	11/06/2013	11/06/13 13:54	



## Certificate of Analysis

jcon Consultants, Inc.

Project Number : Shasta Hwy 299 ADL Survey, S9805-01-08

3160 Gold Valley Drive, Suite 800

Report To : Rebecca Silva

Rancho Cordova , CA 95742

Reported : 11/07/2013

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

Analyte: Lead

Analyst: CB

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time	
									Analized	Notes
1303327-03	HA2-0	2.5	mg/L	1.0	NA	20	B3K0104	11/06/2013	11/06/13 12:30	
1303327-04	HA2-1	3.3	mg/L	1.0	NA	20	B3K0104	11/06/2013	11/06/13 12:32	
1303327-05	HA3-0	ND	mg/L	1.0	NA	20	B3K0104	11/06/2013	11/06/13 12:34	
1303327-08	HA4-0	2.1	mg/L	1.0	NA	20	B3K0104	11/06/2013	11/06/13 12:36	
1303327-09	HA4-1	1.4	mg/L	1.0	NA	20	B3K0104	11/06/2013	11/06/13 12:39	
1303327-10	HA5-0	2.2	mg/L	1.0	NA	20	B3K0104	11/06/2013	11/06/13 12:44	
1303327-13	HA6-0	3.9	mg/L	1.0	NA	20	B3K0104	11/06/2013	11/06/13 12:47	
1303327-16	HA7-0	1.2	mg/L	1.0	NA	20	B3K0104	11/06/2013	11/06/13 12:49	
1303327-17	HA7-1	1.1	mg/L	1.0	NA	20	B3K0104	11/06/2013	11/06/13 12:58	
1303327-19	HA8-0	5.3	mg/L	1.0	NA	20	B3K0104	11/06/2013	11/06/13 13:00	
1303327-21	HA9-0	2.1	mg/L	1.0	NA	20	B3K0104	11/06/2013	11/06/13 13:02	
1303327-22	HA9-1	28	mg/L	1.0	NA	20	B3K0104	11/06/2013	11/06/13 13:04	
1303327-23	HA10-0	ND	mg/L	1.0	NA	20	B3K0104	11/06/2013	11/06/13 13:10	
1303327-25	HA11-0	2.8	mg/L	1.0	NA	20	B3K0104	11/06/2013	11/06/13 13:12	
1303327-26	HA11-1	1.3	mg/L	1.0	NA	20	B3K0104	11/06/2013	11/06/13 13:15	
1303327-27	HA12-0	3.0	mg/L	1.0	NA	20	B3K0104	11/06/2013	11/06/13 13:17	
1303327-28	HA12-1	2.2	mg/L	1.0	NA	20	B3K0104	11/06/2013	11/06/13 13:19	
1303327-31	HA14-0	1.6	mg/L	1.0	NA	20	B3K0104	11/06/2013	11/06/13 13:21	
1303327-32	HA14-1	1.3	mg/L	1.0	NA	20	B3K0105	11/06/2013	11/06/13 15:58	
1303327-33	HA15-0	1.4	mg/L	1.0	NA	20	B3K0105	11/06/2013	11/06/13 16:00	
1303327-34	HA15-1	1.3	mg/L	1.0	NA	20	B3K0105	11/06/2013	11/06/13 16:03	
1303327-35	HA16-0	1.1	mg/L	1.0	NA	20	B3K0105	11/06/2013	11/06/13 16:05	
1303327-37	HA17-0	1.5	mg/L	1.0	NA	20	B3K0105	11/06/2013	11/06/13 16:07	
1303327-42	HA19-0	13	mg/L	1.0	NA	20	B3K0105	11/06/2013	11/06/13 16:09	
1303327-45	HA20-0	1.6	mg/L	1.0	NA	20	B3K0105	11/06/2013	11/06/13 16:11	



## Certificate of Analysis

Atlglobal Consultants, Inc.  
 3160 Gold Valley Drive, Suite 800  
 Rancho Cordova, CA 95742

Project Number : Shasta Hwy 299 ADL Survey, S9805-01-08  
 Report To : Rebecca Silva  
 Reported : 11/07/2013

### QUALITY CONTROL SECTION

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

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
<b>Batch B3K0099 - EPA 3010A_SOIL</b>									
<b>Blank (B3K0099-BLK1)</b>					Prepared: 11/6/2013 Analyzed: 11/6/2013				
Lead	ND	0.050					NR		
<b>Blank (B3K0099-BLK2)</b>					Prepared: 11/6/2013 Analyzed: 11/6/2013				
Lead	ND	0.050					NR		
<b>Blank (B3K0099-BLK3)</b>					Prepared: 11/6/2013 Analyzed: 11/6/2013				
Lead	ND	0.050					NR		
<b>LCS (B3K0099-BS1)</b>					Prepared: 11/6/2013 Analyzed: 11/6/2013				
Lead	0.946545	0.050	1.00000		94.7	80 - 120			
<b>Duplicate (B3K0099-DUP1)</b>					Prepared: 11/6/2013 Analyzed: 11/6/2013				
!	0.003894	0.050		0.008404	NR		73.3	20	R
<b>Matrix Spike (B3K0099-MS1)</b>					Prepared: 11/6/2013 Analyzed: 11/6/2013				
Lead	2.30876	0.050	2.50000	0.008404	92.0	76 - 109			
<b>Matrix Spike Dup (B3K0099-MSD1)</b>					Prepared: 11/6/2013 Analyzed: 11/6/2013				
Lead	2.27059	0.050	2.50000	0.008404	90.5	76 - 109	1.67	20	



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 3160 Gold Valley Drive, Suite 800  
 Rancho Cordova, CA 95742

Project Number : Shasta Hwy 299 ADL Survey, S9805-01-08  
 Report To : Rebecca Silva  
 Reported : 11/07/2013

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

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec % Rcc	% Rec Limits	RPD RPD	RPD Limit	Notes
<b>Batch B3K0104 - STLC Extraction</b>									
<b>Blank (B3K0104-BLK1)</b>					Prepared: 11/6/2013 Analyzed: 11/6/2013				
Lead	ND	1.0					NR		
<b>Blank (B3K0104-BLK2)</b>					Prepared: 11/6/2013 Analyzed: 11/6/2013				
Lead	ND	1.0					NR		
<b>LCS (B3K0104-BS1)</b>					Prepared: 11/6/2013 Analyzed: 11/6/2013				
Lead	1.97713	1.0	2.00000		98.9	80 - 120			
<b>Duplicate (B3K0104-DUP1)</b>					Prepared: 11/6/2013 Analyzed: 11/6/2013				
Lead	1.13224	1.0		1.17305	NR		3.54	20	
<b>Duplicate (B3K0104-DUP2)</b>					Prepared: 11/6/2013 Analyzed: 11/6/2013				
Lead	1.69174	1.0		1.61260	NR		4.79	20	
<b>Matrix Spike (B3K0104-MS1)</b>					Prepared: 11/6/2013 Analyzed: 11/6/2013				
Lead	3.48914	1.0	2.50000	1.17305	92.6	33 - 131			
<b>Matrix Spike (B3K0104-MS2)</b>					Prepared: 11/6/2013 Analyzed: 11/6/2013				
Lead	3.79723	1.0	2.50000	1.61260	87.4	33 - 131			
<b>Matrix Spike Dup (B3K0104-MSD1)</b>					Prepared: 11/6/2013 Analyzed: 11/6/2013				
Lead	3.52791	1.0	2.50000	1.17305	94.2	33 - 131	1.11	20	
<b>Batch B3K0105 - STLC Extraction</b>									
<b>Blank (B3K0105-BLK1)</b>					Prepared: 11/6/2013 Analyzed: 11/6/2013				
Lead	ND	1.0					NR		
<b>LCS (B3K0105-BS1)</b>					Prepared: 11/6/2013 Analyzed: 11/6/2013				
Lead	1.98868	1.0	2.00000		99.4	80 - 120			
<b>Duplicate (B3K0105-DUP1)</b>					Prepared: 11/6/2013 Analyzed: 11/6/2013				
Lead	1.44549	1.0		1.57499	NR		8.57	20	
<b>Matrix Spike (B3K0105-MS1)</b>					Prepared: 11/6/2013 Analyzed: 11/6/2013				
Lead	3.82499	1.0	2.50000	1.57499	90.0	33 - 131			
<b>Matrix Spike Dup (B3K0105-MSD1)</b>					Prepared: 11/6/2013 Analyzed: 11/6/2013				
Lead	3.84593	1.0	2.50000	1.57499	90.8	33 - 131	0.546	20	



## Certificate of Analysis

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Project Number : Shasta Hwy 299 ADL Survey, S9805-01-08  
Report To : Rebecca Silva  
Reported : 11/07/2013

### Notes and Definitions

R	RPD value outside acceptance criteria. Calculation is based on raw values.
D6	Sample required dilution due to high concentration of target analyte.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA1	CA-NELAP (CDPH)
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

#### Notes:

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

## Rachelle Arada

---

**From:** Rebecca Silva [silva@geoconinc.com]  
**Sent:** Thursday, October 31, 2013 9:33 AM  
**To:** Rachelle Arada  
**Cc:** Diane Galvan  
**Subject:** RE: Results - Shasta Hwy 299 ADL Survey, S9805-01-08 (ATL# 1303327)

Hi Rachelle –

Please analyze the 25 samples with total lead >50 mg/kg for WET lead on standard TAT.  
Also, please analyze samples HA9-1 and HA19-0 for TCLP lead on standard TAT.

Thanks!  
Rebecca

**From:** Rachelle Arada [mailto:Rachelle@atglobal.com]  
**Sent:** Wednesday, October 30, 2013 3:48 PM  
**To:** Rebecca Silva  
**Cc:** [cook@geoconinc.com](mailto:cook@geoconinc.com)  
**Subject:** Results - Shasta Hwy 299 ADL Survey, S9805-01-08 (ATL# 1303327)

Hi Rebecca,

Attached are the results for the above project. Invoice to follow.

