

FOR CONTRACT NO.: 01-463914

INFORMATION HANDOUT

MATERIALS INFORMATION

**AERIALY DEPOSITED LEAD AND NATURALLY OCCURRING ASBESTOS SITE
INVESTIGATION REPORT**

ROUTE: 01-HUM-299-0.0/42.9

AERIALY DEPOSITED LEAD AND NATURALLY OCCURRING ASBESTOS SITE INVESTIGATION REPORT



State Route 299 Post Mile 0.0 to 42.97
Humboldt County, California

PREPARED FOR:

**CALIFORNIA DEPARTMENT OF TRANSPORTATION – DISTRICT 1
ENVIRONMENTAL ENGINEERING OFFICE
1656 UNION STREET
EUREKA, CALIFORNIA 95501**



PREPARED BY:

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



**GEOCON PROJECT NO. S9300-06-163
TASK ORDER NO. 163, EA 01-463900**

JUNE 2011



Project No. S9300-06-163

June 23, 2011

Mr. Steve Werner
California Department of Transportation - District 1
Environmental Engineering Office
1656 Union Street
Eureka, California 95501

Subject: AERIALY DEPOSITED LEAD AND NATURALLY OCCURRING ASBESTOS
SITE INVESTIGATION REPORT
STATE ROUTE 299 POST MILE 0.0 TO 42.97 GUARD RAIL RECONSTRUCTION
HUMBOLDT COUNTY, CALIFORNIA
CONTRACT NO. 03A1368, TASK ORDER NO. 163, EA 01-463900

Dear Mr. Werner:

In accordance with California Department of Transportation (Caltrans) Contract No. 03A1368, Task Order No. 163, and Expense Authorization 01-463900, we have performed environmental engineering services at the project site. The site consists of State Route (SR) 299 and the SR-299/SR-200 Separation in Humboldt County, California. The accompanying report summarizes the services performed including the performance of 35 hand-auger borings for the collection of soil samples for aerially deposited lead and/or naturally occurring asbestos analyses.

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 C. Pfeiffer, PG, CEG
Senior Geologist

John E. Juhrend, PE, CEG
Principal



(2 + 4 CD) Addressee

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AERIALY DEPOSITED LEAD AND NATURALLY OCCURRING ASBESTOS SITE INVESTIGATION REPORT

1.0 INTRODUCTION

This Aerially Deposited Lead (ADL) and Naturally Occurring Asbestos (NOA) Site Investigation Report was prepared under California Department of Transportation (Caltrans) Contract No. 03A1368, Task Order (TO) No. 163, and Expense Authorization (EA) 01-463900.

1.1 Project Description and Proposed Improvements

The project areas consist of the shoulders along State Route (SR) 299 between Post Mile (PM) 0.0 and 42.97 and at the SR-299/SR-200 Interchange (the Site) in Arcata, Humboldt County, California. The approximate project location is depicted on the attached Vicinity Map, Figure 1. Caltrans proposes to reconstruct guard rails at numerous locations within the Site. Proposed improvements at the SR-299/SR-200 Interchange are depicted on the attached Site Plan, Figure 2.

1.2 General Objectives

The purpose of the scope of services outlined in TO No. 163 was to evaluate the Site for potential impacts due to ADL from motor vehicle exhaust in the surface and near-surface soils and the presence of NOA derived from ultramafic rock. The investigative results will be used by Caltrans to inform the construction contractors if ADL- or NOA-impacted soils are present within the project boundaries for construction worker health and safety, soil reuse evaluation and waste management/disposal purposes.

2.0 BACKGROUND

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), Section 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 total metal content exceeds the respective Total Threshold Limit Concentration (TTLC); or 2) the soluble metal content exceeds the respective Soluble Threshold Limit Concentration (STLC) based on the standard Waste Extraction Test (WET). A waste may have the potential of exceeding the STLC when the waste’s total metal content is greater than or equal to ten times the respective STLC value, since the

WET uses a 1:10 dilution ratio. Hence, when a total metal is detected at a concentration greater than or equal to ten times the respective STLC, and assuming that 100 percent of the total metals are soluble, soluble metal analysis is required. A material is classified as RCRA hazardous, or Federal hazardous, when the soluble metal content exceeds the Federal regulatory level based on the Toxicity Characteristic Leaching Procedure (TCLP). The TTLC value for lead is 1,000 milligrams per kilogram (mg/kg). The STLC and TCLP values for lead are both 5.0 milligrams per liter (mg/l).

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

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

2.3 Naturally Occurring Asbestos

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

material with 0.25% or more asbestos material is not permitted and wetting of the material or the application of a surface sealant is recommended to minimize disturbance of the asbestos material. Onsite reuse or disposal of NOA-containing materials ($\geq 0.25\%$) is allowed by 17 CCR 93106 and 17 CCR 93105 if it is buried under at least 3 inches of material that contains less than 0.25% NOA.

3.0 SCOPE OF SERVICES

The scope of services requested by Caltrans in TO No. 163 included the collection of soil samples for analysis to determine lead and asbestos content, and the preparation of this report.

3.1 Pre-field Activities

- Prepared a *Health and Safety Plan* dated May 6, 2011, 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.
- Retained the services of EMSL Inc., a Caltrans-approved analytical laboratory, to perform the asbestos analyses of soil samples.
- Reviewed documents pertaining to the geologic setting of the site vicinity.

3.2 Field Activities

On May 17, 2011, we advanced a total of 35 hand-auger borings to an approximate sampling depth of 2.0 feet at 27 guard rail locations along the shoulders of SR-299 and at 8 locations in the vicinity of the SR-299/SR-200 interchange. Soil samples were collected at depth intervals of 0.0 to 1.0 foot and 1.0 to 2.0 feet along the SR-299 shoulder and 0.0 to 1.0 foot at the SR-299/SR-200 interchange.

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

The sample locations were selected in the field by the Geocon Field Supervisor and Caltrans Task Order Manager.

4.0 INVESTIGATIVE METHODS

4.1 ADL Soil Sampling Procedures

A total of 62 soil samples were collected from 35 borings excavated at the Site. Soil samples were collected and transferred directly from the hand-auger to Ziploc[®] re-sealable plastic bags. The soil samples were field homogenized within the sample bags and subsequently labeled, placed in an ice chest, and delivered to ATL for analytical testing under chain-of-custody (COC) documentation.

The locations of the borings were determined using a differential global positioning system (GPS) capable of providing a horizontal position with an error of no more than 3.3 feet. The latitude and longitude of the borings are presented on Table 1. The approximate soil borings located at the SR-299/SR-200 interchange are depicted on Figure 2. Per Caltrans' direction, the remaining borings located within a 41-mile segment of SR-299 were not mapped.

4.2 NOA Investigation

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

- *2010 Geologic Map of California*, California Department of Conservation, California Geological Survey, Geologic Data Map No. 2, <http://www.quake.ca.gov/gmaps/GMC/stategeologicmap.html>, Scale 1:750,000, May 2011.
- *Geologic Atlas of California – Redding Sheet*, California Department of Conservation, California Geological Survey, Geologic Atlas of California Map No. 011, Scale 1:250,000, 1962.
- *A General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos*, California Department of Conservation, Division of Mines and Geology, Open-File Report 2000-19, Scale 1:1,000,000, 2000.

Two of the 62 soil samples collected were split into two samples and the second sample was placed in a labeled Ziploc[®] re-sealable plastic bag and delivered to EMSL for asbestos analysis under COC protocol.

4.3 Quality Assurance/Quality Control 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 laboratories. The soil sampling equipment was cleansed between each boring by washing the equipment with an Alconox[®] solution followed by a double rinse with deionized water. The decontamination water was discharged to the ground surface within the Caltrans right-of-way, away from the roadway and storm drain inlets.

4.4 Laboratory Analyses

4.4.1 ADL Samples

The soil samples collected within the project boundaries were submitted to ATL for the following analyses under standard ten-working-day turn around time (TAT). The laboratory was instructed to homogenize the soil samples prior to analysis in accordance with Contract 03A1368 requirements.

- Sixty-two soil samples were analyzed for total lead following United States Environmental Protection Agency (EPA) Test Method 6010B.

- Nine soil samples with total lead concentrations greater than or equal to 50 mg/kg (ten times the STLC value for lead of 5.0 mg/l) were further analyzed for WET soluble lead by EPA Test Method 6010B.
- One soil sample with total lead concentrations greater than 100 mg/kg (twenty times the RCRA hazardous waste threshold for lead of 5.0 mg/l) was further analyzed for TCLP soluble lead by EPA Test Methods 1311 and 7420.

4.4.2 NOA Samples

Two soil samples were submitted to EMSL for asbestos fiber analysis under six- to ten-day TAT. EMSL analyzed the samples for asbestos using polarized light microscopy (PLM) by CARB Method 435 (CARB 435). The CARB 435 preparation includes milling the sample to a -200 mesh size which also homogenizes the sample. The analytical sensitivity of the PLM analysis was 0.25% by area.

4.4.3 Laboratory QA/QC Procedures

QA/QC procedures were performed by ATL as applicable for each method of analysis with specificity for each analyte listed in the test method's QA/QC. QA/QC measures for the various metals analyses included the following:

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

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

5.0 FIELD OBSERVATIONS AND INVESTIGATIVE RESULTS

5.1 Geologic Map Review

Geology across the Site is mapped predominantly as Paleozoic marine metasedimentary rocks including sandstone, shale, slate, chert, limestone, schist, and quartzite. However, ultramafic rocks are mapped in a portion of the Site located approximately two to seven miles southwest of Willow Creek. The Paleozoic marine metasedimentary rocks are not considered likely to contain NOA, but the ultramafic rocks are likely to contain minerals which can be altered to NOA.

5.2 ADL Soil Analytical Results

Total lead was detected in 60 of the 62 soil samples analyzed at concentrations ranging from 6.5 to 160 mg/kg. Nine of the 62 soil samples had total lead concentrations greater than 50 mg/kg (ten times the STLC value for lead of 5.0 mg/l).

WET soluble lead was detected in each of the nine soil samples analyzed at concentrations ranging from 1.2 to 12 mg/l.

TCLP soluble lead was reported for the only soil sample analyzed at a concentration of 0.53 mg/l, less than the TCLP value for lead of 5.0 mg/l.

