INFORMATION HANDOUT

For Contract No. 07-2055A4
At 07-LA-2-14.1/14.8

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Project ID 0714000277

MATERIALS INFORMATION

Aerially Deposited Lead Site Investigation Report - Off Ramp

Aerially Deposited Lead Site Investigation Report - Soundwall

AERIALLY DEPOSITED LEAD
SITE INVESTIGATION REPORT-OFFRAMP

GLENDALE BOULEVARD UNDERCROSSING TO ROSEBUD AVENUE UNDERCROSSING
LOS ANGELES COUNTY, CALIFORNIA

PREPARED FOR:
CALIFORNIA DEPARTMENT OF TRANSPORTATION
DISTRICT 7
100 SOUTH MAIN STREET, 12-268
LOS ANGELES, CALIFORNIA

PREPARED BY:
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CALTRANS CONTRACT 07A2729
TASK ORDER NO. 22
EA NO. 07-205521

GEOCON PROJECT NO. S9475-06-22

DECEMBER 19, 2012

GEOCON
CONSULTANTS, INC.
GEOTECHNICAL ■ ENVIRONMENTAL ■ MATERIALS

Project No. S9475-06-22
December 19, 2012

Mr. Ali Nili
California Department of Transportation, District 7
Office of Environmental Engineering & Corridor Studies
100 South Main Street, Suite 1200, 12-268
Los Angeles, California 90012

Subject: AERIALLY DEPOSITED LEAD SITE INVESTIGATION - OFFRAMP
GLENDALE BOULEVARD UC TO ROSEBUD AVENUE UC
LA-2 POST MILE 14.1/14.8
CITY OF LOS ANGELES, CALIFORNIA
CONTRACT NO. 07A2729, TASK ORDER NO. 22
EA NO. 07-205521

Dear Mr. Nili:

In accordance with Caltrans Contract No. 07A2729 and Task Order No. 22 dated October 25, 2012, Geocon Consultants, Inc. has performed an aerially deposited lead site investigation along U.S. Route 2 from the Glendale Boulevard undercrossing (UC) to Rosebud Avenue UC in the City of Los Angeles, California. The accompanying report summarizes the services performed, including the advancement of hand-auger borings, soil sampling, global positioning system data acquisition, laboratory analyses, and data evaluation.

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 call us if you have questions.

Sincerely,

GEOCON CONSULTANTS, INC.

Gemma Reblando
Project Geologist

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PROFESSIONAL GEOLOGIST
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(5/1CD) Addressee

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EXECUTIVE SUMMARY

Geocon Consultants, Inc. performed an aerially deposited lead (ADL) site investigation along U.S. Route 2 from the Glendale Boulevard undercrossing (UC) to Rosebud Avenue UC in the City of Los Angeles, California. The objective of the investigation was to evaluate soil at the project site for the potential presence of ADL and soil pH. The California Department of Transportation (Caltrans) intends to reuse excavated soil at the project site. Caltrans will use the information from the investigation to determine soil reuse and disposal options and identify health and safety concerns during construction activities.

Lead

Soil samples collected from the surface and depths up to 5 feet were analyzed for total lead and soluble lead using the Waste Extraction Test (WET) method with citric acid as the extractant. Selected samples were further analyzed for soluble lead using a modified WET method with de-ionized water (DI-WET) as the extractant, soluble lead using the Toxicity Characteristic Leaching Procedure (TCLP), and/or pH.

Laboratory analytical results and statistical analysis using non-parametric bootstrap techniques to calculate the 90% and 95% upper confidence limits (UCLs) were used to evaluate soil reuse and disposal options. The reuse of excavated soil has been evaluated, as applicable, based on the Department of Toxic Substances Control (DTSC) requirements in the Statewide Variance.