**Rachelle Arada**  
Project Manager



**Advanced Technology Laboratories**  
[www.atglobal.com](http://www.atglobal.com)  
Tel: (562) 989-4045 ext. 237  
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 Oregon (Air) 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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ADVANCED TECHNOLOGY  
LABORATORIES

November 14, 2013

Rebecca Silva  
Geocon Consultants, Inc.  
3160 Gold Valley Drive, Suite 800  
Rancho Cordova, CA 95742  
Tel: (916) 852-9118  
Fax: (916) 852-9132



Re: ATL Work Order Number : 1303327  
Client Reference : Shasta Hwy 299 ADL Survey, S9805-01-08

Enclosed are the results for sample(s) received on October 23, 2013 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

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

Sincerely,

Eddie Rodriguez  
Laboratory Director

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

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## Certificate of Analysis

Atcon Consultants, Inc.  
3160 Gold Valley Drive, Suite 800  
Rancho Cordova, CA 95742

Project Number : Shasta Hwy 299 ADL Survey, S9805-01-08  
Report To : Rebecca Silva  
Reported : 11/14/2013

### SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HA8-0	1303327-19	Soil	10/21/13 14:05	10/23/13 8:20
HA9-1	1303327-22	Soil	10/21/13 14:17	10/23/13 8:20
HA19-0	1303327-42	Soil	10/21/13 16:10	10/23/13 8:20



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Project Number : Shasta Hwy 299 ADL Survey, S9805-01-08  
Report To : Rebecca Silva  
Reported : 11/14/2013

### Lead by ICP-AES EPA 6010B

Analyte: Lead

Analyst: AG

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time	
									Analyzed	Notes
1303327-22	HA9-1	570	mg/kg	1.0	NA	1	B3K0178	11/11/2013	11/13/13 10:17	

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

Analyte: Lead

Analyst: SB

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time	
									Analyzed	Notes
1303327-22	HA9-1	1.5	mg/L	0.050	NA	1	B3K0183	11/11/2013	11/11/13 13:20	

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

Analyte: Lead

Analyst: SB

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time	
									Analyzed	Notes
1303327-22	HA9-1	41	mg/L	1.0	NA	20	B3K0181	11/10/2013	11/11/13 10:29	

### STLC DI Metals by ICP-AES by EPA 6010B

Analyte: Lead

Analyst: SB

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time	
									Analyzed	Notes
1303327-19	HA8-0	1.8	mg/L	1.0	NA	20	B3K0182	11/10/2013	11/11/13 10:53	
1303327-22	HA9-1	1.1	mg/L	1.0	NA	20	B3K0182	11/10/2013	11/11/13 10:55	
1303327-42	HA19-0	ND	mg/L	1.0	NA	20	B3K0182	11/10/2013	11/11/13 10:57	



## Certificate of Analysis

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Rancho Cordova, CA 95742

Project Number : Shasta Hwy 299 ADL Survey, S9805-01-08

Report To : Rebecca Silva

Reported : 11/14/2013

### pH by EPA 9045C

Analyte: pH

Analyst: LA

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time	
									Analyzed	Notes
1303327-19	HA8-0	5.8	pH Units	0.10	NA	1	B3K0153	11/08/2013	11/08/13 12:30	
1303327-22	HA9-1	5.7	pH Units	0.10	NA	1	B3K0153	11/08/2013	11/08/13 12:30	
1303327-42	HA19-0	6.2	pH Units	0.10	NA	1	B3K0153	11/08/2013	11/08/13 12:30	



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 Rancho Cordova, CA 95742

Project Number : Shasta Hwy 299 ADL Survey, S9805-01-08  
 Report To : Rebecca Silva  
 Reported : 11/14/2013

### QUALITY CONTROL SECTION

#### Lead by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
<b>Batch B3J0529 - EPA 3050 Modified</b>									
<b>Blank (B3J0529-BLK1)</b>					Prepared: 10/25/2013 Analyzed: 10/25/2013				
Lead	ND	1.0			NR				
<b>Blank (B3J0529-BLK2)</b>					Prepared: 10/25/2013 Analyzed: 10/25/2013				
Lead	ND	1.0			NR				
<b>LCS (B3J0529-BS1)</b>					Prepared: 10/25/2013 Analyzed: 10/25/2013				
Lead	49.5051	1.0	50.0000		99.0	80 - 120			
<b>Duplicate (B3J0529-DUP1)</b>					Prepared: 10/25/2013 Analyzed: 10/25/2013				
Lead	11.2592	1.0		8.57978	NR		27.0	20	R
<b>Duplicate (B3J0529-DUP2)</b>					Prepared: 10/25/2013 Analyzed: 10/25/2013				
1	6.53494	1.0		6.54230	NR		0.113	20	
<b>Matrix Spike (B3J0529-MS1)</b>					Prepared: 10/25/2013 Analyzed: 10/25/2013				
Lead	259.946	1.0	250.000	8.57978	101	51 - 106			
<b>Matrix Spike (B3J0529-MS2)</b>					Prepared: 10/25/2013 Analyzed: 10/25/2013				
Lead	239.026	1.0	250.000	6.54230	93.0	51 - 106			
<b>Matrix Spike Dup (B3J0529-MSD1)</b>					Prepared: 10/25/2013 Analyzed: 10/25/2013				
Lead	243.502	1.0	250.000	8.57978	94.0	51 - 106	6.53	20	
<b>Batch B3K0178 - EPA 3050 Modified</b>									
<b>Blank (B3K0178-BLK1)</b>					Prepared: 11/11/2013 Analyzed: 11/13/2013				
Lead	ND	1.0			NR				
<b>Blank (B3K0178-BLK2)</b>					Prepared: 11/11/2013 Analyzed: 11/13/2013				
Lead	ND	1.0			NR				
<b>LCS (B3K0178-BS1)</b>					Prepared: 11/11/2013 Analyzed: 11/13/2013				
Lead	53.3972	1.0	50.0000		107	80 - 120			
<b>Duplicate (B3K0178-DUP1)</b>					Prepared: 11/11/2013 Analyzed: 11/13/2013				
Lead	7.87086	1.0		8.16634	NR		3.68	20	
<b>Duplicate (B3K0178-DUP2)</b>					Prepared: 11/11/2013 Analyzed: 11/13/2013				
Lead	3.55964	1.0		3.53580	NR		0.672	20	
<b>Matrix Spike (B3K0178-MS1)</b>					Prepared: 11/11/2013 Analyzed: 11/13/2013				
Lead	246.087	1.0	250.000	8.16634	95.2	51 - 106			
<b>Matrix Spike (B3K0178-MS2)</b>					Prepared: 11/11/2013 Analyzed: 11/13/2013				
Lead	239.491	1.0	250.000	3.53580	94.4	51 - 106			



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Reported : 11/14/2013

### Lead by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
<b>Batch B3K0178 - EPA 3050 Modified (continued)</b>									
<b>Matrix Spike Dup (B3K0178-MSD1)</b>									
				Source: 1303531-19			Prepared: 11/11/2013	Analyzed: 11/13/2013	
Lead	248.538	1.0	250.000	8.16634	96.1	51 - 106	0.991	20	



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

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
<b>Batch B3K0099 - EPA 3010A_SOIL</b>									
<b>Blank (B3K0099-BLK1)</b>					Prepared: 11/6/2013 Analyzed: 11/6/2013				
Lead	ND	0.050			NR				
<b>Blank (B3K0099-BLK2)</b>					Prepared: 11/6/2013 Analyzed: 11/6/2013				
Lead	ND	0.050			NR				
<b>Blank (B3K0099-BLK3)</b>					Prepared: 11/6/2013 Analyzed: 11/6/2013				
Lead	ND	0.050			NR				
<b>LCS (B3K0099-BS1)</b>					Prepared: 11/6/2013 Analyzed: 11/6/2013				
Lead	0.946545	0.050	1.00000		94.7	80 - 120			
<b>Duplicate (B3K0099-DUP1)</b>					Source: 1303454-06 Prepared: 11/6/2013 Analyzed: 11/6/2013				
Lead	0.003894	0.050		0.008404	NR		73.3	20	R
<b>Matrix Spike (B3K0099-MS1)</b>					Source: 1303454-06 Prepared: 11/6/2013 Analyzed: 11/6/2013				
Lead	2.30876	0.050	2.50000	0.008404	92.0	76 - 109			
<b>Matrix Spike Dup (B3K0099-MSD1)</b>					Source: 1303454-06 Prepared: 11/6/2013 Analyzed: 11/6/2013				
Lead	2.27059	0.050	2.50000	0.008404	90.5	76 - 109	1.67	20	
<b>Batch B3K0183 - EPA 3010A_SOIL</b>									
<b>Blank (B3K0183-BLK1)</b>					Prepared: 11/11/2013 Analyzed: 11/11/2013				
Lead	ND	0.050			NR				
<b>Blank (B3K0183-BLK2)</b>					Prepared: 11/11/2013 Analyzed: 11/11/2013				
Lead	ND	0.050			NR				
<b>Blank (B3K0183-BLK3)</b>					Prepared: 11/11/2013 Analyzed: 11/11/2013				
Lead	ND	0.050			NR				
<b>LCS (B3K0183-BS1)</b>					Prepared: 11/11/2013 Analyzed: 11/11/2013				
Lead	0.985529	0.050	1.00000		98.6	80 - 120			
<b>Duplicate (B3K0183-DUP1)</b>					Source: 1303327-22RE1 Prepared: 11/11/2013 Analyzed: 11/11/2013				
Lead	1.48299	0.050		1.52460	NR		2.77	20	
<b>Matrix Spike (B3K0183-MS1)</b>					Source: 1303327-22RE1 Prepared: 11/11/2013 Analyzed: 11/11/2013				
Lead	3.92116	0.050	2.50000	1.52460	95.9	76 - 109			
<b>Matrix Spike Dup (B3K0183-MSD1)</b>					Source: 1303327-22RE1 Prepared: 11/11/2013 Analyzed: 11/11/2013				
Lead	3.71974	0.050	2.50000	1.52460	87.8	76 - 109	5.27	20	