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

5.3 NOA Results

During this investigation, we encountered two soil sampling locations that we considered suspect for the potential presence of NOA. These suspect locations were outside of mapped ultramafic areas. We submitted soil samples from the two locations – identified as “location 73, PM 23.86” and “location 107, PM 33.23” – for NOA analysis. The two soil samples were analyzed by EMSL for asbestos by the PLM method using the CARB 435 sample preparation method. Both of the samples were reported as none for asbestos. The analytical laboratory reported each of the samples as 100% non-fibrous. A summary of the NOA soil sample analytical results from this investigation is presented on Table 2. A copy of the laboratory report and COC documentation are presented in Appendix A

It should be noted that two prior investigations for/by Caltrans in the project area within mapped ultramafic areas, detected NOA (chrysotile) in soil at levels up to 1.25% and 5%, respectively (S. Werner, personal communication). The following list shows specific SR-299 work locations where ultramafic rock is present:

PM 31.46/31.59 Rt
PM 31.83/31.92 Lt
PM 32.01/32.03 Lt
PM 32.21/32.23 Rt
PM 34.47/34.56 Lt
PM 34.55/34.56 Rt

PM 34.58/34.59 Lt
PM 35.55/35.59 Lt
PM 35.55/35.59 Rt
PM 36.04/36.28 Lt
PM 36.74/36.92 Lt

5.4 Laboratory Quality Assurance/Quality Control (QA/QC)

The ATL laboratory QA/QC reports show acceptable surrogate recoveries and non-detect results for the method blanks. The ATL Case Narrative stated that RPD for duplicate (DUP) is outside criteria for several samples; however, the laboratory control sample (LCS) validated the analytical batch. The report showed acceptable recoveries and relative percent differences for the matrix spikes and matrix spike duplicates. Based on this limited data review, no qualifications of the ATL data are necessary, and the data are of sufficient quality for the purposes of this report.

5.5 Statistical Evaluation for Lead Detected in Soil Samples

Per Caltrans' direction, total lead data were separated into two data populations for statistical evaluations as described below.

- **SR-299 Shoulder** consists of soil samples collected from borings Loc 4 PM 1.54 through Loc 127 PM 40.95.
- **SR-299/200 Interchange** consists of soil samples collected from borings 200 HUM1 through 200 HUM8.

Statistical analysis was not performed for the samples collected from the SR-299/SR-200 Interchange since the total lead concentrations are less than 50 mg/kg or the WET soluble lead concentrations are less than the STLC value for lead of 5.0 mg/l.

Statistical methods were applied to the SR-299 Shoulder total lead data to evaluate: 1) the upper confidence limits (UCLs) of the arithmetic means of the total lead concentrations for each sampling depth; and 2) if an acceptable correlation between total and soluble lead concentrations exists that would allow the prediction of soluble lead concentrations based on calculated UCLs. The statistical methods used are discussed in a book entitled *Statistical Methods for Environmental Pollution Monitoring*, by Richard Gilbert; in an EPA *Technology Support Center Issue* document entitled, *The Lognormal Distribution in Environmental Applications*, by Ashok Singh et. al., dated December 1997; and in a book entitled *An Introduction to the Bootstrap*, by Bradley Efron and Robert J. Tibshirani.

5.5.1 Calculating the UCLs for the Arithmetic Mean

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

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

SR-299 Shoulder

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	36.1	37.9	29.4	2.5	93
1.0 to 2.0	30.3	32.7	22.3	2.5	160

6.0 CONCLUSIONS AND RECOMMENDATIONS

Waste classifications based on the 90% UCL of the lead content for the relevant excavation depths have 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.

Based on the TCLP soluble lead results of less than 5.0 mg/l, excess soil generated from areas represented by sampling locations within the Site will not require disposal as a RCRA hazardous waste. If soil within the project limits is scarified in-place, moisture-conditioned, and recompactd during roadway improvement activities, it may not be considered a “waste.”

6.1 SR-299 Shoulder

Total lead concentrations ranged from less than the laboratory RL of 5.0 mg/kg to 160 mg/kg with an average total lead concentration of 25.9 mg/kg. Soil excavated to a depth of 2.0 feet or shallower at areas represented by sampling locations within the Site will not require special soil handling and disposal procedures based on lead content and can be reused or disposed of as non-hazardous soil since the calculated 90% and 95% total lead UCLs are less than 50 mg/kg.

6.2 SR-299/200 Interchange

Total lead concentrations ranged from 16 mg/kg to 55 mg/kg with an average total lead concentration of 29.0 mg/kg. Soil excavated to a depth of 1.0 foot within this area will not require special soil handling and disposal procedures based on lead content and can be reused or disposed of as non-hazardous soil since the reported total lead concentrations are less than 50 mg/kg or the WET soluble lead concentration is less than the STLC value for lead of 5.0 mg/l.

6.3 Naturally Occurring Asbestos

NOA is present in some portions of the project area, including locations identified in Section 5.3, at concentrations at or greater than the regulatory threshold of 0.25% by the PLM method. Based on the presence of NOA within the project area, Caltrans requires that the contractor(s) prepare and implement an Asbestos Dust Mitigation Plan (ADMP) that describes measures that will be taken to control the potential release of asbestos-containing dust from the Site as a result of onsite construction excavation activities. Asbestos dust control activities to be implemented shall be in compliance with the following:

- CCR Section 93105 – Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations (ATCM 93105);

- CCR Section 93106 – Asbestos Airborne Toxic Control Measure for Surfacing Applications (ATCM 93106); and
- North Coast Unified Air Quality Management District guidelines.

Additionally, construction/maintenance activities involving asbestos-containing materials may fall under regulatory jurisdiction of the California Division of the Occupational Safety and Health Administration (Cal-OSHA) under CCR Title 8 Section 5208. If serpentine or ultramafic bedrock materials are encountered, they should be used as fill material and covered by a suitable cap (i.e., at least 3 inches of material that contains less than 0.25% asbestos). We understand that for this project, Caltrans intends to install a permanent cap that consists of stapled and glued down weed mat.

We understand from Caltrans that there will be no offsite disposal of soil/rock during this project. Should circumstances change and serpentine or ultramafic bedrock materials need to be removed from the project area, asbestos content notification will be required and the material may not be used for surfacing applications if asbestos content is equal to or greater than 0.25%. It is recommended that if serpentine or ultramafic bedrock materials are to be exported from the project area they be evaluated for the presence of NOA.

6.3.1 Asbestos Worker Protection

Caltrans requires that the contractor(s) prepare a project-specific Asbestos Compliance Plan (CCR Title 8, Section 1529, the “Asbestos in Construction” standard) to minimize potential worker exposure to asbestos-containing materials at the project area. 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 asbestos-containing soil.

Construction/maintenance activities involving potentially asbestos-containing materials may fall under regulatory jurisdiction of the California Division of the Occupational Safety and Health Administration (Cal-OSHA) under CCR Title 8 Section 5208. Mitigation measures during construction/maintenance activities should be utilized to minimize potential releases of NOA to air (dust control) and surface waters (stormwater discharge).

Currently, regulatory exposure limits and health hazard data are not available for NOA in soils. Federal regulations governing asbestos define it as the asbestiform variety of the amphibole minerals actinolite, amosite, anthophyllite, crocidolite, and tremolite, and the asbestiform variety of serpentine, chrysotile. Asbestos fibers occurring in industrial materials are considered by the National Institute for Occupational Safety and Health as potential occupational carcinogens. Prudence is recommended, therefore, in dealing with soils potentially containing NOA. Engineering controls, such as wet methods for dust suppression, should be utilized to minimize aerial dispersion of NOA fibers in planned work

areas during excavation and construction activities. Under Title 8 Section 5208 of the CCR, disturbance of asbestos-containing materials requires wet working methods and possible respiratory protection and air monitoring. The CARB has established protocols outlined in Title 17, Section 93105 for the implementation of worker health, safety and monitoring plans for excavation, grading and transport of NOA-containing soils. The excavation contractor should consult Title 17, Section 93105 and contact Cal-OSHA to establish the appropriate regulatory protocol and actions necessary for excavation and/or disturbance of asbestos-containing soils.

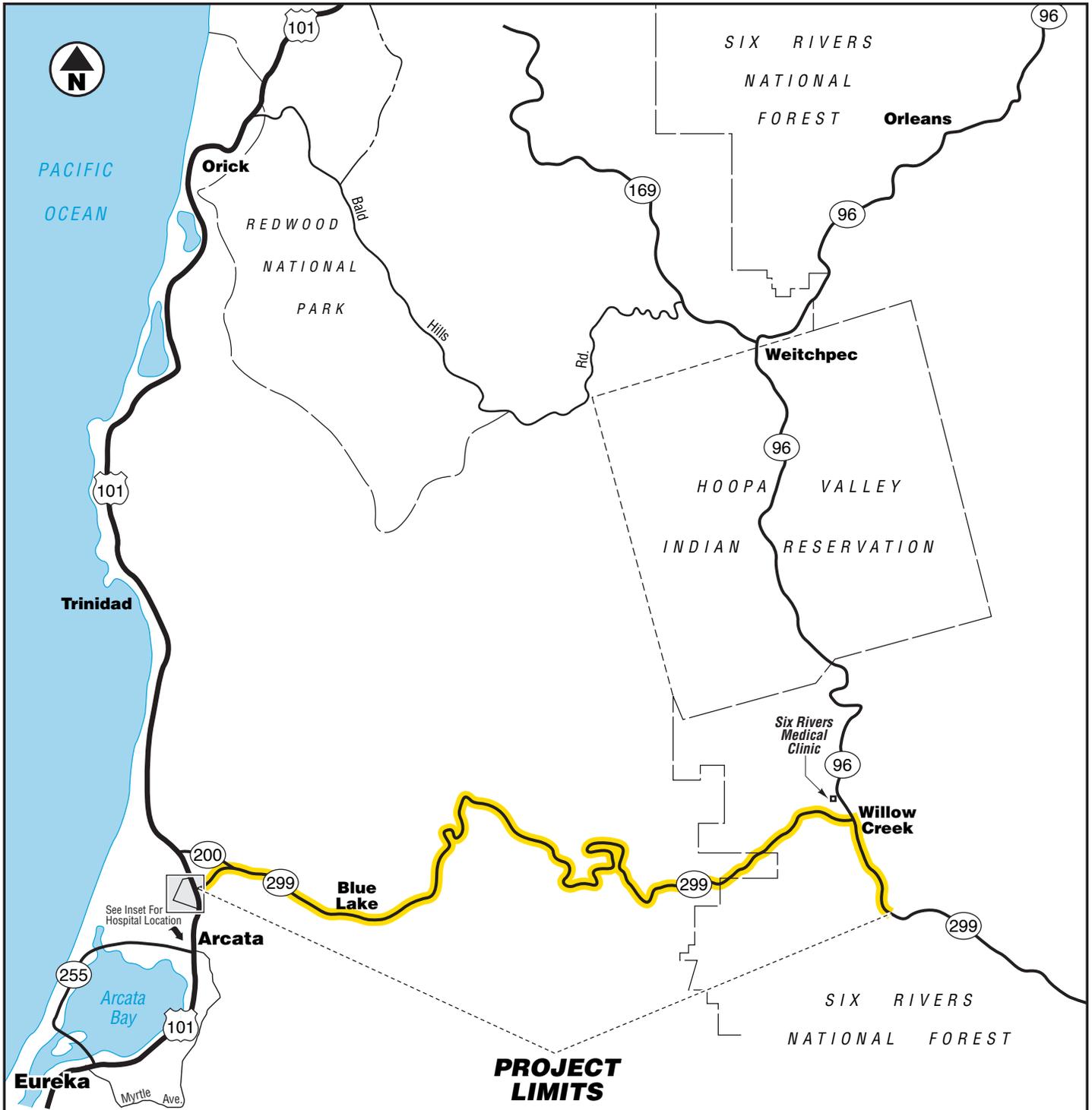
6.4 Worker Protection

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-containing soil at the PM 50.9 project area. 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-containing soil.