Onsite reuse and offsite disposal of excavated soil were based upon comparison of the total lead 90% and 95% UCLs to the California Code of Regulations (CCR) Title 22 total threshold limit concentration (TTLC) of 1,000 milligrams per kilogram (mg/kg), predicted WET results to the CCR Title 22 soluble threshold limit concentration (STLC) of 5.0 milligrams per liter (mg/l) and TCLP results to Chapter 40 of the Code of Federal Regulations (40 CFR) Resource, Conservation and Recovery Act (RCRA) hazardous waste threshold of 5.0 mg/l.

Soil excavated to a depth of 5.0 feet or shallower would be classified as a hazardous waste since the 90% UCL-predicted WET lead concentrations are greater than the STLC for lead of 5.0 mg/l. Soil excavated from the top 5.0 feet or shallower would not be classified as RCRA hazardous since the 90% UCL-predicted TCLP lead concentrations are less than the RCRA hazardous waste threshold of 5.0 mg/l. Based on the DI-WET soluble lead and pH results, the top 5.0 feet or shallower of soil may be reused onsite in accordance with the DTSC Variance (as Caltrans Type Y-1) by placing the lead-impacted soil under at least one foot of non-hazardous soil or a pavement structure maintained by Caltrans.

If excavated soil from the top 0.5 foot will not be reused onsite, then excavated soil from the top 0.5 foot would likely be disposed of as a RCRA hazardous waste since the 95% UCL-predicted TCLP lead concentration is greater than the RCRA hazardous waste threshold of 5.0 mg/l.

Based on the 95% UCL-predicted TCLP lead concentrations of less than 5.0 mg/l, soil excavated from the top 1.5 to 5.0 feet will not likely be disposed of as a RCRA hazardous waste. Thus, if excavated soil from the top 1.5 to 5.0 feet will not be reused onsite, then the excavated soil should be either (1) managed and disposed of as a California hazardous waste or (2) stockpiled and resampled to confirm waste classification in accordance with specific disposal facility acceptance criteria, if applicable.

Caltrans should notify the contractors performing the construction activities that elevated concentrations of lead are present in onsite soil and that appropriate health and safety measures should be taken to minimize the exposure of construction workers to lead.

Title 22 Metals

The one sample with the highest reported total lead concentrations was analyzed for CCR Title 22 metals. With the exception of lead, Title 22 metals were not reported at or above their respective TTLC or ten times their respective STLCs. The concentrations of metals reported in the soil sample were below their respective residential and/or industrial California Human Health Screening Levels except for arsenic, cadmium, and lead. The reported arsenic concentration is consistent with published background levels in Los Angeles County.

Cadmium was detected in the soil sample at 2.2 mg/kg, greater than the CHHSL for residential land use of 1.7 mg/kg; however, the cadmium concentration was less than the CHHSL for commercial/industrial land use of 7.5 mg/kg.

pH

Soil pH was reported to range between 5.3 and 7.5.

Worker Protection

Per Caltrans' requirements, contractor(s) should prepare a project-specific Health and Safety Plan (HSP) to prevent or minimize worker exposure to lead-impacted soil. The HSP should include a Lead Compliance Plan, and outline protocols for environmental and personnel monitoring, requirements for personal protective equipment and other appropriate health and safety protocols and procedures for the handling of lead-impacted soil.

Groundwater

One boring was advanced to a depth of 16-feet with a direct-push drilling rig to evaluate the potential presence of groundwater. Groundwater was not encountered in the boring.

AERIALLY DEPOSITE LEAD SITE INVESTIGATION REPORT - OFFRAMP

1. INTRODUCTION

Geocon Consultants, Inc. performed an aerially deposited lead (ADL) site investigation along U.S. State Route 2 (SR-2) from the Glendale Boulevard undercrossing (UC) to Rosebud Avenue UC in the City of Los Angeles, California. The project location is shown on the Vicinity Map, Figure 1. The site investigation was conducted under California Department of Transportation (Caltrans) Contract No. 07A2729, Task Order (TO) No. 22, and Expense Authorization 205521, dated October 25, 2012.