## Certificate of Analysis

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Report To : Rebecca Silva

Reported : 11/14/2013

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

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
<b>Batch B3K0104 - STLC Extraction</b>									
<b>Blank (B3K0104-BLK1)</b>					Prepared: 11/6/2013 Analyzed: 11/6/2013				
Lead	ND	1.0			NR				
<b>Blank (B3K0104-BLK2)</b>					Prepared: 11/6/2013 Analyzed: 11/6/2013				
Lead	ND	1.0			NR				
<b>LCS (B3K0104-BS1)</b>					Prepared: 11/6/2013 Analyzed: 11/6/2013				
Lead	1.97713	1.0	2.00000		98.9	80 - 120			
<b>Duplicate (B3K0104-DUP1)</b>					Prepared: 11/6/2013 Analyzed: 11/6/2013				
Lead	1.13224	1.0		1.17305	NR		3.54	20	
<b>Duplicate (B3K0104-DUP2)</b>					Prepared: 11/6/2013 Analyzed: 11/6/2013				
Lead	1.69174	1.0		1.61260	NR		4.79	20	
<b>Matrix Spike (B3K0104-MS1)</b>					Prepared: 11/6/2013 Analyzed: 11/6/2013				
Lead	3.48914	1.0	2.50000	1.17305	92.6	33 - 131			
<b>Matrix Spike (B3K0104-MS2)</b>					Prepared: 11/6/2013 Analyzed: 11/6/2013				
Lead	3.79723	1.0	2.50000	1.61260	87.4	33 - 131			
<b>Matrix Spike Dup (B3K0104-MSD1)</b>					Prepared: 11/6/2013 Analyzed: 11/6/2013				
Lead	3.52791	1.0	2.50000	1.17305	94.2	33 - 131	1.11	20	
<b>Batch B3K0181 - STLC Extraction</b>									
<b>Blank (B3K0181-BLK1)</b>					Prepared: 11/10/2013 Analyzed: 11/11/2013				
Lead	ND	1.0			NR				
<b>LCS (B3K0181-BS1)</b>					Prepared: 11/10/2013 Analyzed: 11/11/2013				
Lead	1.95604	1.0	2.00000		97.8	80 - 120			
<b>Duplicate (B3K0181-DUP1)</b>					Prepared: 11/10/2013 Analyzed: 11/11/2013				
Lead	1.97571	1.0		1.91222	NR		3.27	20	
<b>Matrix Spike (B3K0181-MS1)</b>					Prepared: 11/10/2013 Analyzed: 11/11/2013				
Lead	4.16146	1.0	2.50000	1.91222	90.0	33 - 131			
<b>Matrix Spike Dup (B3K0181-MSD1)</b>					Prepared: 11/10/2013 Analyzed: 11/11/2013				
Lead	4.12110	1.0	2.50000	1.91222	88.4	33 - 131	0.974	20	



## Certificate of Analysis

Geocon Consultants, Inc.  
 3160 Gold Valley Drive, Suite 800  
 Rancho Cordova, CA 95742

Project Number : Shasta Hwy 299 ADL Survey, S9805-01-08  
 Report To : Rebecca Silva  
 Reported : 11/14/2013

### STLC DI Metals by ICP-AES by EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
<b>Batch B3K0182 - STLC DI Extraction</b>									
<b>Blank (B3K0182-BLK1)</b>					Prepared: 11/10/2013 Analyzed: 11/11/2013				
Lead	ND	1.0							NR
<b>I.CS (B3K0182-BS1)</b>					Prepared: 11/10/2013 Analyzed: 11/11/2013				
Lead	2.06461	1.0	2.00000		103	80 - 120			
<b>Duplicate (B3K0182-DUP1)</b>					Source: 1303327-42 Prepared: 11/10/2013 Analyzed: 11/11/2013				
Lead	0.638640	1.0		0.665962	NR		4.19	20	
<b>Matrix Spike (B3K0182-MS1)</b>					Source: 1303327-42 Prepared: 11/10/2013 Analyzed: 11/11/2013				
Lead	3.19432	1.0	2.50000	0.665962	101	70 - 130			
<b>Matrix Spike Dup (B3K0182-MSD1)</b>					Source: 1303327-42 Prepared: 11/10/2013 Analyzed: 11/11/2013				
Lead	3.13397	1.0	2.50000	0.665962	98.7	70 - 130	1.91	20	



### Certificate of Analysis

Geocon Consultants, Inc.  
3160 Gold Valley Drive, Suite 800  
Rancho Cordova , CA 95742

Project Number : Shasta Hwy 299 ADL Survey, S9805-01-08  
Report To : Rebecca Silva  
Reported : 11/14/2013

#### pH by EPA 9045C - Quality Control

Analyte	Result (pH Units)	PQL (pH Units)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
<b>Batch B3K0153 - Prep_WC_1_S</b>									
<b>Duplicate (B3K0153-DUP1)</b>									
Source: 1303480-01      Prepared: 11/8/2013 Analyzed: 11/8/2013									
pH	8.53000	0.10		8.64000	NR		1.28	20	



## Certificate of Analysis

Geocon Consultants, Inc.

3160 Gold Valley Drive, Suite 800

Rancho Cordova, CA 95742

Project Number : Shasta Hwy 299 ADL Survey, S9805-01-08

Report To : Rebecca Silva

Reported : 11/14/2013

### Notes and Definitions

R	RPD value outside acceptance criteria. Calculation is based on raw values.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA1	CA-NELAP (CDPH)
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

#### Notes:

(1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.

(2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.

**Diane Galvan**

---

**From:** Rebecca Silva [silva@geoconinc.com]  
**Sent:** Thursday, November 07, 2013 3:54 PM  
**To:** Diane Galvan  
**Subject:** RE: Additional Results/EDD/Invoice - Shasta Hwy 266 ADL Survey (1303327)

Hi Diane – Please analyze the following on standard TAT:

HA8-0 DI-WET lead and pH  
HA19-0 DI-WET lead and pH

Also, please pull a new sample from HA9-1 and run it for total lead, WET lead, DI-WET lead, TCLP lead and pH

Thanks!  
Rebecca

ADVANCED TECHNOLOGY  
LABORATORIES

December 13, 2013

Chris Giuntoli  
Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550  
Tel: (925) 371-5900  
Fax: (925) 371-5915



Re: ATL Work Order Number : 1303865  
Client Reference : SHASTA TO-10, S9805-01-10

Enclosed are the results for sample(s) received on December 06, 2013 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

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

Sincerely,

A handwritten signature in black ink, appearing to read "E Rodriguez".

Eddie Rodriguez  
Laboratory Director

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

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## Certificate of Analysis

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

Project Number : SHASTA TO-10, S9805-01-10  
Report To : Chris Giuntoli  
Reported : 12/13/2013

### SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HA21-1-2	1303865-01	Soil	12/05/13 11:42	12/06/13 8:44
HA21-2-3	1303865-02	Soil	12/05/13 11:50	12/06/13 8:44
HA21-3-4	1303865-03	Soil	12/05/13 11:57	12/06/13 8:44
HA22-1-2	1303865-04	Soil	12/05/13 11:08	12/06/13 8:44
HA22-2-3	1303865-05	Soil	12/05/13 11:15	12/06/13 8:44
HA22-3-4	1303865-06	Soil	12/05/13 11:25	12/06/13 8:44
HA23-1-2	1303865-07	Soil	12/05/13 10:50	12/06/13 8:44
HA23-2-3	1303865-08	Soil	12/05/13 10:59	12/06/13 8:44
HA24-1-2	1303865-09	Soil	12/05/13 10:25	12/06/13 8:44
HA24-2-3	1303865-10	Soil	12/05/13 10:40	12/06/13 8:44
HA25-1-2	1303865-11	Soil	12/05/13 10:10	12/06/13 8:44
HA25-2-3	1303865-12	Soil	12/05/13 10:16	12/06/13 8:44
HA26-1-2	1303865-13	Soil	12/05/13 10:00	12/06/13 8:44
HA27-1-2	1303865-14	Soil	12/05/13 9:40	12/06/13 8:44
HA27-2-3	1303865-15	Soil	12/05/13 9:44	12/06/13 8:44
HA27-3-4	1303865-16	Soil	12/05/13 9:48	12/06/13 8:44
HA28-1-2	1303865-17	Soil	12/05/13 9:20	12/06/13 8:44
HA28-2-3	1303865-18	Soil	12/05/13 9:24	12/06/13 8:44
HA28-3-4	1303865-19	Soil	12/05/13 9:30	12/06/13 8:44
HA29-0	1303865-20	Soil	12/05/13 12:31	12/06/13 8:44
HA29-0.5	1303865-21	Soil	12/05/13 12:34	12/06/13 8:44
HA30-0	1303865-22	Soil	12/05/13 12:36	12/06/13 8:44
HA30-0.5	1303865-23	Soil	12/05/13 12:39	12/06/13 8:44
HA31-0	1303865-24	Soil	12/05/13 12:41	12/06/13 8:44
HA31-0.5	1303865-25	Soil	12/05/13 12:44	12/06/13 8:44
HA32-0	1303865-26	Soil	12/05/13 12:51	12/06/13 8:44
HA32-0.5	1303865-27	Soil	12/05/13 12:53	12/06/13 8:44
HA33-0	1303865-28	Soil	12/05/13 12:55	12/06/13 8:44
HA33-0.5	1303865-29	Soil	12/05/13 12:57	12/06/13 8:44
HA34-0	1303865-30	Soil	12/05/13 13:00	12/06/13 8:44
HA34-0.5	1303865-31	Soil	12/05/13 13:03	12/06/13 8:44
HA35-0	1303865-32	Soil	12/05/13 13:10	12/06/13 8:44
HA35-0.5	1303865-33	Soil	12/05/13 13:13	12/06/13 8:44
HA36-0	1303865-34	Soil	12/05/13 13:15	12/06/13 8:44



## Certificate of Analysis

Geocon Consultants, Inc.