7.0 REPORT LIMITATIONS

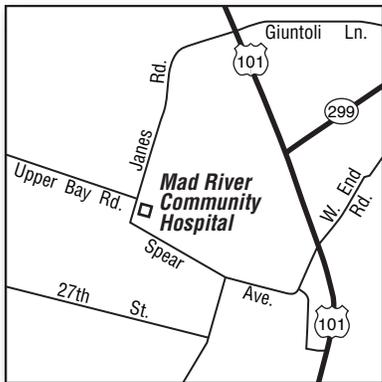
This report has been prepared exclusively for Caltrans. The information contained herein is only valid as of the date of the report and will require an update to reflect additional information obtained.

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.



PROJECT LIMITS

0 5
Scale in Miles



GEOCON
CONSULTANTS, INC.

3160 GOLD VALLEY DR. - SUITE 800 - RANCHO CORDOVA, CA. 95742
PHONE 916 852-9118 - FAX 916 852-9132

State Route 299 PM 0.0 to 42.97 Guard Rail Reconstruction

Humboldt County,
California

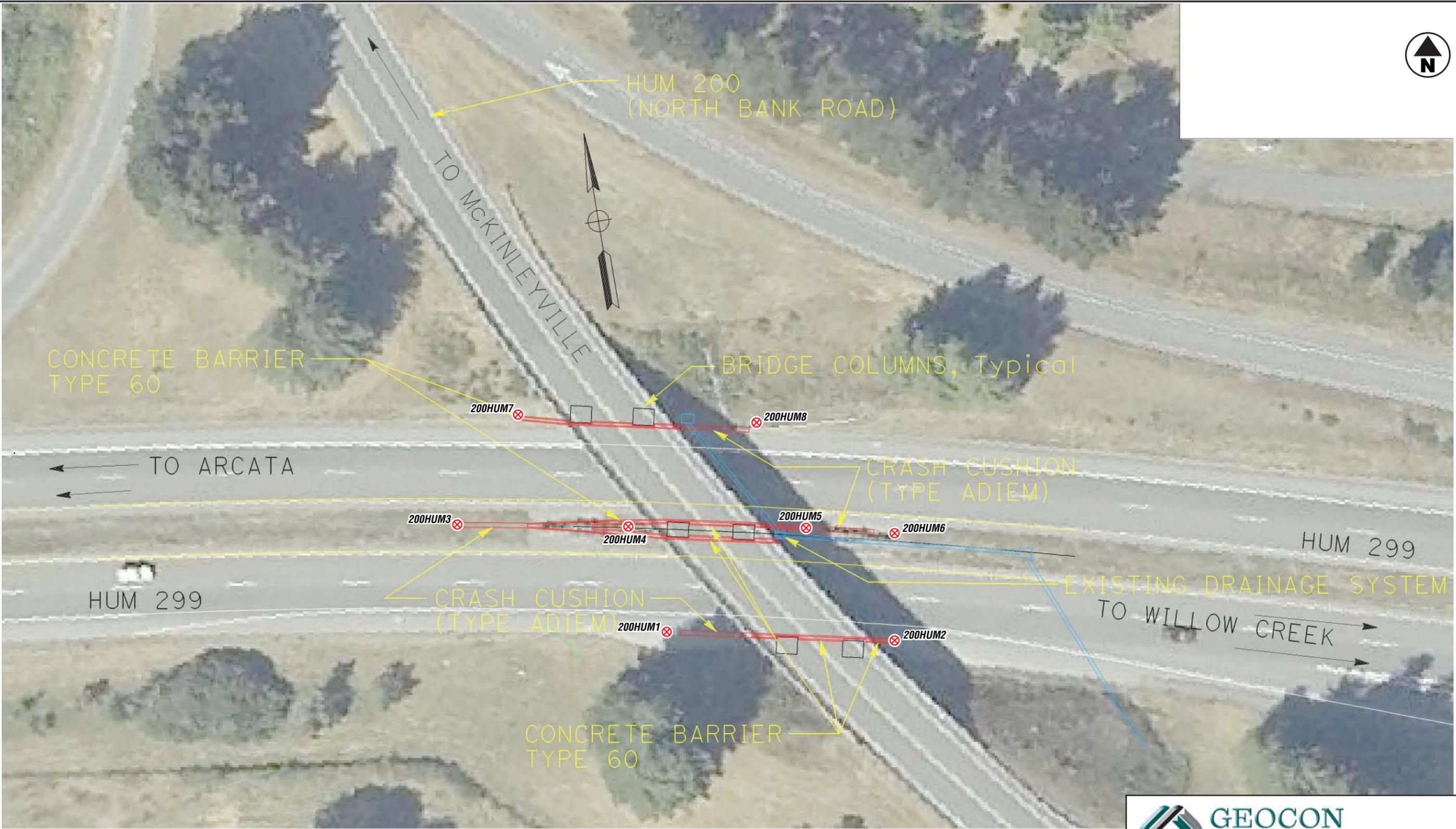
VICINITY MAP

GEOCON Proj. No. S9300-06-163

Task Order No. 163, EA 01-463900

June 2011

Figure 1



LEGEND:

200HUM7 ⊗ Approximate Boring Location



 **GEOCON**
CONSULTANTS, INC.
3160 GOLD VALLEY DR. - SUITE 800 - RANCHO CORDOVA, CA. 95742
PHONE 916 852-9118 - FAX 916 852-9132

State Route 299 PM 0.0 to 42.97 Guard Rail Reconstruction

Humboldt County, California	SITE PLAN	
GEOCON Proj. No. S9300-06-163		
Task Order No. 163, EA 01-463900	June 2011	Figure 2

TABLE I
 SUMMARY OF SOIL BORING COORDINATES AND LEAD ANALYTICAL RESULTS
 EA 01-463900
 STATE ROUTE 299 POST MILE 0.0 TO 42.97 GUARD RAIL RECONSTRUCTION
 HUMBOLDT COUNTY, CALIFORNIA

BORING ID	SAMPLE DATE	LATITUDE	LONGITUDE	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)
Loc 4 PM 1.54-0	5/17/2011	40.910168396	-124.062811402	21	---
Loc 4 PM 1.54-1	5/17/2011			12	---
200 HUM 1-0	5/17/2011	40.909952381	-124.058253781	33	---
200 HUM 2-0	5/17/2011	40.909889327	-124.057784291	17	---
200 HUM 3-0	5/17/2011	40.910138361	-124.058453805	30	---
200 HUM 4-0	5/17/2011	40.910082497	-124.058263258	55	2.5
200 HUM 5-0	5/17/2011	40.910065137	-124.057984681	16	---
200 HUM 6-0	5/17/2011	40.910057720	-124.057764939	24	---
200 HUM 7-0	5/17/2011	40.910263628	-124.058422546	24	---
200 HUM 8-0	5/17/2011	40.910201234	-124.057922572	33	---
Loc 14 PM 2.91-0	5/17/2011	40.906766972	-124.037847864	76	3.4
Loc 14 PM 2.91-1	5/17/2011			87	4.4
Loc 17 PM 3.49-0	5/17/2011	40.903911495	-124.028370279	83	3.0
Loc 17 PM 3.49-1	5/17/2011			12	---
Loc 21 PM 4.04-0	5/17/2011	40.898121757	-124.020315964	75	4.3
Loc 21 PM 4.04-1	5/17/2011			55	3.4
Loc 24 PM 5.47-0	5/17/2011	40.887989869	-123.998362434	46	---
Loc 24 PM 5.47-1	5/17/2011			33	---
Loc 26 PM 7.14-0	5/17/2011	40.883946595	-123.966929954	17	---
Loc 26 PM 7.14-1	5/17/2011			9.1	---
Loc 28 PM 8.73-0	5/17/2011	40.890039114	-123.939359131	8.2	---
Loc 28 PM 8.73-1	5/17/2011			6.5	---
Loc 30 PM 9.31-0	5/17/2011	40.896560071	-123.931944263	11	---
Loc 30 PM 9.31-1	5/17/2011			8.4	---
Loc 33 PM 10.22-0	5/17/2011	40.902337404	-123.917040742	13	---
Loc 33 PM 10.22-1	5/17/2011			10	---
Loc 43 PM 12.29-0	5/17/2011	40.929451142	-123.911774608	20	---
Loc 43 PM 12.29-1	5/17/2011			14	---
Loc 48 PM 13.17-0	5/17/2011	40.928471183	-123.899672469	8.7	---
Loc 48 PM 13.17-1	5/17/2011			8.8	---
Loc 52 PM 14.89-0	5/17/2011	40.947279569	-123.892774883	27	---

TABLE 1
 SUMMARY OF SOIL BORING COORDINATES AND LEAD ANALYTICAL RESULTS
 EA 01-463900
 STATE ROUTE 299 POST MILE 0.0 TO 42.97 GUARD RAIL RECONSTRUCTION
 HUMBOLDT COUNTY, CALIFORNIA