Project Number : SHASTA TO-10, S9805-01-10

6671 Brisa Street

Report To : Chris Giuntoli

Livermore , CA 94550

Reported : 12/13/2013

HA36-0.5	1303865-35	Soil	12/05/13 13:20	12/06/13 8:44
HA37-0	1303865-36	Soil	12/05/13 13:28	12/06/13 8:44
HA37-0.5	1303865-37	Soil	12/05/13 13:32	12/06/13 8:44
HA38-0	1303865-38	Soil	12/05/13 13:35	12/06/13 8:44
HA38-0.5	1303865-39	Soil	12/05/13 13:38	12/06/13 8:44



## Certificate of Analysis

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

Project Number : SHASTA TO-10, S9805-01-10  
Report To : Chris Giuntoli  
Reported : 12/13/2013

### Lead by ICP-AES EPA 6010B

Analyte: Lead

Analyst: AG

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time	
									Analyzed	Notes
1303865-01	HA21-1-2	28	mg/kg	1.0	NA	1	B3L0192	12/10/2013	12/12/13 12:13	
1303865-02	HA21-2-3	9.6	mg/kg	1.0	NA	1	B3L0192	12/10/2013	12/12/13 12:13	
1303865-03	HA21-3-4	3.5	mg/kg	1.0	NA	1	B3L0192	12/10/2013	12/12/13 12:14	
1303865-04	HA22-1-2	16	mg/kg	1.0	NA	1	B3L0192	12/10/2013	12/12/13 12:15	
1303865-05	HA22-2-3	14	mg/kg	1.0	NA	1	B3L0192	12/10/2013	12/12/13 12:18	
1303865-06	HA22-3-4	6.1	mg/kg	0.99	NA	1	B3L0192	12/10/2013	12/12/13 12:19	
1303865-07	HA23-1-2	32	mg/kg	1.0	NA	1	B3L0192	12/10/2013	12/12/13 12:21	
1303865-08	HA23-2-3	18	mg/kg	1.0	NA	1	B3L0192	12/10/2013	12/12/13 12:22	
1303865-09	HA24-1-2	22	mg/kg	1.0	NA	1	B3L0192	12/10/2013	12/12/13 12:22	
1303865-10	HA24-2-3	7.7	mg/kg	1.0	NA	1	B3L0192	12/10/2013	12/12/13 12:23	
1303865-11	HA25-1-2	6.4	mg/kg	1.0	NA	1	B3L0192	12/10/2013	12/12/13 12:24	
1303865-12	HA25-2-3	4.5	mg/kg	1.0	NA	1	B3L0192	12/10/2013	12/12/13 12:24	
1303865-13	HA26-1-2	9.9	mg/kg	1.0	NA	1	B3L0192	12/10/2013	12/12/13 12:27	
1303865-14	HA27-1-2	8.3	mg/kg	1.0	NA	1	B3L0192	12/10/2013	12/12/13 12:28	
1303865-15	HA27-2-3	5.0	mg/kg	1.0	NA	1	B3L0192	12/10/2013	12/12/13 12:29	
1303865-16	HA27-3-4	3.9	mg/kg	1.0	NA	1	B3L0192	12/10/2013	12/12/13 12:29	
1303865-17	HA28-1-2	3.6	mg/kg	1.0	NA	1	B3L0193	12/10/2013	12/12/13 12:37	
1303865-18	HA28-2-3	3.0	mg/kg	0.99	NA	1	B3L0193	12/10/2013	12/12/13 12:38	
1303865-19	HA28-3-4	2.3	mg/kg	1.0	NA	1	B3L0193	12/10/2013	12/12/13 12:39	
1303865-20	HA29-0	66	mg/kg	1.0	NA	1	B3L0193	12/10/2013	12/12/13 12:40	
1303865-21	HA29-0.5	29	mg/kg	1.0	NA	1	B3L0193	12/10/2013	12/12/13 12:41	
1303865-22	HA30-0	120	mg/kg	0.99	NA	1	B3L0193	12/10/2013	12/12/13 12:41	
1303865-23	HA30-0.5	6.0	mg/kg	0.99	NA	1	B3L0193	12/10/2013	12/12/13 12:42	
1303865-24	HA31-0	19	mg/kg	1.0	NA	1	B3L0193	12/10/2013	12/12/13 12:43	
1303865-25	HA31-0.5	11	mg/kg	1.0	NA	1	B3L0193	12/10/2013	12/12/13 12:44	
1303865-26	HA32-0	120	mg/kg	1.0	NA	1	B3L0193	12/10/2013	12/12/13 12:44	
1303865-27	HA32-0.5	71	mg/kg	1.0	NA	1	B3L0193	12/10/2013	12/12/13 13:07	
1303865-28	HA33-0	140	mg/kg	1.0	NA	1	B3L0193	12/10/2013	12/12/13 13:08	
1303865-29	HA33-0.5	44	mg/kg	1.0	NA	1	B3L0193	12/10/2013	12/12/13 13:09	
1303865-30	HA34-0	5300	mg/kg	10	NA	10	B3L0193	12/10/2013	12/12/13 13:30	



## Certificate of Analysis

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

Project Number : SHASTA TO-10, S9805-01-10  
Report To : Chris Giuntoli  
Reported : 12/13/2013

### Lead by ICP-AES EPA 6010B

Analyte: Lead

Analyst: AG

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time	
									Analyzed	Notes
1303865-31	HA34-0.5	12	mg/kg	1.0	NA	1	B3L0193	12/10/2013	12/12/13 13:10	
1303865-32	HA35-0	39	mg/kg	1.0	NA	1	B3L0193	12/10/2013	12/12/13 13:11	
1303865-33	HA35-0.5	25	mg/kg	1.0	NA	1	B3L0193	12/10/2013	12/12/13 13:12	
1303865-34	HA36-0	780	mg/kg	1.0	NA	1	B3L0193	12/10/2013	12/12/13 13:12	
1303865-35	HA36-0.5	1400	mg/kg	1.0	NA	1	B3L0193	12/10/2013	12/12/13 13:19	
1303865-36	HA37-0	120	mg/kg	1.0	NA	1	B3L0193	12/10/2013	12/12/13 13:19	
1303865-37	HA37-0.5	270	mg/kg	1.0	NA	1	B3L0194	12/10/2013	12/12/13 13:24	
1303865-38	HA38-0	100	mg/kg	1.0	NA	1	B3L0194	12/10/2013	12/12/13 13:24	
1303865-39	HA38-0.5	36	mg/kg	1.0	NA	1	B3L0194	12/10/2013	12/12/13 13:25	



## Certificate of Analysis

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6671 Brisa Street  
Livermore, CA 94550

Project Number : SHASTA TO-10, S9805-01-10  
Report To : Chris Giuntoli  
Reported : 12/13/2013

### QUALITY CONTROL SECTION

#### Lead by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
<b>Batch B3L0192 - EPA 3050 Modified</b>									
<b>Blank (B3L0192-BLK1)</b>					Prepared: 12/10/2013 Analyzed: 12/12/2013				
Lead	ND	1.0							NR
<b>Blank (B3L0192-BLK2)</b>					Prepared: 12/10/2013 Analyzed: 12/12/2013				
Lead	ND	1.0							NR
<b>LCS (B3L0192-BS1)</b>					Prepared: 12/10/2013 Analyzed: 12/12/2013				
Lead	53.3261	1.0	50.0000		107	80 - 120			
<b>Duplicate (B3L0192-DUP1)</b>					Prepared: 12/10/2013 Analyzed: 12/12/2013				
Lead	4.05233	1.0		3.92300	NR		3.24	20	
<b>Duplicate (B3L0192-DUP2)</b>					Prepared: 12/10/2013 Analyzed: 12/12/2013				
Lead	5.13966	0.99		6.11445	NR		17.3	20	
<b>Matrix Spike (B3L0192-MS1)</b>					Prepared: 12/10/2013 Analyzed: 12/12/2013				
Lead	227.606	1.0	250.000	3.92300	89.5	51 - 106			
<b>Matrix Spike (B3L0192-MS2)</b>					Prepared: 12/10/2013 Analyzed: 12/12/2013				
Lead	243.875	1.0	250.000	6.11445	95.1	51 - 106			
<b>Matrix Spike Dup (B3L0192-MSD1)</b>					Prepared: 12/10/2013 Analyzed: 12/12/2013				
Lead	232.987	1.0	250.000	3.92300	91.6	51 - 106	2.34	20	
<b>Batch B3L0193 - EPA 3050 Modified</b>									
<b>Blank (B3L0193-BLK1)</b>					Prepared: 12/10/2013 Analyzed: 12/12/2013				
Lead	ND	1.0							NR
<b>Blank (B3L0193-BLK2)</b>					Prepared: 12/10/2013 Analyzed: 12/12/2013				
Lead	ND	1.0							NR
<b>LCS (B3L0193-BS1)</b>					Prepared: 12/10/2013 Analyzed: 12/12/2013				
Lead	53.0354	1.0	50.0000		106	80 - 120			
<b>Duplicate (B3L0193-DUP1)</b>					Prepared: 12/10/2013 Analyzed: 12/12/2013				
Lead	101.012	1.0		118.490	NR		15.9	20	
<b>Duplicate (B3L0193-DUP2)</b>					Prepared: 12/10/2013 Analyzed: 12/12/2013				
Lead	88.4932	1.0		115.453	NR		26.4	20	R
<b>Matrix Spike (B3L0193-MS1)</b>					Prepared: 12/10/2013 Analyzed: 12/12/2013				
Lead	337.814	1.0	250.000	118.490	87.7	51 - 106			
<b>Matrix Spike (B3L0193-MS2)</b>					Prepared: 12/10/2013 Analyzed: 12/12/2013				
Lead	321.739	1.0	250.000	115.453	82.5	51 - 106			



## Certificate of Analysis

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

Project Number : SHASTA TO-10, S9805-01-10  
 Report To : Chris Giuntoli  
 Reported : 12/13/2013

### Lead by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
<b>Batch B3L0193 - EPA 3050 Modified (continued)</b>									
<b>Matrix Spike Dup (B3L0193-MSD1)</b>		<b>Source: 1303865-36</b>			<b>Prepared: 12/10/2013 Analyzed: 12/12/2013</b>				
Lead	331.571	1.0	250.000	118.490	85.2	51 - 106	1.87	20	
<b>Batch B3L0194 - EPA 3050 Modified</b>									
<b>Blank (B3L0194-BLK1)</b>					<b>Prepared: 12/10/2013 Analyzed: 12/12/2013</b>				
Lead	ND	1.0					NR		
<b>LCS (B3L0194-BS1)</b>					<b>Prepared: 12/10/2013 Analyzed: 12/12/2013</b>				
Lead	51.4933	1.0	50.0000			103 80 - 120			
<b>Duplicate (B3L0194-DUPI)</b>		<b>Source: 1303865-39</b>			<b>Prepared: 12/10/2013 Analyzed: 12/12/2013</b>				
Lead	39.8754	1.0		36.4169		NR	9.07	20	
<b>Matrix Spike (B3L0194-MS1)</b>		<b>Source: 1303865-39</b>			<b>Prepared: 12/10/2013 Analyzed: 12/12/2013</b>				
Lead	247.504	1.0	250.000	36.4169	84.4	51 - 106			
<b>Matrix Spike Dup (B3L0194-MSD1)</b>		<b>Source: 1303865-39</b>			<b>Prepared: 12/10/2013 Analyzed: 12/12/2013</b>				
Lead	280.921	1.0	250.000	36.4169	97.8	51 - 106	12.6	20	



## Certificate of Analysis

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Livermore, CA 94550

Project Number : SHASTA TO-10, S9805-01-10  
Report To : Chris Giuntoli  
Reported : 12/13/2013

### Notes and Definitions

R	RPD value outside acceptance criteria. Calculation is based on raw values.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA1	CA-NELAP (CDPH)
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

#### Notes:

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

# CHAIN OF CUSTODY RECORD

Pg \_\_\_\_\_ of \_\_\_\_\_

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

**FOR LABORATORY USE ONLY:**

Method of Transport:  Client  ATL  FedEx  OnTrac  GSO  Other: \_\_\_\_\_

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

Quote #: \_\_\_\_\_ Date: \_\_\_\_\_

Logged By: \_\_\_\_\_ Date: \_\_\_\_\_

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

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

**Attn:** GEMMA REBLANCO & GIOVANNI (Printed Name) (Signature) \_\_\_\_\_

**Project Name:** SHASTA TO-10 Project #: 59805-01-10 Sampler: CHRIS GIORNO (Printed Name) (Signature) \_\_\_\_\_

Relinquished by: \_\_\_\_\_ Date: 12/5/13 Time: 10:30 Received by: \_\_\_\_\_ Date: 12/6/13 Time: 8:44

Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Received by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Received by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

I hereby authorize ATL to perform the work indicated below:  
**Project Mgr / Submitter:** \_\_\_\_\_ Date: 12/5/13

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

Special Instructions/Comments: EA 02-ZE8001 TO-10 03A2132

**LAB USE ONLY:**

Batch #:	Lab No.	Sample I.D. / Location	Date	Time	Sample Description
130385-1	1	HA21-1-2	12/5/13	1142	
	2	HA21-2-3		1150	
	3	HA21-3-4		1157	
	4	HA22-1-2		1108	
	5	HA22-2-3		1115	
	6	HA22-3-4		1125	
	7	HA23-1-2		1050	
	8	HA23-2-3		1059	
	9	HA24-1-2		1025	
	10	HA24-2-3		1040	

**Sample/Records - Archival & Disposal**  
 Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

**Storage Fees (applies when storage is requested):**  
 • Sample : \$2.00 / sample / mo (after 45 days)  
 • Records : \$1.00 / ATL workorder / mo (after 1 year)

**Specify Appropriate Matrix**

Container(s)	TAT #	Type	REMARKS
SEDIMENT			
SOIL			
DRINKING WATER			
WASTEWATER			
STORMWATER			
AQUEOUS			

Circle or Add Analysis(es) Requested:  TBTAL LEAD  TME 22 / GM 17 (8010 / 7000)  8015B (DRO)  8015B (GRO) / 8021 (BTEX)  8010B (Total Metal)  8270C (BNA)  8280B (Cotides)  8082 (PCB)  8091A (Pesticides)

**QA/QC**

RTNE  CT  Legal  SWRCB  Logcode  OTHER

Preservatives: H=Hcl N=HNO3 S=H2SO4 C=4°C Z=Zn(Ac) O=NaOH T=Na2S2O3

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



# CHAIN OF CUSTODY RECORD

Pg \_\_\_\_\_ of \_\_\_\_\_

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

Client: **Gecon Consultants, Inc.**  
 Attn: **GEHNA REBIANO & GUNTER**  
 City: **Livermore** State: **CA** Zip Code: **94550** TEL: (925) 371-5900 FAX: (925) 371-5915

Project Name: **SUNSTA TO-10** Project #: **9805-01-10** Sampler: **CSUNSTA**  
 Relinquished by: **[Signature]** Date: **12/5/13** Received by: **[Signature]** Date: **12/6/13** Time: **g:44**  
 Relinquished by: **[Signature]** Date: **12/5/13** Received by: **[Signature]** Date: **12/6/13** Time: **g:44**  
 Relinquished by: **[Signature]** Date: **12/5/13** Received by: **[Signature]** Date: **12/6/13** Time: **g:44**

Method of Transport:  Client  ATL  FedEx  OnTrac  GSO  Other: \_\_\_\_\_  
 Sample Condition Upon Receipt:  Y  N  4. CUSTODY SEAL  Y  N   
 1. CHILLED  Y  N  5. # OF SPLS MATCH COC  Y  N   
 2. HEADSPACE (VOA)  Y  N  6. PRESERVED  Y  N   
 3. CONTAINER INTACT  Y  N

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

FOR LABORATORY USE ONLY:

Method of Transport:  Client  ATL  FedEx  OnTrac  GSO  Other: \_\_\_\_\_  
 Sample Condition Upon Receipt:  Y  N  4. CUSTODY SEAL  Y  N   
 1. CHILLED  Y  N  5. # OF SPLS MATCH COC  Y  N   
 2. HEADSPACE (VOA)  Y  N  6. PRESERVED  Y  N   
 3. CONTAINER INTACT  Y  N

Special Instructions/Comments: **ED 02-28001  
 TD-10 03AZ13Z**

Bill To: **SARTE** Attn: **SARTE** Co: \_\_\_\_\_  
 Addr: \_\_\_\_\_ City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Circle or Add Analysis(es) Requested: **8081A (Pesticides) 8082 (PCB) 8270C (BNA) 8010B (Total Metal) 8015B (GRO) / 8021 (BTEX) TITL 22 / CAM 17 (6010 / 7000) TOTAL LEAD**

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

LAB USE ONLY: Batch #:	Sample I.D. / Location	Date	Time	SPECIFY APPROPRIATE MATRIX		CONTAINER(S)	TAT #	Type	REMARKS
				SEDIMENT	SOIL				
1703705 - 201	HA29-0	12/5/13	1231						
-21	HA29-0.5		1234						
-22	HA30-0		1236						
-23	HA30-0.5		1239						
-24	HA31-0		1241						
-25	HA31-0.5		1244						
-26	HA32-0		1251						
-27	HA32-0.5		1253						
-28	HA33-0		1255						
-29	HA33-0.5		1257						

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>SO<sub>4</sub>

Container Types: T=Tube V=VOA L=Liter P=Plastic M=Metal  
 TAT:  A= Overnight ≤ 24 hrs  B= Emergency Next workday  C= Critical 2 Workdays  D= Urgent 3 Workdays  E= Routine 7 Workdays

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

# CHAIN OF CUSTODY RECORD

Pg \_\_\_\_\_ of \_\_\_\_\_

<b>ADVANCED TECHNOLOGY LABORATORIES</b> 3275 Walnut Ave., Signal Hill, CA 90755 Tel: (562) 989-4045 • Fax: (562) 989-4040		P.O.#: _____ Quote #: _____ Logged By: _____ Date: _____ NOTE: Please include your Quote No. to ensure proper pricing of your project.		<b>FOR LABORATORY USE ONLY:</b> Sample Condition Upon Receipt 1. CHILLED Y <input type="checkbox"/> N <input type="checkbox"/> 4. CUSTODY SEAL 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: <b>Geocon Consultants, Inc.</b> Address: 6671 Brisa Street City: Livermore State: CA Zip Code: 94550 Attn: <b>GENIA REBANDO</b>		Method of Transport <input type="checkbox"/> Client <input type="checkbox"/> ATL <input type="checkbox"/> FedEx <input type="checkbox"/> OnTrac <input checked="" type="checkbox"/> GSO <input type="checkbox"/> Other: _____		TEL: (925) 371-5900 FAX: (925) 371-5915	
Project Name: <b>SNASTA TO-10</b> Project #: <b>59805-01-10</b> Sampler: <b>CELESTON</b>		Relinquished by: (Signature and Printed Name) Relinquished by: (Signature and Printed Name) Relinquished by: (Signature and Printed Name)		Date: 12/5/13 Date: 12/6/13 Date: _____ Time: 8:44	
I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <b>CS</b>		Bill To: <b>SAME</b> Attn: _____ Co: _____ Addr: _____ City: _____ State: _____ Zip: _____		Special Instructions/Comments: <b>EA 02-ZE 8001 TD-10 03AZI 32</b>	
Sample/Records - Archival & Disposal Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report. Storage Fees (applies when storage is requested): • Sample : \$2.00 / sample / mo (after 45 days) • Records : \$1.00 / ATL workorder / mo (after 1 year)		Send Report To: <b>SEE ABOVE</b> Attn: _____ Co: _____ Addr: _____ City: _____ State: _____ Zip: _____		Q / Q C FTNE <input type="checkbox"/> CT <input checked="" type="checkbox"/> Legal <input type="checkbox"/> SWRCB <input type="checkbox"/> Logcode _____ OTHER _____	
LAB USE ONLY: Batch #: _____ Lab No. _____		Sample Description Sample I.D. / Location Date Time		SPECIFY APPROPRIATE MATRIX CONTAINER(S) TAT # Type	
1303865 -301 HA34-D 12/5/13 1303		HA34-D 12/5/13 1303		DRINKING WATER TAT # Type E I P B	
-31 HA34-0.5 12/10 1310		HA34-0.5 12/10 1310		GROUND WATER TAT # Type E I P B	
-32 HA35-D 12/13 1313		HA35-D 12/13 1313		WASTEWATER TAT # Type E I P B	
-34 HA36-D 12/15 1315		HA36-D 12/15 1315		STORMWATER TAT # Type E I P B	
-35 HA36-0.5 12/20 1320		HA36-0.5 12/20 1320		AQUEOUS TAT # Type E I P B	
-36 HA37-D 12/22 1322		HA37-D 12/22 1322		SEDIMENT TAT # Type E I P B	
-37 HA37-0.5 12/25 1325		HA37-0.5 12/25 1325		SOIL TAT # Type E I P B	
-38 HA38-D 12/28 1328		HA38-D 12/28 1328		SOLID TAT # Type E I P B	
-39 HA38-0.5 12/28 1328		HA38-0.5 12/28 1328		PRESERVATION TAT # Type E I P B	