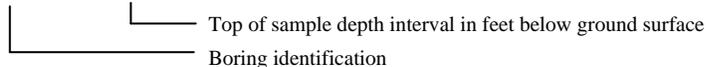
BORING ID	SAMPLE DATE	LATITUDE	LONGITUDE	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)
Loc 52 PM 14.89-1	5/17/2011			10	---
Loc 58 PM 16.03-0	5/17/2011	40.943558214	-123.873333818	82	2.0
Loc 58 PM 16.03-1	5/17/2011			160	12 (0.53)
Loc 63 PM 16.93-0	5/17/2011	40.933085297	-123.863967655	27	---
Loc 63 PM 16.93-1	5/17/2011			13	---
Loc 64 PM 21.16-0	5/17/2011	40.906930862	-123.828782877	7.7	---
Loc 64 PM 21.16-1	5/17/2011			6.9	---
Loc 67 PM 22.02-0	5/17/2011	40.905156011	-123.815323731	93	1.2
Loc 67 PM 22.02-1	5/17/2011			20	---
Loc 73 PM 23.86-0	5/17/2011	40.915193314	-123.800860607	7.5	---
Loc 73 PM 23.86-1	5/17/2011			13	---
Loc 82 PM 25.46-0	5/17/2011	40.923155335	-123.806210043	19	---
Loc 82 PM 25.46-1	5/17/2011			11	---
Loc 87 PM 27.07-0	5/17/2011	40.918996857	-123.787539429	18	---
Loc 87 PM 27.07-1	5/17/2011			18	---
Loc 91 PM 28.72-0	5/17/2011	40.898892846	-123.775642719	13	---
Loc 91 PM 28.72-1	5/17/2011			9.5	---
Loc 94 PM 30.36-0	5/17/2011	40.907017800	-123.756162374	14	---
Loc 94 PM 30.36-1	5/17/2011			23	---
Loc 97 PM 31.23-0	5/17/2011	40.904601799	-123.740688584	26	---
Loc 97 PM 31.23-1	5/17/2011			6.5	---
Loc 100 PM 31.83-0	5/17/2011	40.908317609	-123.731051423	<5.0	---
Loc 100 PM 31.83-1	5/17/2011			<5.0	---
Loc 107 PM 33.23-0	5/17/2011	40.908055831	-123.708333531	7.3	---
Loc 107 PM 33.23-1	5/17/2011			16	---
Loc 111 PM 34.47-0	5/17/2011	40.922432800	-123.694598631	17	---
Loc 111 PM 34.47-1	5/17/2011			10	---
Loc 122 PM 37.49-0	5/17/2011	40.945590240	-123.653708289	12	---
Loc 122 PM 37.49-1	5/17/2011			10	---
Loc 127 PM 40.95-0	5/17/2011	40.912605264	-123.617036202	43	---
Loc 127 PM 40.95-1	5/17/2011			18	---

TABLE 1
 SUMMARY OF SOIL BORING COORDINATES AND LEAD ANALYTICAL RESULTS
 EA 01-463900
 STATE ROUTE 299 POST MILE 0.0 TO 42.97 GUARD RAIL RECONSTRUCTION
 HUMBOLDT COUNTY, CALIFORNIA

BORING ID	SAMPLE DATE	LATITUDE	LONGITUDE	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)
-----------	-------------	----------	-----------	-----------------------	--------------------

Notes:

Loc 4 PM 1.54 - 0



WET = Waste Extraction Test by EPA Test Method 7420

mg/kg = Milligrams per kilogram

mg/l = Milligrams per liter

< = Less than the laboratory reporting limit

--- = Not analyzed

Concentration in parenthesis is Toxicity Characteristic Leaching Procedure for soluble lead by EPA Test Methods 1311/7420

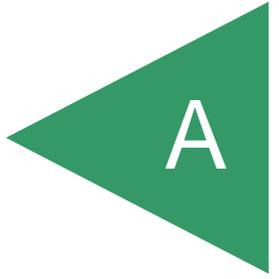
TABLE 2
SUMMARY OF NOA ANALYTICAL RESULTS
EA 01-463900
STATE ROUTE 299 POST MILE 0.0 TO 42.97 GUARD RAIL RECONSTRUCTION
HUMBOLDT COUNTY, CALIFORNIA

SAMPLE I.D.	SAMPLE DATE	ANALYTICAL METHOD	ASBESTOS %	ASBESTOS TYPE
Loc 73 PM 23.86 NOA	5/17/2011	PLM	ND	None Reported
Loc 107 PM 33.23 NOA	5/17/2011	PLM	ND	None Reported

Notes: PLM = Polarized Light Microscopy
NOA = Naturally occurring asbestos
ND = Not detected

APPENDIX

A



May 31, 2011



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

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

Workorder No.: 117990

RE: Humboldt 299, S9300-06-163

Attention: Rebecca Silva

Enclosed are the results for sample(s) received on May 21, 2011 by Advanced Technology Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

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

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

Sincerely,

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

Eddie F. Rodriguez
Laboratory Director

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



CLIENT: Geocon Consultants, Inc.
Project: Humboldt 299, S9300-06-163
Lab Order: 117990

CASE NARRATIVE

Analytical Comments for Method 6010

RPD for Duplicate (DUP) is outside criteria for samples 117990-010ADUP, 117990-040ADUP, 117990-050ADUP, 117990-060ADUP and 117990-062ADUP; however, the Laboratory Control Sample (LCS) validated the analytical batch.



**LEAD BY ICP
EPA 6010B**

ANALYTICAL RESULTS

CLIENT:	Geocon Consultants, Inc.	Lab Order:	117990
Project:	Humboldt 299, S9300-06-163	Date Received:	5/21/2011 12:19:00 PM
Project No:		Matrix:	Soil
Analyte:	Lead	Analyst:	SRB

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
117990-001A	loc 4 PM 1.54-0	21	mg/Kg	73184	5.0	1	5/17/2011	5/27/2011
117990-002A	loc 4 PM 1.54-1	12	mg/Kg	73184	5.0	1	5/17/2011	5/27/2011
117990-003A	200 Hum 1-0	33	mg/Kg	73184	5.0	1	5/17/2011	5/27/2011
117990-004A	200 Hum 2-0	17	mg/Kg	73184	5.0	1	5/17/2011	5/27/2011
117990-005A	200 Hum 3-0	30	mg/Kg	73184	5.0	1	5/17/2011	5/27/2011
117990-006A	200 Hum 4-0	55	mg/Kg	73184	5.0	1	5/17/2011	5/27/2011
117990-007A	200 Hum 5-0	16	mg/Kg	73184	5.0	1	5/17/2011	5/27/2011
117990-008A	200 Hum 6-0	24	mg/Kg	73184	5.0	1	5/17/2011	5/27/2011
117990-009A	200 Hum 7-0	24	mg/Kg	73184	5.0	1	5/17/2011	5/27/2011
117990-010A	200 Hum 8-0	33	mg/Kg	73184	5.0	1	5/17/2011	5/27/2011
117990-011A	loc 14 PM 2.91-0	76	mg/Kg	73184	5.0	1	5/17/2011	5/27/2011
117990-012A	loc 14 PM 2.91-1	87	mg/Kg	73184	5.0	1	5/17/2011	5/27/2011
117990-013A	loc 17 PM 3.49-0	83	mg/Kg	73184	5.0	1	5/17/2011	5/27/2011
117990-014A	loc 17 PM 3.49-1	12	mg/Kg	73184	5.0	1	5/17/2011	5/27/2011
117990-015A	loc 21 PM 4.04-0	75	mg/Kg	73184	5.0	1	5/17/2011	5/27/2011
117990-016A	loc 21 PM 4.04-1	55	mg/Kg	73184	5.0	1	5/17/2011	5/27/2011
117990-017A	loc 24 PM 5.47-0	46	mg/Kg	73184	5.0	1	5/17/2011	5/27/2011
117990-018A	loc 24 PM 5.47-1	33	mg/Kg	73184	5.0	1	5/17/2011	5/27/2011

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



**LEAD BY ICP
EPA 6010B**

ANALYTICAL RESULTS

CLIENT:	Geocon Consultants, Inc.	Lab Order:	117990
Project:	Humboldt 299, S9300-06-163	Date Received:	5/21/2011 12:19:00 PM
Project No:		Matrix:	Soil
Analyte:	Lead	Analyst:	SRB

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
117990-019A	loc 26 PM 7.14-0	17	mg/Kg	73184	5.0	1	5/17/2011	5/27/2011
117990-020A	loc 26 PM 7.14-1	9.1	mg/Kg	73184	5.0	1	5/17/2011	5/27/2011
117990-021A	loc 28 PM 8.73-0	8.2	mg/Kg	73185	5.0	1	5/17/2011	5/27/2011
117990-022A	loc 28 PM 8.73-1	6.5	mg/Kg	73185	5.0	1	5/17/2011	5/27/2011
117990-023A	loc 30 PM 9.31-0	11	mg/Kg	73185	5.0	1	5/17/2011	5/27/2011
117990-024A	loc 30 PM 9.31-1	8.4	mg/Kg	73185	5.0	1	5/17/2011	5/27/2011
117990-025A	loc 33 PM 10.22-0	13	mg/Kg	73185	5.0	1	5/17/2011	5/27/2011
117990-026A	loc 33 PM 10.22-1	10	mg/Kg	73185	5.0	1	5/17/2011	5/27/2011
117990-027A	loc 43 PM 12.29-0	20	mg/Kg	73185	5.0	1	5/17/2011	5/27/2011
117990-028A	loc 43 PM 12.29-1	14	mg/Kg	73185	5.0	1	5/17/2011	5/27/2011
117990-029A	loc 48 PM 13.17-0	8.7	mg/Kg	73185	5.0	1	5/17/2011	5/27/2011
117990-030A	loc 48 PM 13.17-1	8.8	mg/Kg	73185	5.0	1	5/17/2011	5/27/2011
117990-031A	loc 52 PM 14.89-0	27	mg/Kg	73185	5.0	1	5/17/2011	5/27/2011
117990-032A	loc 52 PM 14.89-1	10	mg/Kg	73185	5.0	1	5/17/2011	5/27/2011
117990-033A	loc 58 PM 16.03-0	82	mg/Kg	73185	5.0	1	5/17/2011	5/27/2011
117990-034A	loc 58 PM 16.03-1	160	mg/Kg	73185	5.0	1	5/17/2011	5/27/2011
117990-035A	loc 63 PM 16.93-0	27	mg/Kg	73185	5.0	1	5/17/2011	5/27/2011
117990-036A	loc 63 PM 16.93-1	13	mg/Kg	73185	5.0	1	5/17/2011	5/27/2011

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



**LEAD BY ICP
EPA 6010B**

ANALYTICAL RESULTS

CLIENT:	Geocon Consultants, Inc.	Lab Order:	117990
Project:	Humboldt 299, S9300-06-163	Date Received:	5/21/2011 12:19:00 PM
Project No:		Matrix:	Soil
Analyte:	Lead	Analyst:	SRB