TAT starts 8 a.m. following day if samples received after 5 p.m.  
 TAT:  A= Overnight  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) O=NaOH T=Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>

ADVANCED TECHNOLOGY  
LABORATORIES

January 07, 2014

Chris Giuntoli  
Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550  
Tel: (925) 371-5900  
Fax: (925) 371-5915



Re: ATL Work Order Number : 1303865  
Client Reference : SHASTA TO-10, S9805-01-10

Enclosed are the results for sample(s) received on December 06, 2013 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

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

Sincerely,

A handwritten signature in black ink, appearing to be "E. Rodriguez".

Eddie Rodriguez  
Laboratory Director

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

3275 Walnut Avenue, Signal Hill, CA 90755 • Tel: 562-989-4045 • Fax: 562-989-4040  
[www.atlglobal.com](http://www.atlglobal.com)



## Certificate of Analysis

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

Project Number : SHASTA TO-10, S9805-01-10  
Report To : Chris Giuntoli  
Reported : 01/07/2014

### SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HA29-0	1303865-20	Soil	12/05/13 12:31	12/06/13 8:44
HA30-0	1303865-22	Soil	12/05/13 12:36	12/06/13 8:44
HA32-0	1303865-26	Soil	12/05/13 12:51	12/06/13 8:44
HA32-0.5	1303865-27	Soil	12/05/13 12:53	12/06/13 8:44
HA33-0	1303865-28	Soil	12/05/13 12:55	12/06/13 8:44
HA34-0	1303865-30	Soil	12/05/13 13:00	12/06/13 8:44
HA36-0	1303865-34	Soil	12/05/13 13:15	12/06/13 8:44
HA36-0.5	1303865-35	Soil	12/05/13 13:20	12/06/13 8:44
HA37-0	1303865-36	Soil	12/05/13 13:28	12/06/13 8:44
HA37-0.5	1303865-37	Soil	12/05/13 13:32	12/06/13 8:44
HA38-0	1303865-38	Soil	12/05/13 13:35	12/06/13 8:44



## Certificate of Analysis

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

Project Number : SHASTA TO-10, S9805-01-10  
Report To : Chris Giuntoli  
Reported : 01/07/2014

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

Analyte: Lead

Analyst: AG

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time	
									Analyzed	Notes
1303865-22	HA30-0	0.057	mg/L	0.050	NA	1	B3L0602	12/31/2013	01/02/14 10:38	
1303865-26	HA32-0	ND	mg/L	0.050	NA	1	B3L0602	12/31/2013	01/02/14 10:41	
1303865-28	HA33-0	ND	mg/L	0.050	NA	1	B3L0602	12/31/2013	01/02/14 10:43	
1303865-30	HA34-0	0.12	mg/L	0.050	NA	1	B3L0602	12/31/2013	01/02/14 10:50	
1303865-34	HA36-0	0.77	mg/L	0.050	NA	1	B3L0602	12/31/2013	01/02/14 10:52	
1303865-35	HA36-0.5	2.3	mg/L	0.050	NA	1	B3L0602	12/31/2013	01/02/14 10:55	
1303865-36	HA37-0	0.17	mg/L	0.050	NA	1	B3L0602	12/31/2013	01/02/14 10:57	
1303865-37	HA37-0.5	2.2	mg/L	0.050	NA	1	B3L0602	12/31/2013	01/02/14 11:00	
1303865-38	HA38-0	0.45	mg/L	0.050	NA	1	B3L0602	12/31/2013	01/02/14 11:09	

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

Analyte: Lead

Analyst: AG

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time	
									Analyzed	Notes
1303865-20	HA29-0	1.5	mg/L	1.0	NA	20	B4A0011	01/02/2014	01/02/14 13:31	
1303865-22	HA30-0	8.0	mg/L	1.0	NA	20	B4A0011	01/02/2014	01/02/14 13:43	
1303865-26	HA32-0	3.4	mg/L	1.0	NA	20	B4A0011	01/02/2014	01/02/14 13:45	
1303865-27	HA32-0.5	2.7	mg/L	1.0	NA	20	B4A0011	01/02/2014	01/02/14 13:48	
1303865-28	HA33-0	7.1	mg/L	1.0	NA	20	B4A0011	01/02/2014	01/02/14 13:50	
1303865-30	HA34-0	10	mg/L	1.0	NA	20	B4A0011	01/02/2014	01/02/14 13:52	
1303865-34	HA36-0	30	mg/L	1.0	NA	20	B4A0011	01/02/2014	01/02/14 13:54	
1303865-35	HA36-0.5	77	mg/L	1.0	NA	20	B4A0011	01/02/2014	01/02/14 13:57	
1303865-36	HA37-0	7.2	mg/L	1.0	NA	20	B4A0011	01/02/2014	01/02/14 13:59	
1303865-37	HA37-0.5	18	mg/L	1.0	NA	20	B4A0011	01/02/2014	01/02/14 14:01	
1303865-38	HA38-0	8.8	mg/L	1.0	NA	20	B4A0011	01/02/2014	01/02/14 14:07	



## Certificate of Analysis

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 Livermore, CA 94550

Project Number : SHASTA TO-10, S9805-01-10  
 Report To : Chris Giuntoli  
 Reported : 01/07/2014

### QUALITY CONTROL SECTION

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

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
<b>Batch B3L0602 - EPA 3010A_SOIL</b>									
<b>Blank (B3L0602-BLK1)</b>					Prepared: 12/31/2013 Analyzed: 1/2/2014				
Lead	ND	0.050			NR				
<b>Blank (B3L0602-BLK2)</b>					Prepared: 12/31/2013 Analyzed: 1/2/2014				
Lead	ND	0.050			NR				
<b>Blank (B3L0602-BLK3)</b>					Prepared: 12/31/2013 Analyzed: 1/2/2014				
Lead	ND	0.050			NR				
<b>Blank (B3L0602-BLK4)</b>					Prepared: 12/31/2013 Analyzed: 1/2/2014				
Lead	ND	0.050			NR				
<b>LCS (B3L0602-BS1)</b>					Prepared: 12/31/2013 Analyzed: 1/2/2014				
Lead	0.949781	0.050	1.00000		95.0	80 - 120			
<b>Duplicate (B3L0602-DUP1)</b>					Prepared: 12/31/2013 Analyzed: 1/2/2014				
Lead	0.037054	0.050		2.18757	NR		193	20	R
<b>Duplicate (B3L0602-DUP2)</b>					Prepared: 12/31/2013 Analyzed: 1/2/2014				
Lead	0.391049	0.050		0.454811	NR		15.1	20	
<b>Matrix Spike (B3L0602-MS1)</b>					Prepared: 12/31/2013 Analyzed: 1/2/2014				
Lead	2.28148	0.050	2.50000	2.18757	3.76	76 - 109			M2
<b>Matrix Spike (B3L0602-MS2)</b>					Prepared: 12/31/2013 Analyzed: 1/2/2014				
Lead	2.66436	0.050	2.50000	0.454811	88.4	76 - 109			
<b>Matrix Spike Dup (B3L0602-MSD1)</b>					Prepared: 12/31/2013 Analyzed: 1/2/2014				
Lead	2.34299	0.050	2.50000	2.18757	6.22	76 - 109	2.66	20	M2



## Certificate of Analysis

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

Project Number : SHASTA TO-10, S9805-01-10  
Report To : Chris Giuntoli  
Reported : 01/07/2014

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

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
<b>Batch B4A0011 - STLC Extraction</b>									
<b>Blank (B4A0011-BLK1)</b>					Prepared: 1/2/2014 Analyzed: 1/2/2014				
Lead	ND	1.0					NR		
<b>Blank (B4A0011-BLK2)</b>					Prepared: 1/2/2014 Analyzed: 1/2/2014				
Lead	ND	1.0					NR		
<b>LCS (B4A0011-BS1)</b>					Prepared: 1/2/2014 Analyzed: 1/2/2014				
Lead	1.99157	1.0	2.00000		99.6	80 - 120			
<b>Duplicate (B4A0011-DUP1)</b>					Prepared: 1/2/2014 Analyzed: 1/2/2014				
Lead	1.50012	1.0		1.54607	NR		3.02	20	
<b>Duplicate (B4A0011-DUP2)</b>					Prepared: 1/2/2014 Analyzed: 1/2/2014				
Lead	9.34303	1.0		8.75114	NR		6.54	20	
<b>Matrix Spike (B4A0011-MS1)</b>					Prepared: 1/2/2014 Analyzed: 1/2/2014				
Lead	3.79189	1.0	2.50000	1.54607	89.8	33 - 131			
<b>Matrix Spike (B4A0011-MS2)</b>					Prepared: 1/2/2014 Analyzed: 1/2/2014				
Lead	10.6818	1.0	2.50000	8.75114	77.2	33 - 131			
<b>Matrix Spike Dup (B4A0011-MSD1)</b>					Prepared: 1/2/2014 Analyzed: 1/2/2014				
Lead	3.84665	1.0	2.50000	1.54607	92.0	33 - 131	1.43	20	



## Certificate of Analysis

Geocon Consultants, Inc.