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
117990-037A	loc 64 PM 21.16-0	7.7	mg/Kg	73185	5.0	1	5/17/2011	5/27/2011
117990-038A	loc 64 PM 21.16-1	6.9	mg/Kg	73185	5.0	1	5/17/2011	5/27/2011
117990-039A	loc 67 PM 22.02-0	93	mg/Kg	73185	5.0	1	5/17/2011	5/27/2011
117990-040A	loc 67 PM 22.02-1	20	mg/Kg	73185	5.0	1	5/17/2011	5/27/2011
117990-041A	loc 73 PM 23.86-0	7.5	mg/Kg	73186	5.0	1	5/17/2011	5/27/2011
117990-042A	loc 73 PM 23.86-1	13	mg/Kg	73186	5.0	1	5/17/2011	5/27/2011
117990-043A	loc 82 PM 25.46-0	19	mg/Kg	73186	5.0	1	5/17/2011	5/27/2011
117990-044A	loc 82 PM 25.46-1	11	mg/Kg	73186	5.0	1	5/17/2011	5/27/2011
117990-045A	loc 87 PM 27.07-0	18	mg/Kg	73186	5.0	1	5/17/2011	5/27/2011
117990-046A	loc 87 PM 27.07-1	18	mg/Kg	73186	5.0	1	5/17/2011	5/27/2011
117990-047A	loc 91 PM 28.72-0	13	mg/Kg	73186	5.0	1	5/17/2011	5/27/2011
117990-048A	loc 91 PM 28.72-1	9.5	mg/Kg	73186	5.0	1	5/17/2011	5/27/2011
117990-049A	loc 94 PM 30.36-0	14	mg/Kg	73186	5.0	1	5/17/2011	5/27/2011
117990-050A	loc 94 PM 30.36-1	23	mg/Kg	73186	5.0	1	5/17/2011	5/27/2011
117990-051A	loc 97 PM 31.23-0	26	mg/Kg	73186	5.0	1	5/17/2011	5/27/2011
117990-052A	loc 97 PM 31.23-1	6.5	mg/Kg	73186	5.0	1	5/17/2011	5/27/2011
117990-053A	loc 100 PM 31.83-0	ND	mg/Kg	73186	5.0	1	5/17/2011	5/27/2011
117990-054A	loc 100 PM 31.83-1	ND	mg/Kg	73186	5.0	1	5/17/2011	5/27/2011

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



**LEAD BY ICP
EPA 6010B**

ANALYTICAL RESULTS

CLIENT:	Geocon Consultants, Inc.	Lab Order:	117990
Project:	Humboldt 299, S9300-06-163	Date Received:	5/21/2011 12:19:00 PM
Project No:		Matrix:	Soil
Analyte:	Lead	Analyst:	SRB

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
117990-055A	loc 107 PM 33.23-0	7.3	mg/Kg	73186	5.0	1	5/17/2011	5/27/2011
117990-056A	loc 107 PM 33.23-1	16	mg/Kg	73186	5.0	1	5/17/2011	5/27/2011
117990-057A	loc 111 PM 34.47-0	17	mg/Kg	73186	5.0	1	5/17/2011	5/27/2011
117990-058A	loc 111 PM 34.47-1	10	mg/Kg	73186	5.0	1	5/17/2011	5/27/2011
117990-059A	loc 122 PM 37.49-0	12	mg/Kg	73186	5.0	1	5/17/2011	5/27/2011
117990-060A	loc 122 PM 37.49-1	10	mg/Kg	73186	5.0	1	5/17/2011	5/27/2011
117990-061A	loc 127 PM 40.95-0	43	mg/Kg	73187	5.0	1	5/17/2011	5/27/2011
117990-062A	loc 127 PM 40.95-1	18	mg/Kg	73187	5.0	1	5/17/2011	5/27/2011

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



CLIENT: Geocon Consultants, Inc.
Work Order: 117990
Project: Humboldt 299, S9300-06-163

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID: MB-73184A	SampType: MBLK	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 5/27/2011	RunNo: 133430						
Client ID: PBS	Batch ID: 73184	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 5/27/2011	SeqNo: 2177454						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 0.282 5.0

Sample ID: LCS-73184	SampType: LCS	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 5/27/2011	RunNo: 133430						
Client ID: LCSS	Batch ID: 73184	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 5/27/2011	SeqNo: 2177455						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 268.693 5.0 250.0 0.2816 107 80 120

Sample ID: 117990-010A-DUP	SampType: DUP	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 5/27/2011	RunNo: 133430						
Client ID: 200 Hum 8-0	Batch ID: 73184	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 5/27/2011	SeqNo: 2177466						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 46.406 5.0 32.99 33.8 20 R

Sample ID: 117990-010A-MS	SampType: MS	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 5/27/2011	RunNo: 133430						
Client ID: 200 Hum 8-0	Batch ID: 73184	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 5/27/2011	SeqNo: 2177467						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

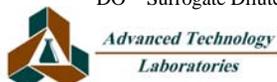
Lead 267.258 5.0 250.0 32.99 93.7 34 126

Sample ID: MB-73184B	SampType: MBLK	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 5/27/2011	RunNo: 133430						
Client ID: PBS	Batch ID: 73184	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 5/27/2011	SeqNo: 2177468						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 5.0

Qualifiers:

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



CLIENT: Geocon Consultants, Inc.
Work Order: 117990
Project: Humboldt 299, S9300-06-163

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

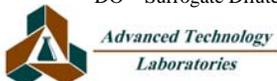
Sample ID: 117990-020A-DUP	SampType: DUP	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 5/27/2011	RunNo: 133430						
Client ID: loc 26 PM 7.14-1	Batch ID: 73184	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 5/27/2011	SeqNo: 2177479						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	7.429	5.0						9.069	19.9	20	

Sample ID: 117990-020A-MS	SampType: MS	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 5/27/2011	RunNo: 133430						
Client ID: loc 26 PM 7.14-1	Batch ID: 73184	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 5/27/2011	SeqNo: 2177480						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	209.026	5.0	250.0	9.069	80.0	34	126				

Sample ID: 117990-020A-MSD	SampType: MSD	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 5/27/2011	RunNo: 133430						
Client ID: loc 26 PM 7.14-1	Batch ID: 73184	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 5/27/2011	SeqNo: 2177481						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	227.528	5.0	250.0	9.069	87.4	34	126	209.0	8.48	20	

Qualifiers:

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



CLIENT: Geocon Consultants, Inc.
Work Order: 117990
Project: Humboldt 299, S9300-06-163

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID: MB-73185A	SampType: MBLK	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 5/27/2011	RunNo: 133447						
Client ID: PBS	Batch ID: 73185	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 5/27/2011	SeqNo: 2177482						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	ND	5.0									
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Sample ID: LCS-73185	SampType: LCS	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 5/27/2011	RunNo: 133447						
Client ID: LCSS	Batch ID: 73185	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 5/27/2011	SeqNo: 2177483						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	252.104	5.0	250.0	0	101	80	120				
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Sample ID: 117990-030A-DUP	SampType: DUP	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 5/27/2011	RunNo: 133447						
Client ID: loc 48 PM 13.17-1	Batch ID: 73185	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 5/27/2011	SeqNo: 2177494						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	10.337	5.0						8.775	16.3	20	
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Sample ID: 117990-030A-MS	SampType: MS	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 5/27/2011	RunNo: 133447						
Client ID: loc 48 PM 13.17-1	Batch ID: 73185	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 5/27/2011	SeqNo: 2177495						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

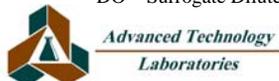
Lead	204.582	5.0	250.0	8.775	78.3	34	126				
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Sample ID: MB-73185B	SampType: MBLK	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 5/27/2011	RunNo: 133447						
Client ID: PBS	Batch ID: 73185	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 5/27/2011	SeqNo: 2177496						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	ND	5.0									
------	----	-----	--	--	--	--	--	--	--	--	--

Qualifiers:

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



CLIENT: Geocon Consultants, Inc.
Work Order: 117990
Project: Humboldt 299, S9300-06-163

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

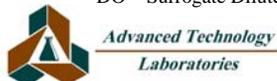
Sample ID: 117990-040A-DUP	SampType: DUP	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 5/27/2011	RunNo: 133447						
Client ID: loc 67 PM 22.02-1	Batch ID: 73185	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 5/27/2011	SeqNo: 2177507						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	14.745	5.0						19.98	30.1	20	R

Sample ID: 117990-040A-MS	SampType: MS	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 5/27/2011	RunNo: 133447						
Client ID: loc 67 PM 22.02-1	Batch ID: 73185	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 5/27/2011	SeqNo: 2177508						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	212.685	5.0	250.0	19.98	77.1	34	126				

Sample ID: 117990-040A-MSD	SampType: MSD	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 5/27/2011	RunNo: 133447						
Client ID: loc 67 PM 22.02-1	Batch ID: 73185	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 5/27/2011	SeqNo: 2177509						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	214.053	5.0	250.0	19.98	77.6	34	126	212.7	0.641	20	

Qualifiers:

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



CLIENT: Geocon Consultants, Inc.
Work Order: 117990
Project: Humboldt 299, S9300-06-163

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID: MB-73186A	SampType: MBLK	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 5/27/2011	RunNo: 133448						
Client ID: PBS	Batch ID: 73186	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 5/27/2011	SeqNo: 2177510						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	5.0									

Sample ID: LCS-73186	SampType: LCS	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 5/27/2011	RunNo: 133448						
Client ID: LCSS	Batch ID: 73186	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 5/27/2011	SeqNo: 2177511						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	254.411	5.0	250.0	0	102	80	120				

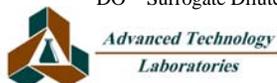
Sample ID: 117990-050A-DUP	SampType: DUP	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 5/27/2011	RunNo: 133448						
Client ID: loc 94 PM 30.36-1	Batch ID: 73186	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 5/27/2011	SeqNo: 2177522						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	17.474	5.0						23.15	27.9	20	R

Sample ID: 117990-050A-MS	SampType: MS	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 5/27/2011	RunNo: 133448						
Client ID: loc 94 PM 30.36-1	Batch ID: 73186	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 5/27/2011	SeqNo: 2177523						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	219.263	5.0	250.0	23.15	78.4	34	126				

Sample ID: MB-73186B	SampType: MBLK	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 5/27/2011	RunNo: 133448						
Client ID: PBS	Batch ID: 73186	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 5/27/2011	SeqNo: 2177524						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	5.0									

Qualifiers:

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



CLIENT: Geocon Consultants, Inc.
Work Order: 117990
Project: Humboldt 299, S9300-06-163

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

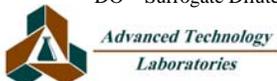
Sample ID: 117990-060A-DUP	SampType: DUP	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 5/27/2011	RunNo: 133448						
Client ID: loc 122 PM 37.49-1	Batch ID: 73186	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 5/27/2011	SeqNo: 2177535						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	8.146	5.0						10.15	21.9	20	R

Sample ID: 117990-060A-MS	SampType: MS	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 5/27/2011	RunNo: 133448						
Client ID: loc 122 PM 37.49-1	Batch ID: 73186	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 5/27/2011	SeqNo: 2177535						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	193.263	5.0	250.0	10.15	73.2	34	126				

Sample ID: 117990-060A-MSD	SampType: MSD	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 5/27/2011	RunNo: 133448						
Client ID: loc 122 PM 37.49-1	Batch ID: 73186	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 5/27/2011	SeqNo: 2177537						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	196.336	5.0	250.0	10.15	74.5	34	126	193.3	1.58	20	

Qualifiers:

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



CLIENT: Geocon Consultants, Inc.
Work Order: 117990
Project: Humboldt 299, S9300-06-163

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID: MB-73187A	SampType: MBLK	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 5/27/2011	RunNo: 133449						
Client ID: PBS	Batch ID: 73187	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 5/27/2011	SeqNo: 2177538						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	5.0									

Sample ID: LCS-73187	SampType: LCS	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 5/27/2011	RunNo: 133449						
Client ID: LCSS	Batch ID: 73187	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 5/27/2011	SeqNo: 2177538						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	244.341	5.0	250.0	0	97.7	80	120				

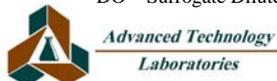
Sample ID: 117990-062A-DUP	SampType: DUP	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 5/27/2011	RunNo: 133449						
Client ID: loc 127 PM 40.95-1	Batch ID: 73187	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 5/27/2011	SeqNo: 2177542						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	26.157	5.0						17.58	39.2	20	R

Sample ID: 117990-062A-MS	SampType: MS	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 5/27/2011	RunNo: 133449						
Client ID: loc 127 PM 40.95-1	Batch ID: 73187	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 5/27/2011	SeqNo: 2177543						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	203.747	5.0	250.0	17.58	74.5	34	126				

Sample ID: 117990-062A-MSD	SampType: MSD	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 5/27/2011	RunNo: 133449						
Client ID: loc 127 PM 40.95-1	Batch ID: 73187	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 5/27/2011	SeqNo: 2177544						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	220.991	5.0	250.0	17.58	81.4	34	126	203.7	8.12	20	

Qualifiers:

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



CHAIN OF CUSTODY RECORD

1/7

 <p>Advanced Technology Laboratories</p> <p>3275 Walnut Avenue Signal Hill, CA 90755 Tel: (562) 989-4045 • Fax: (562) 989-4040</p>	FOR LABORATORY USE ONLY			
	P.O. #: _____	Method of Transport: Client <input type="checkbox"/> ATL <input type="checkbox"/> CA OverN <input type="checkbox"/> FedEx <input type="checkbox"/> Other: <u>onTrac</u>	Sample Condition Upon Receipt 1. CHILLED <u>20.4°C</u> Y <input checked="" type="checkbox"/> N <input checked="" type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 2. HEADSPACE (VOA) <u>1/1</u> Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTAC Y <input checked="" type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	

Client: GEOCON Consultants, Inc Attention: Rebecca Silva	Address: 3160 Gold Valley Drive, Suite 800 City: Rancho Cordova State: CA Zip Code: 95742	Tel: 916.852.9118 Fax: 916.852.9132
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Project Name: Humboldt 299	Project #: S9300-06-163	Sampler: (Printed Name) Mike O'Brien
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Relinquished by: (Signature and Printed Name) <u>Mike O'Brien</u>	Date: <u>5/20/11</u>	Time: <u>1630</u>	Received by: (Signature and Printed Name) <u>onTrac</u>	Date: <u>5/20/11</u>	Time: <u>1630</u>
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Relinquished by: (Signature and Printed Name) _____	Date: _____	Time: _____	Received by: (Signature and Printed Name) <u>Frown</u>	Date: <u>5/21/11</u>	Time: <u>1219</u>
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Relinquished by: (Signature and Printed Name) _____	Date: _____	Time: _____	Received by: (Signature and Printed Name) _____	Date: _____	Time: _____
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I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: Rebecca Silva	Send Report To: Attn: _____ Co: SAME AS ABOVE Addr: _____ City: _____ State: _____ Zip: _____	Bill To: Attn: _____ Co: SAME AS ABOVE Addr: _____ City: _____ State: _____ Zip: _____	Special Instructions/Comments: Caltrans billing per 03A1368 Please copy Kari Cook on the results and include an excel file. Thank you. (cook@geoconinc.com)
---	---	--	---

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

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

Circle or Add Analysis(es) Requested	8091A (Pesticides)	8092 (PCB)	8260B (Volatiles)	8270C (BNA)	6010B (Total Metal)	8015B (GRO) / 8020 (BTEX)	8015B (DRO)	8021 (BTEX)	TITLE 22 / CAM 17 (6010 / 7000)	Total lead (6010B)	SPECIFY APPROPRIATE MATRIX			PRESERVATION	QA/QC
	SOIL	WATER	GROUND WATER	WASTEWATER	CARBON	TAT #	Type	Container(s)	RTNE <input type="checkbox"/>	CT <input checked="" type="checkbox"/>	SWRCB Logcode	OTHER _____			

ITEM	LAB USE ONLY:		Sample Description				Date	Time	Analysis(es)	Matrix	TAT #	Type	REMARKS	
	Batch #:	Lab No.	Sample ID / Location	Date	Time									
			117990-01	loc 4 PM 1.54-0		5/17/11	805			X	X	E	1	baggie
			-2	↓			815							
			-3	200 Hum 1-0			825							
			-4	2-X0			827							
			-5	3-80			829							
			-6	4-80			831							
			-7	5-80			833							
			-8	6-80			835							
			-9	7-80			837							
			-10	8-0			839							

■ TAT starts 8AM the following day if samples received after 3 PM	TAT: A = Overnight ≤ 24 hrs	B = Emergency Next Workday	C = Critical 2 Workdays	D = Urgent 3 Workdays	E = Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₃
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD

2/7

 <p>Advanced Technology Laboratories</p> <p>3275 Walnut Avenue Signal Hill, CA 90755 Tel: (562) 989-4045 • Fax: (562) 989-4040</p>	FOR LABORATORY USE ONLY			
	P.O. #: _____	Method of Transport Client <input type="checkbox"/> ATL <input type="checkbox"/> CA OverN <input type="checkbox"/> FedEx <input type="checkbox"/> Other: <u>Other</u>	Sample Condition Upon Receipt 1. CHILLED Y <input type="checkbox"/> N <input type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTAC Y <input type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input type="checkbox"/>	

Client: GEOCON Consultants, Inc	Address: 3160 Gold Valley Drive, Suite 800	Tel: 916.852.9118
Attention: Rebecca Silva	City: Rancho Cordova State: CA Zip Code: 95742	Fax: 916.852.9132

Project Name: Humboldt 299	Project #: S9300-06-163	Sampler: (Printed Name) Mike O'Brien	(Signature) 
Relinquished by: (Signature and Printed Name) Mike O'Brien 	Date: 5/20/11	Time: 1630	Received by: (Signature and Printed Name) <u>ONTREC</u>
Relinquished by: _____	Date: _____	Time: _____	Received by: (Signature and Printed Name) <u>FPD LWA</u>
Relinquished by: _____	Date: _____	Time: _____	Received by: (Signature and Printed Name) _____

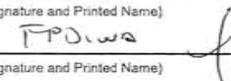
I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: Rebecca Silva	Send Report To: Attn: _____ Co: SAME AS ABOVE Addr: _____ City: _____ State: _____ Zip: _____	Bill To: Attn: _____ Co: SAME AS ABOVE Addr: _____ City: _____ State: _____ Zip: _____	Special Instructions/Comments: Caltrans billing per 03A1368 Please copy Kari Cook on the results and include an excel file. Thank you. (cook@geoconinc.com)
--	---	--	---

Sample/Records - Archival & Disposal					SPECIFY APPROPRIATE MATRIX										PRESERVATION	QA/QC									
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.					Circle or Add Analysis(es) Requested										RTNE <input type="checkbox"/> CT <input checked="" type="checkbox"/>	SWRCB Logcode _____									
Storage Fees (applies when storage is requested): ■ Sample :\$2.00 / sample /mo (after 45 days) ■ Records: \$1 /ATL workorder /mo (after 1 year)					Container(s)												OTHER _____	REMARKS							
LAB USE ONLY:	Batch #:	Sample Description			Date	Time	8081A (Pesticides)	8082 (PCB)	8260B (Volatiles)	8270C (BNA)	6010B (Total Metal)	8015B (GRO) / 8020 (BTEX)	8015B (DRO)	8021 (BTEX)	TITLE 22 / CAM 17 (6010 / 7000)	Total lead (6010B)			SOIL	WATER	GROUND WATER	WASTEWATER	CARBON	TAT	#
		200 HOMA-0			5/17/11										X	X						1	baggie		
		10-0																							
	117995-11	loc 14 PM 2.91-0			5/17/11	905									X	X					E				
	-12	↓ -1				907																			
	-13	loc 17 PM 3.49-0				910																			
	-14	↓ -1				912																			
	-15	loc 21 PM 4.04-0				922																			
	-16	↓ -1				924																			
	-17	loc 24 PM 5.47-0				936																			
	-18	↓ -1				938																			

■ TAT starts 8AM the following day if samples received after 3 PM	TAT: A = Overnight ≤ 24 hrs	B = Emergency Next Workday	C = Critical 2 Workdays	D = Urgent 3 Workdays	E = Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₃
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD

3/7

 <p>Advanced Technology Laboratories 3275 Walnut Avenue Signal Hill, CA 90755 Tel: (562) 989-4045 • Fax: (562) 989-4040</p>		FOR LABORATORY USE ONLY					
		P.O. #: _____ Logged By: _____ Date: _____		Method of Transport Client <input type="checkbox"/> ATL <input type="checkbox"/> CA OverN <input type="checkbox"/> FedEx <input type="checkbox"/> Other: _____		Sample Condition Upon Receipt 1. CHILLED Y <input type="checkbox"/> N <input type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTAC Y <input type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input type="checkbox"/>	
Client: GEOCON Consultants, Inc Attention: Rebecca Silva			Address: 3160 Gold Valley Drive, Suite 800 City: Rancho Cordova State: CA Zip Code: 95742			Tel: 916.852.9118 Fax: 916.852.9132	
Project Name: Humboldt 299		Project #: S9300-06-163		Sampler: (Printed Name) Mike O'Brien		(Signature) 	
Relinquished by: (Signature and Printed Name) Mike O'Brien 		Date: 5/20/11	Time: 1630	Received by: (Signature and Printed Name) On trac		Date: 5/20/11 Time: 1630	
Relinquished by: (Signature and Printed Name) _____		Date: _____	Time: _____	Received by: (Signature and Printed Name) PPOlwa 		Date: 5/21/11 Time: 1219	
I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: Rebecca Silva Print Name: _____ Date: _____ Signature: _____		Send Report To: Attn: _____ Co: SAME AS ABOVE Addr: _____ City: _____ State: _____ Zip: _____		Bill To: Attn: _____ Co: SAME AS ABOVE Addr: _____ City: _____ State: _____ Zip: _____		Special Instructions/Comments: Caltrans billing per 03A1368 Please copy Kari Cook on the results and include an excel file. Thank you. (cook@geoconinc.com)	
Sample/Records - Archival & Disposal Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report. Storage Fees (applies when storage is requested): ■ Sample :\$2.00 / sample /mo (after 45 days) ■ Records: \$1 /ATL workorder /mo (after 1 year)				Circle or Add Analysis(es) Requested 8081A (Pesticides) 8082 (PCB) 8260B (Volatiles) 8270C (BNA) 8010B (Total Metal) 8015B (GRO) / 8020 (BTEX) 8021 (BTEX) TITLE 22 / CAM 17 (6010 / 7000) Total lead (6010B) SOIL WATER GROUND WATER WASTEWATER CARBON		SPECIFY APPROPRIATE MATRIX TAT # Type	
LAB USE ONLY: Batch #: _____ Lab No. _____				Sample Description Sample ID / Location Date Time		PRESERVATION QA/QC RTNE <input type="checkbox"/> CT <input checked="" type="checkbox"/> SWRCB Logcode _____ OTHER _____ REMARKS	
11990-19 loc 26 PM 7.14-0 5/17/11 947				X X E 1 baggie			
-20 ↓ -1 949				↓ ↓			
-21 loc 28 PM 8.73-0 1002				↓ ↓			
-22 ↓ -1 1004				↓ ↓			
-23 loc 30 PM 9.31-0 1014				↓ ↓			
-24 ↓ -1 1016				↓ ↓			
-25 loc 33 PM 10.22-0 1023				↓ ↓			
-26 ↓ -1 1025				↓ ↓			
-27 loc 43 PM 12.29-0 1038				↓ ↓			
-28 ↓ -1 1040				↓ ↓			
■ TAT starts 8AM the following day if samples received after 3 PM		TAT: A = Overnight ≤ 24 hrs B = Emergency Next Workday C = Critical 2 Workdays D = Urgent 3 Workdays E = Routine 7 Workdays		Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₃			
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal							