Project Number : SHASTA TO-10, S9805-01-10

6671 Brisa Street

Report To : Chris Giuntoli

Livermore , CA 94550

Reported : 01/07/2014

### Notes and Definitions

R	RPD value outside acceptance criteria. Calculation is based on raw values.
M2	Matrix spike recovery outside of acceptance limit due to possible matrix interference. The analytical batch was validated by the laboratory control sample.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA1	CA-NELAP (CDPH)
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

#### Notes:

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

## Diane Galvan

---

**From:** Gemma Reblando [reblando@geoconinc.com]  
**Sent:** Monday, December 30, 2013 12:53 PM  
**To:** Diane Galvan  
**Cc:** Rebecca Silva  
**Subject:** Results/EDD/Invoice - SHASTA TO-10 (1303865)

Hi Diane – please analyze soil samples with total lead greater than 50 mg/kg (11 samples) for WET soluble lead and soil samples with total lead greater than or equal to 100 mg/kg (9 samples) for TCLP soluble lead under standard TAT.

Thanks,  
Gemma



**Gemma Reblando | *Project Geologist***  
**Geocon Consultants, Inc.**  
3160 Gold Valley Drive Suite 800, Rancho Cordova, CA 95742  
Tel 916.852.9118 Fax 916.852.9132 Cell 916.396.8476  
<http://www.geoconinc.com>

ADVANCED TECHNOLOGY  
LABORATORIES

January 15, 2014

Chris Giuntoli  
Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550  
Tel: (925) 371-5900  
Fax: (925) 371-5915



Re: ATL Work Order Number : 1303865  
Client Reference : SHASTA TO-10, S9805-01-10

Enclosed are the results for sample(s) received on December 06, 2013 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

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

Sincerely,

A handwritten signature in black ink, appearing to be "E Rodriguez".

Eddie Rodriguez  
Laboratory Director

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

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## Certificate of Analysis

Geocon Consultants, Inc.

6671 Brisa Street

Livermore, CA 94550

Project Number : SHASTA TO-10, S9805-01-10

Report To : Chris Giuntoli

Reported : 01/15/2014

### SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HA30-0	1303865-22	Soil	12/05/13 12:36	12/06/13 8:44
HA33-0	1303865-28	Soil	12/05/13 12:55	12/06/13 8:44
HA34-0	1303865-30	Soil	12/05/13 13:00	12/06/13 8:44
HA36-0	1303865-34	Soil	12/05/13 13:15	12/06/13 8:44
HA36-0.5	1303865-35	Soil	12/05/13 13:20	12/06/13 8:44
HA37-0	1303865-36	Soil	12/05/13 13:28	12/06/13 8:44
HA37-0.5	1303865-37	Soil	12/05/13 13:32	12/06/13 8:44
HA38-0	1303865-38	Soil	12/05/13 13:35	12/06/13 8:44



## Certificate of Analysis

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

Project Number : SHASTA TO-10, S9805-01-10  
Report To : Chris Giuntoli  
Reported : 01/15/2014

### STLC DI Metals by ICP-AES by EPA 6010B

Analyte: Lead

Analyst: AG

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time	Notes
									Analyzed	
1303865-22	HA30-0	ND	mg/L	1.0	NA	20	B4A0149	01/13/2014	01/13/14 13:33	
1303865-28	HA33-0	ND	mg/L	1.0	NA	20	B4A0149	01/13/2014	01/13/14 13:41	
1303865-30	HA34-0	ND	mg/L	1.0	NA	20	B4A0149	01/13/2014	01/13/14 13:43	
1303865-34	HA36-0	1.1	mg/L	1.0	NA	20	B4A0149	01/13/2014	01/13/14 13:45	
1303865-35	HA36-0.5	2.2	mg/L	1.0	NA	20	B4A0149	01/13/2014	01/13/14 13:48	
1303865-36	HA37-0	ND	mg/L	1.0	NA	20	B4A0149	01/13/2014	01/13/14 13:53	
1303865-37	HA37-0.5	ND	mg/L	1.0	NA	20	B4A0149	01/13/2014	01/13/14 13:56	
1303865-38	HA38-0	ND	mg/L	1.0	NA	20	B4A0149	01/13/2014	01/13/14 13:58	



## Certificate of Analysis

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

Project Number : SHASTA TO-10, S9805-01-10  
 Report To : Chris Giuntoli  
 Reported : 01/15/2014

### QUALITY CONTROL SECTION

#### STLC DI Metals by ICP-AES by EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
<b>Batch B4A0149 - STLC DI Extraction</b>									
<b>Blank (B4A0149-BLK1)</b>					Prepared: 1/13/2014 Analyzed: 1/13/2014				
Lead	ND	1.0			NR				
<b>LCS (B4A0149-BS1)</b>					Prepared: 1/13/2014 Analyzed: 1/13/2014				
Lead	2.11061	1.0	2.00000		106	80 - 120			
<b>Duplicate (B4A0149-DUP1)</b>					Prepared: 1/13/2014 Analyzed: 1/13/2014				
Lead	0.068020	1.0		0.096703	NR		34.8	20	R
<b>Matrix Spike (B4A0149-MS1)</b>					Prepared: 1/13/2014 Analyzed: 1/13/2014				
Lead	2.62256	1.0	2.50000	0.096703	101	70 - 130			
<b>Matrix Spike Dup (B4A0149-MSD1)</b>					Prepared: 1/13/2014 Analyzed: 1/13/2014				
Lead	2.66792	1.0	2.50000	0.096703	103	70 - 130	1.71	20	



## Certificate of Analysis

Geocon Consultants, Inc.

Project Number : SHASTA TO-10, S9805-01-10

6671 Brisa Street

Report To : Chris Giuntoli

Livermore , CA 94550

Reported : 01/15/2014

### Notes and Definitions

R	RPD value outside acceptance criteria. Calculation is based on raw values.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA1	CA-NELAP (CDPH)
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

#### Notes:

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

**Diane Galvan**

---

**From:** Gemma Reblando [reblando@geoconinc.com]  
**Sent:** Wednesday, January 08, 2014 2:30 PM  
**To:** Diane Galvan  
**Subject:** RE: Additional Results/EDD/Invoice - SHASTA TO-10 (1303865)

Hi Diane – please analyze the 8 samples with WET lead greater than 5.0 mg/l for DI-WET lead under standard TAT.

Thanks,  
Gemma

ADVANCED TECHNOLOGY  
LABORATORIES

January 22, 2014

Chris Giuntoli  
Geocon Consultants, Inc.  
6671 Brisa Street  
Livermore, CA 94550  
Tel: (925) 371-5900  
Fax: (925) 371-5915



Re: ATL Work Order Number : 1303865  
Client Reference : SHASTA TO-10, S9805-01-10

Enclosed are the results for sample(s) received on December 06, 2013 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

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

Sincerely,

A handwritten signature in black ink, appearing to read 'E Rodriguez'.

Eddie Rodriguez  
Laboratory Director

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

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## Certificate of Analysis

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

Project Number : SHASTA TO-10, S9805-01-10  
Report To : Chris Giuntoli  
Reported : 01/22/2014

### SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HA30-0	1303865-22	Soil	12/05/13 12:36	12/06/13 8:44
HA34-0	1303865-30	Soil	12/05/13 13:00	12/06/13 8:44
HA37-0.5	1303865-37	Soil	12/05/13 13:32	12/06/13 8:44



## Certificate of Analysis

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

Project Number : SHASTA TO-10, S9805-01-10  
Report To : Chris Giuntoli  
Reported : 01/22/2014

### pH by EPA 9045C

Analyte: pH

Analyst: LA

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time	
									Analyzed	Notes
1303865-22	HA30-0	6.9	pH Units	0.10	NA	1	B4A0216	01/16/2014	01/16/14 10:59	HI
1303865-30	HA34-0	6.5	pH Units	0.10	NA	1	B4A0216	01/16/2014	01/16/14 10:59	HI
1303865-37	HA37-0.5	6.3	pH Units	0.10	NA	1	B4A0216	01/16/2014	01/16/14 10:59	HI



### Certificate of Analysis

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

Project Number : SHASTA TO-10, S9805-01-10  
Report To : Chris Giuntoli  
Reported : 01/22/2014

### QUALITY CONTROL SECTION

#### pH by EPA 9045C - Quality Control

Analyte	Result (pH Units)	PQL (pH Units)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes
<b>Batch B4A0216 - Prep_WC_1_S</b>									
Duplicate (B4A0216-DUP1)		Source: 1400098-01			Prepared: 1/16/2014 Analyzed: 1/16/2014				
pH	7.44000	0.10		6.73000	NR		10.0	20	



## Certificate of Analysis

Geocon Consultants, Inc.

Project Number : SHASTA TO-10, S9805-01-10

6671 Brisa Street

Report To : Chris Giuntoli

Livermore , CA 94550

Reported : 01/22/2014

### Notes and Definitions

HI	Sample was received past holding time.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA1	CA-NELAP (CDPH)
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

#### Notes:

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

Diane Galvan

---

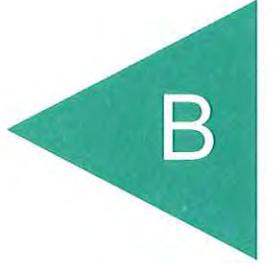
**From:** Gemma Reblando [reblando@geoconinc.com]  
**Sent:** Wednesday, January 15, 2014 12:29 PM  
**To:** Diane Galvan  
**Subject:** RE: Additional Results/EDD/Invoice - SHASTA TO-10 (1303865)

Hi Diane – please analyze the following samples for soil pH under standard TAT.

HA30-0  
HA34-0  
HA37-0.5

Thanks,  
Gemma

APPENDIX



B

SUMMARY OF STATISTICAL ANALYSIS  
 EA 02-4G4800  
 STATE ROUTE 299 (02-SHA-299) POST MILE 18.4 TO 18.7  
 SHASTA COUNTY, CALIFORNIA

**SIDEWALK, CURB, AND GUTTER LOCATIONS**  
 Borings HA5 through HA9, HA11 through HA15, HA20, HA21, HA35, and HA38  
 excluding HA36 and HA37 (hot-spots)

**Total Lead UCLs (mg/kg)**

Sample Interval (feet)	90% UCL	95% UCL
0.0 to 1.0	114.2	119.3
1.0 to 2.0	147.3	161.6
2.0 to 3.0*	28.0	28.0
3.0 to 4.0*	3.5	3.5

\* = Insufficient number of data collected from this depth interval; the highest total lead concentration for this interval was used for the UCL.

**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	114.2	5.3	119.3	5.6
Underlying Soil (1.0 to 4.0 feet)	59.6	2.8	64.4	3.0
0.0 to 2.0 feet	130.8	6.1	140.5	6.5
Underlying Soil (2.0 to 4.0 feet)	15.8	0.7	15.8	0.7
0.0 to 3.0 feet	96.5	4.5	103.0	4.8
Underlying Soil (3.0 to 4.0 feet)	3.5	0.2	3.5	0.2
0.0 to 4.0 feet	73.3	3.4	78.1	3.6

Notes:

UCL = Upper Confidence Limit

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:*

$$y = 0.0466 x$$

**Project Name:** State Route 299 (02-SHA-299) Post Mile 18.4 to 18.7  
**Geocon Project No.:** S9805-01-08  
**Sample Population:** Borings HA5 through HA9, HA11 through HA15, HA20, HA21, HA35, and HA38  
**Sample Location:** Sidewalk, Curb, and Gutter Locations

---

**Lead - 0.0 to 1.0 ft (combined 0-0.5 , 0.5-1.0, and 0-1.0 ft intervals)**

Total Number of Observations	15	Number of Distinct Observations	15
		Number of Missing Observations	0
Minimum	5.1	Mean	95.0
Maximum	230	Median	88
SD	61.11	Std. Error of Mean	15.78
Coefficient of Variation	0.643	Skewness	0.659
Mean of logged data	4.263	SD of logged data	0.951
		<b>90% Standard Bootstrap UCL</b>	<b>114.2</b>
		<b>95% Standard Bootstrap UCL</b>	<b>119.3</b>

**Lead - 1.0 to 2.0 ft**

Total Number of Observations	12	Number of Distinct Observations	11
		Number of Missing Observations	0
Minimum	6.5	Mean	94.5
Maximum	570	Median	60
SD	153.7	Std. Error of Mean	44.36
Coefficient of Variation	1.626	Skewness	3.154
Mean of logged data	3.789	SD of logged data	1.287
		<b>90% Standard Bootstrap UCL</b>	<b>147.3</b>
		<b>95% Standard Bootstrap UCL</b>	<b>161.6</b>

**Lead - 2.0 to 3.0 ft**

Total Number of Observations	4	Number of Distinct Observations	4
		Number of Missing Observations	0
Minimum	9.6	Mean	18.7
Maximum	28	Median	18.5
SD	7.786	Std. Error of Mean	3.893
Coefficient of Variation	0.417	Skewness	0.0996
Mean of logged data	2.853	SD of logged data	0.455
		<b>90% Standard Bootstrap UCL</b>	<b>N/A</b>
		<b>95% Standard Bootstrap UCL</b>	<b>N/A</b>

(UCLs could not be calculated due to insufficient number of data)

**Lead - 3.0 to 4.0 ft**

Total Number of Observations	1	Number of Distinct Observations	1
		Number of Missing Observations	0
Minimum	3.5	Mean	3.5
Maximum	3.5	Median	3.5
SD		Std. Error of Mean	
Coefficient of Variation		Skewness	
Mean of logged data		SD of logged data	
		<b>90% Standard Bootstrap UCL</b>	<b>N/A</b>
		<b>95% Standard Bootstrap UCL</b>	<b>N/A</b>

(UCLs could not be calculated due to insufficient number of data)

SUMMARY OF STATISTICAL ANALYSIS  
 EA 02-4G4800  
 STATE ROUTE 299 (02-SHA-299) POST MILE 18.4 TO 18.7  
 SHASTA COUNTY, CALIFORNIA

RETAINING WALL LOCATION  
 (Borings HA16 through HA19 and HA22 through HA28)

Total Lead UCLs (mg/kg)

Sample Interval (feet)	90% UCL	95% UCL
0.0 to 2.0	84.2	93.6
2.0 to 3.0	10.4	11.0
3.0 to 4.0*	6.1	6.1

\* = Insufficient number of data collected from this depth interval; the highest total lead concentration for this interval was used for the UCL

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 2.0 feet	84.2	3.9	93.6	4.4
Underlying Soil (2.0 to 4.0 feet)	8.3	0.4	8.6	0.4
0.0 to 3.0 feet	59.6	2.8	66.1	3.1
Underlying Soil (3.0 to 4.0 feet)	6.1	0.3	6.1	0.3
0.0 to 4.0 feet	46.2	2.2	51.1	2.4

Notes:

UCL = Upper Confidence Limit

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:*

$$y = 0.0466 x$$

**Project Name:** State Route 299 (02-SHA-299) Post Mile 18.4 to 18.7  
**Geocon Project No.:** S9805-01-08  
**Sample Population:** Borings HA16 through HA19 and HA22 through HA28  
**Sample Location:** Retaining Wall Location

---

**Lead - 0.0 to 2.0 ft (combined 0-1.0 and 1.0-2.0 ft intervals)**

Total Number of Observations	15	Number of Distinct Observations	14
		Number of Missing Observations	0
Minimum	3.6	Mean	51.3
Maximum	420	Median	22
SD	104.1	Std. Error of Mean	26.87
Coefficient of Variation	2.028	Skewness	3.624
Mean of logged data	3.095	SD of logged data	1.172
		<b>90% Standard Bootstrap UCL</b>	<b>84.2</b>
		<b>95% Standard Bootstrap UCL</b>	<b>93.6</b>

**Lead - 2.0 to 3.0 ft**

Total Number of Observations	8	Number of Distinct Observations	8
		Number of Missing Observations	0
Minimum	3	Mean	8.1
Maximum	18	Median	6.35
SD	5.351	Std. Error of Mean	1.892
Coefficient of Variation	0.662	Skewness	1.113
Mean of logged data	1.91	SD of logged data	0.634
		<b>90% Standard Bootstrap UCL</b>	<b>10.4</b>
		<b>95% Standard Bootstrap UCL</b>	<b>11.0</b>

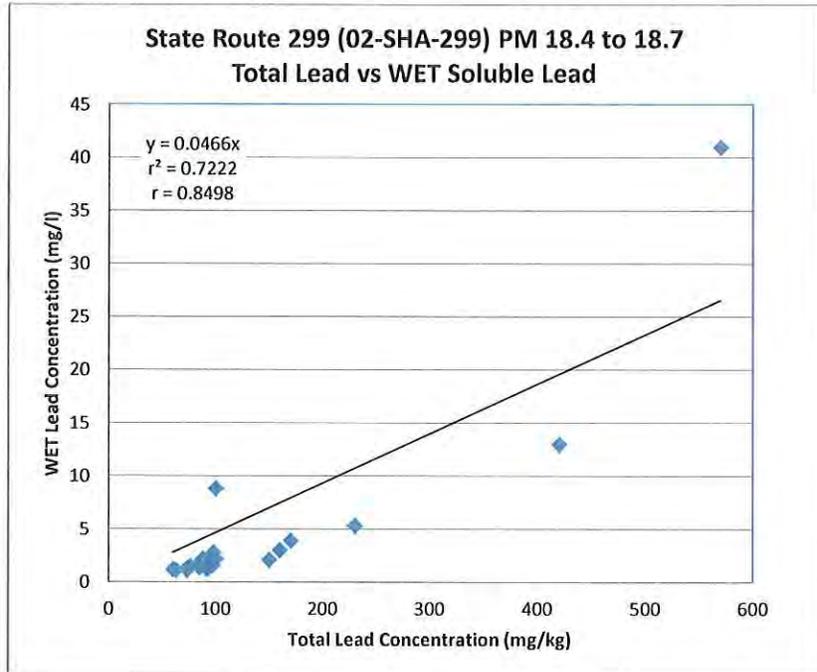
**Lead - 3.0 to 4.0 ft**

Total Number of Observations	3	Number of Distinct Observations	3
		Number of Missing Observations	0
Minimum	2.3	Mean	4.1
Maximum	6.1	Median	3.9
SD	1.908	Std. Error of Mean	1.102
Coefficient of Variation	0.465	Skewness	0.467
Mean of logged data	1.334	SD of logged data	0.488
		<b>90% Standard Bootstrap UCL</b>	<b>N/A</b>
		<b>95% Standard Bootstrap UCL</b>	<b>N/A</b>

(UCLs could not be calculated due to insufficient number of data)

Project Name: State Route 299 (02-SHA-299) Post Mile 18.4 to 18.7  
 Geocon Project No. S9805-01-08

Sample ID	Total Lead	WET Lead
HA7-1	73	1.1
HA7-0	60	1.2
HA11-1	73	1.3
HA14-1	93	1.3
HA15-1	91	1.3
HA15-0	85	1.4
HA14-0	97	1.6
HA20-0	82	1.6
HA9-0	150	2.1
HA12-1	100	2.2
HA5-0	88	2.2
HA11-0	98	2.8
HA12-0	160	3.0
HA6-0	170	3.9
HA8-0	230	5.3
HA38-0	100	8.8
HA9-1	570	41
HA16-0	63	1.1
HA17-0	76	1.5
HA19-0	420	13



# **MATERIALS INFORMATION**

Nonpotable Water Sources

Dated June 2014

# **NONPOTABLE WATER SOURCES**

June 2014

Stillwater Wastewater Treatment Plant  
6475 Airport Road, Anderson, California 96007  
Supervisor - Dave Johnston - 530-378-6702