CHAIN OF CUSTODY RECORD

4/7



**Advanced Technology
Laboratories**

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

FOR LABORATORY USE ONLY

P.O. #: _____

Logged By: _____ Date: _____

Method of Transport

- Client
- ATL
- CA OverN
- FedEx
- Other: _____

Sample Condition Upon Receipt

- | | |
|---|---|
| 1. CHILLED <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> | 4. SEALED <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> |
| 2. HEADSPACE (VOA) <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> | 5. # OF SPLS MATCH COC <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> |
| 3. CONTAINER INTAC <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> | 6. PRESERVED <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> |

Client: GEOCON Consultants, Inc Attention: Rebecca Silva	Address: 3160 Gold Valley Drive, Suite 800 City: Rancho Cordova State: CA Zip Code: 95742	Tel: 916.852.9118 Fax: 916.852.9132
---	--	--

Project Name: Humboldt 299 Project #: S9300-06-163 Sampler: (Printed Name) Mike O'Brien (Signature) *[Signature]*

Relinquished by: (Signature and Printed Name) Mike O'Brien Date: 5/20/11 Time: 1630 Received by: (Signature and Printed Name) *[Signature]* Date: 5/20/11 Time: 1630

Relinquished by: (Signature and Printed Name) _____ Date: _____ Time: _____ Received by: (Signature and Printed Name) *[Signature]* Date: 5/20/11 Time: 1719

Relinquished by: (Signature and Printed Name) _____ Date: _____ Time: _____ Received by: (Signature and Printed Name) _____ Date: _____ Time: _____

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: Rebecca Silva Print Name Date	Send Report To: Attn: _____ Co: SAME AS ABOVE Addr: _____ City: _____ State: _____ Zip: _____	Bill To: Attn: _____ Co: SAME AS ABOVE Addr: _____ City: _____ State: _____ Zip: _____	Special Instructions/Comments: Caltrans billing per 03A1368 Please copy Kari Cook on the results and include an excel file. Thank you. (cook@geoconinc.com)
--	---	--	---

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

Storage Fees (applies when storage is requested):

- Sample :\$2.00 / sample /mo (after 45 days)
- Records: \$1 /ATL workorder /mo (after 1 year)

Circle or Add Analysis(es) Requested	SPECIFY APPROPRIATE MATRIX										PRESERVATION	QA/QC						
	8081A (Pesticides)	8082 (PCB)	8280B (Volatiles)	8270C (BVA)	8010B (Total Metal)	8015B (GRO) / 8020 (BTEX)	8015B (DRO)	8021 (BTEX)	TITLE 22 / CAM 17 (8010 / 7000)	Total lead (8010B)			SOIL	WATER	GROUND WATER	WASTEWATER	CARBON	TAT

ITEM	LAB USE ONLY:		Sample Description			
	Batch #	Lab No.	Sample ID / Location	Date	Time	
	117990-29		loc 48 PM 13.17-0	5/17/11	1047	
	-30		↓ -1		1049	
	-31		loc 52 PM 14.89-0		1057	
	-32		↓ -1		1059	
	-33		loc 58 PM 16.03-0		1109	
	-34		↓ -1		1111	
	-35		loc 63 PM 16.93-0		1123	
	-36		↓ -1		1125	
	-37		loc 64 PM 21.16-0		1138	
	-38		↓ -1		1140	

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

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

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

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

CHAIN OF CUSTODY RECORD

5/7



**Advanced Technology
Laboratories**

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

FOR LABORATORY USE ONLY

P.O. #: _____	Method of Transport Client <input type="checkbox"/> ATL <input type="checkbox"/> CA OverN <input type="checkbox"/> FedEx <input type="checkbox"/> Other: _____	Sample Condition Upon Receipt 1. CHILLED Y <input type="checkbox"/> N <input type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTAC Y <input type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input type="checkbox"/>
Logged By: _____ Date: _____		

Client: GEOCON Consultants, Inc Attention: Rebecca Silva	Address: 3160 Gold Valley Drive, Suite 800 City: Rancho Cordova State: CA Zip Code: 95742	Tel: 916.852.9118 Fax: 916.852.9132
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Project Name: Humboldt 299	Project #: S9300-06-163	Sampler: (Printed Name) Mike O'Brien	(Signature)
Relinquished by: (Signature and Printed Name) Mike O'Brien	Date: 5/20/11	Time: 1630	Received by: (Signature and Printed Name) on trac
Relinquished by: (Signature and Printed Name)	Date: 5/19/11	Time: 1219	Received by: (Signature and Printed Name) FPO wa
Relinquished by: (Signature and Printed Name)	Date: _____	Time: _____	Received by: (Signature and Printed Name)

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: Rebecca Silva Print Name Date	Send Report To: Attn: _____ Co: SAME AS ABOVE Addr: _____ City: _____ State: _____ Zip: _____	Bill To: Attn: _____ Co: SAME AS ABOVE Addr: _____ City: _____ State: _____ Zip: _____	Special Instructions/Comments: Caltrans billing per 03A1368 Please copy Kari Cook on the results and include an excel file. Thank you. (cook@geoconinc.com)
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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.

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 ■ Sample: \$2.00 / sample /mo (after 45 days)
 ■ Records: \$1 /ATL workorder /mo (after 1 year)

I T E M	LAB USE ONLY:		Sample Description				SPECIFY APPROPRIATE MATRIX												PRESERVATION	QA/QC					
	Batch #:	Lab No.	Sample ID / Location	Date	Time	8081A (Pesticides)	8082 (PCB)	8260B (Volatiles)	8270C (BNA)	8010B (Total Metal)	8015B (GRO) / 8020 (BTEX)	8021 (BTEX)	TITLE 22 / CAM 17 (6010 / 7000)	Total lead (6010B)	SOIL	WATER	GROUND WATER	WASTEWATER			CARBON	TAT	#	Type	REMARKS
	117990-39		loc 67 PM 22.02-0	5/17/11	1217									X	X							E	1	baggie	
	-40		↓ -1		1219																				
	-41		loc 73 PM 23.86-0		1233																				
	-42		↓ -1		1235																				
	-43		loc 82 PM 25.46-0		1252																				
	-44		↓ -1		1254																				
	-45		loc 87 PM 27.07-0		1304																				
	-46		↓ -1		1306																				
	-47		loc 91 PM 28.72-0		1316																				
	-48		↓ -1		1318																				

■ TAT starts 8AM the following day if samples received after 3 PM	TAT: A = Overnight ≤ 24 hrs	B = Emergency Next Workday	C = Critical 2 Workdays	D = Urgent 3 Workdays	E = Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₃
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

CHAIN OF CUSTODY RECORD

7/7



**Advanced Technology
Laboratories**

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

FOR LABORATORY USE ONLY

P.O. #: _____	Method of Transport Client <input type="checkbox"/> ATL <input type="checkbox"/> CA OverN <input type="checkbox"/> FedEx <input type="checkbox"/> Other: _____	Sample Condition Upon Receipt 1. CHILLED Y <input type="checkbox"/> N <input type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input type="checkbox"/> 2. HEADSPACE (VOA) Y <input type="checkbox"/> N <input type="checkbox"/> 5. # OF SPLS MATCH COC Y <input type="checkbox"/> N <input type="checkbox"/> 3. CONTAINER INTAC Y <input type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input type="checkbox"/>
Logged By: _____ Date: _____		

Client: GEOCON Consultants, Inc Attention: Rebecca Silva	Address: 3160 Gold Valley Drive, Suite 800 City: Rancho Cordova State: CA Zip Code: 95742	Tel: 916.852.9118 Fax: 916.852.9132
---	--	--

Project Name: Humboldt 299	Project #: S9300-06-163	Sampler: (Printed Name) Mike O'Brien	(Signature)
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Relinquished by: (Signature and Printed Name) Mike O'Brien	Date: 5/20/11	Time: 1630	Received by: (Signature and Printed Name) on trac	Date: 5/20/11	Time: 1630
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Relinquished by: (Signature and Printed Name)	Date: _____	Time: _____	Received by: (Signature and Printed Name) FD...	Date: 5/21/11	Time: 149
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Relinquished by: (Signature and Printed Name)	Date: _____	Time: _____	Received by: (Signature and Printed Name)	Date: _____	Time: _____
---	-------------	-------------	---	-------------	-------------

I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: Rebecca Silva Print Name Date	Send Report To: Attn: _____ Co: SAME AS ABOVE Addr: _____ City: _____ State: _____ Zip: _____	Bill To: Attn: _____ Co: SAME AS ABOVE Addr: _____ City: _____ State: _____ Zip: _____	Special Instructions/Comments: Caltrans billing per 03A1368 Please copy Kari Cook on the results and include an excel file. Thank you. (cook@geoconinc.com)
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ITEM	LAB USE ONLY:				Circle or Add Analysis(es) Requested	SPECIFY APPROPRIATE MATRIX										PRESERVATION	QA/QC	REMARKS							
	Batch #	Sample Description																	RTNE	CT					
	Lab No.	Sample ID / Location	Date	Time		8081A (Pesticides)	8082 (PCB)	8260B (Volatiles)	8270C (VNA)	8010B (Total Metal)	8015B (GRO) / 8020 (BTEX)	8015B (DRO)	8021 (BTEX)	TITLE 22 / CAM 17 (6010 / 7000)	Total lead (6010B)				SOIL	WATER	GROUND WATER	WASTEWATER	CARBON	TAT	#
	117990-59	loc 122 PM37.49-0	5/17/11	1440									X	X							E	1	baggie		
	-60	↓ -1	↓	1442									↓	↓							↓	↓	↓		
	-61	loc 127 PM40.95-0	↓	1456									↓	↓							↓	↓	↓		
	-62	↓ -1	↓	1458									↓	↓							↓	↓	↓		

■ TAT starts 8AM the following day if samples received after 3 PM	TAT: A = Overnight ≤ 24 hrs	B = Emergency Next Workday	C = Critical 2 Workdays	D = Urgent 3 Workdays	E = Routine 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C Z=Zn(AC) ₂ O=NaOH T=Na ₂ S ₂ O ₃
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal						

June 08, 2011



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

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

Workorder No.: 117990

RE: Humboldt 299, S9300-06-163

Attention: Rebecca Silva

Enclosed are the results for sample(s) received on May 21, 2011 by Advanced Technology Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

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

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

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

Sincerely,

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

Eddie F. Rodriguez
Laboratory Director

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



CLIENT: Geocon Consultants, Inc.
Project: Humboldt 299, S9300-06-163
Lab Order: 117990

CASE NARRATIVE

Analytical Comments for Method 7420

Dilution was necessary for sample 117990-034A, due to sample matrix.



LEAD BY ATOMIC ABSORPTION (STLC)
WET/ EPA 7420

ANALYTICAL RESULTS

CLIENT:	Geocon Consultants, Inc.	Lab Order:	117990
Project:	Humboldt 299, S9300-06-163	Date Received	5/21/2011 12:19:00 PM
Project No:		Matrix:	Soil
Analyte:	Lead	Analyst:	VV

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
117990-006A	200 Hum 4-0	2.5	mg/L	73329	0.25	1	5/17/2011	6/7/2011
117990-011A	loc 14 PM 2.91-0	3.4	mg/L	73329	0.25	1	5/17/2011	6/7/2011
117990-012A	loc 14 PM 2.91-1	4.4	mg/L	73329	0.25	1	5/17/2011	6/7/2011
117990-013A	loc 17 PM 3.49-0	3.0	mg/L	73329	0.25	1	5/17/2011	6/7/2011
117990-015A	loc 21 PM 4.04-0	4.3	mg/L	73329	0.25	1	5/17/2011	6/7/2011
117990-016A	loc 21 PM 4.04-1	3.4	mg/L	73329	0.25	1	5/17/2011	6/7/2011
117990-033A	loc 58 PM 16.03-0	2.0	mg/L	73329	0.25	1	5/17/2011	6/7/2011
117990-034A	loc 58 PM 16.03-1	12	mg/L	73329	0.50	2	5/17/2011	6/7/2011
117990-039A	loc 67 PM 22.02-0	1.2	mg/L	73329	0.25	1	5/17/2011	6/7/2011

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



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

ANALYTICAL RESULTS

CLIENT:	Geocon Consultants, Inc.	Lab Order:	117990
Project:	Humboldt 299, S9300-06-163	Date Received	5/21/2011 12:19:00 PM
Project No:		Matrix:	Soil
Analyte:	Lead	Analyst:	VV

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
117990-034A	loc 58 PM 16.03-1	0.53	mg/L	73378	0.25	1	5/17/2011	6/7/2011

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



CLIENT: Geocon Consultants, Inc.
Work Order: 117990
Project: Humboldt 299, S9300-06-163

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_ST

Sample ID: MB-73329A	SampType: MBLK	TestCode: 7420_ST	Units: mg/L	Prep Date: 6/5/2011	RunNo: 133668						
Client ID: PBS	Batch ID: 73329	TestNo: WET/ EPA 74 WET		Analysis Date: 6/7/2011	SeqNo: 2182241						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.25

Sample ID: LCS-73329	SampType: LCS	TestCode: 7420_ST	Units: mg/L	Prep Date: 6/5/2011	RunNo: 133668						
Client ID: LCSS	Batch ID: 73329	TestNo: WET/ EPA 74 WET		Analysis Date: 6/7/2011	SeqNo: 2182242						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 5.039 0.25 5.000 0 101 80 120

Sample ID: 117990-006A-DUP	SampType: DUP	TestCode: 7420_ST	Units: mg/L	Prep Date: 6/5/2011	RunNo: 133668						
Client ID: 200 Hum 4-0	Batch ID: 73329	TestNo: WET/ EPA 74 WET		Analysis Date: 6/7/2011	SeqNo: 2182245						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 2.542 0.25 2.453 3.55 20

Sample ID: 117990-006A-MS	SampType: MS	TestCode: 7420_ST	Units: mg/L	Prep Date: 6/5/2011	RunNo: 133668						
Client ID: 200 Hum 4-0	Batch ID: 73329	TestNo: WET/ EPA 74 WET		Analysis Date: 6/7/2011	SeqNo: 2182246						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

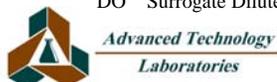
Lead 7.975 0.25 5.000 2.453 110 80 120

Sample ID: 117990-006A-MSD	SampType: MSD	TestCode: 7420_ST	Units: mg/L	Prep Date: 6/5/2011	RunNo: 133668						
Client ID: 200 Hum 4-0	Batch ID: 73329	TestNo: WET/ EPA 74 WET		Analysis Date: 6/7/2011	SeqNo: 2182247						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 8.051 0.25 5.000 2.453 112 80 120 7.975 0.947 20

Qualifiers:

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



CLIENT: Geocon Consultants, Inc.
Work Order: 117990
Project: Humboldt 299, S9300-06-163

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_TC

Sample ID: MB-73378A	SampType: MBLK	TestCode: 7420_TC	Units: mg/L	Prep Date: 6/7/2011	RunNo: 133672						
Client ID: PBS	Batch ID: 73378	TestNo: EPA 1311/ 74 EPA3010A		Analysis Date: 6/7/2011	SeqNo: 2182290						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.25									

Sample ID: MB-73362A TCLP	SampType: MBLK	TestCode: 7420_TC	Units: mg/L	Prep Date: 6/7/2011	RunNo: 133672						
Client ID: PBS	Batch ID: 73378	TestNo: EPA 1311/ 74 EPA3010A		Analysis Date: 6/7/2011	SeqNo: 2182291						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.25									

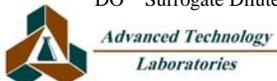
Sample ID: LCS-73378	SampType: LCS	TestCode: 7420_TC	Units: mg/L	Prep Date: 6/7/2011	RunNo: 133672						
Client ID: LCSS	Batch ID: 73378	TestNo: EPA 1311/ 74 EPA3010A		Analysis Date: 6/7/2011	SeqNo: 2182292						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	1.119	0.25	1.000	0	112	80	120				

Sample ID: 117881-001A-DUP	SampType: DUP	TestCode: 7420_TC	Units: mg/L	Prep Date: 6/7/2011	RunNo: 133672						
Client ID: ZZZZZZ	Batch ID: 73378	TestNo: EPA 1311/ 74 EPA3010A		Analysis Date: 6/7/2011	SeqNo: 2182294						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.361	0.25						0.3809	5.32	20	

Sample ID: 117881-001A-MS	SampType: MS	TestCode: 7420_TC	Units: mg/L	Prep Date: 6/7/2011	RunNo: 133672						
Client ID: ZZZZZZ	Batch ID: 73378	TestNo: EPA 1311/ 74 EPA3010A		Analysis Date: 6/7/2011	SeqNo: 2182295						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	2.750	0.25	2.500	0.3809	94.7	70	130				

Qualifiers:

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



CLIENT: Geocon Consultants, Inc.
Work Order: 117990
Project: Humboldt 299, S9300-06-163

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_TC

Sample ID: 117881-001A-MSD	SampType: MSD	TestCode: 7420_TC	Units: mg/L	Prep Date: 6/7/2011	RunNo: 133672						
Client ID: ZZZZZZ	Batch ID: 73378	TestNo: EPA 1311/ 74 EPA3010A		Analysis Date: 6/7/2011	SeqNo: 2182296						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	2.693	0.25	2.500	0.3809	92.5	70	130	2.750	2.08	20	

Qualifiers:

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



*Advanced Technology
Laboratories*

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

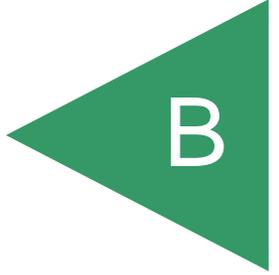
Diane Galvan

From: Rebecca Silva [silva@geoconinc.com]
Sent: Wednesday, June 01, 2011 2:57 PM
To: Diane Galvan
Subject: RE: Results/EDD - Humboldt 299 (117990)

Hi Diane - Please analyze the 9 samples with total lead > 50 mg/kg for WET lead on 5-day TAT and the 1 sample with total lead > 100 mg/kg for TCLP lead on 5-day TAT.

Thanks,
Rebecca

APPENDIX



DESCRIPTION OF DATA SET

Project Name: STATE ROUTE 299 GUARD RAIL RECONSTRUCTION
Project No.: S9300-06-163
Sample Depth: 0.0 ft
SR-299 Shoulder

DATA SET STATISTICS

Number of Valid Observations	27
Number of Distinct Observations	24
Minimum	2.5
Maximum	93
Mean	29.44
Median	18
Standard Deviation	27.44
Variance	753.1
Standard Error of Mean	5.3
Coefficient of Variation	0.9
Skewness	1.319
Mean of log data	2.995
Standard Deviation of log data	0.906

90% Non-parametric UCLs

Standard Bootstrap UCL 36.08

95% Non-parametric UCLs

Standard Bootstrap UCL 37.86

DESCRIPTION OF DATA SET

Project Name: STATE ROUTE 299 GUARD RAIL RECONSTRUCTION
Project No.: S9300-06-163
Sample Depth: 1.0 ft
SR-299 Shoulder

DATA SET STATISTICS

Number of Valid Observations	27
Number of Distinct Observations	20
Minimum	2.5
Maximum	160
Mean	22.34
Median	12
Standard Deviation	32.49
Variance	1055.0
Standard Error of Mean	6.3
Coefficient of Variation	1.5
Skewness	3.479
Mean of log data	2.646
Standard Deviation of log data	0.842

90% Non-parametric UCLs

Standard Bootstrap UCL 30.29

95% Non-parametric UCLs

Standard Bootstrap UCL 32.68