1.1 Project Description

Caltrans proposes to relocate the southbound SR-2 exit ramp from Waterloo Street to the existing landscaped area adjacent to the northbound exit offramp. The proposed improvements will involve soil excavation and other earthwork activities within the project site. It is our understanding that the soil excavated for construction will be reused onsite and any excess soil will be removed from the project site for disposal.

1.2 Investigation Objective

The objective of the investigation was to evaluate concentrations of ADL in soil that will potentially be disturbed during excavation for the proposed project improvements. Caltrans will use the information obtained from the investigation to determine soil reuse or disposal options and identify health and safety concerns during proposed construction activities.

2. BACKGROUND

2.1 Hazardous Waste Classification Criteria

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

For waste containing metals, the waste is classified as "California hazardous" when: (1) the representative total metal content exceeds or equals the respective Total Threshold Limit Concentration (TTLC); or (2) the representative soluble metal content exceeds or equals 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 typically performed. A material is classified as "RCRA hazardous" when the representative soluble metal content exceeds or equals 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 toxicity. Wastes may also be classified as hazardous based on other criteria such as ignitability, corrosivity, and reactivity. For the purposes of ADL investigations, toxicity and corrosivity (e.g., chemical concentrations and soil pH values, respectively) are the primary factors considered for waste classification. Waste that is classified as either "California hazardous" or "RCRA hazardous" requires management as a hazardous waste and disposal at an appropriately permitted disposal facility.

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 re-compacted 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.

2.2 DTSC Variance

The DTSC issued a statewide Variance effective July 1, 2009, regarding the reuse of ADL-impacted soils within Caltrans right-of-way. Under the Variance, soil that is classified as a non-RCRA hazardous waste, based primarily on ADL content, may be suitable for reuse within Caltrans right-of-way. ADL soil that is classified as a RCRA hazardous waste is not eligible for reuse under the Variance and must be disposed of as a RCRA hazardous waste (Caltrans Type Z-3).

ADL soil reused under the Variance must always be at least 5.0 feet above the highest groundwater elevation and, depending on lead concentrations, must be covered with at least one foot of non-hazardous soil or a pavement structure. The ADL soil may not be placed in areas where it might contact groundwater or surface water (such as streams and rivers), and must be buried in locations that are protected from erosion that may result from storm water run-on and run-off.

Review of the statewide Variance indicates the following conditions regarding the reuse and management of ADL-impacted soil as fill material for construction and maintenance operations. If ADL soil meets the Variance criteria but is not intended to be reused within Caltrans right-of-way, then the excavated soil must be disposed of as a California hazardous waste (Caltrans Type Z-2). A copy of the DTSC Variance is presented in Appendix A.

Caltrans Type Y-1

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

Caltrans Type Y-2

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

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

ADL soil exhibiting a total lead concentration greater than 1,411 mg/kg and less than or equal to 3,397 mg/kg, a DI-WET soluble lead concentration less than or equal to 150 mg/l, and a pH value greater than 5 may be reused within the same Caltrans corridor and must be covered and protected from infiltration by a pavement structure.

Caltrans Type Z-2

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

Caltrans Type Z-3

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

2.3 California Human Health Screening Levels

The California Environmental Protection Agency (Cal/EPA) has prepared technical reports entitled *Use of California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties* (Cal/EPA, January 2005) and *Revised California Human Health Screening Levels for Lead* (Cal/EPA, September 2009), which present CHHSLs for soil, shallow soil gas, and indoor air to assist in evaluating sites impacted by releases of hazardous chemicals.

The CHHSLs are concentrations of 44 hazardous chemicals that Cal/EPA considers to be below thresholds of concern for risks to human health. The CHHSLs were developed by the Office of Environmental Health Hazard Assessment (OEHHA) on behalf of Cal/EPA. The thresholds of concern used to develop the CHHSLs are an excess lifetime cancer risk of one in a million and a hazard quotient or 1.0 for non-cancer effects. Under most circumstances, the presence of a chemical at concentrations below its respective CHHSL can be assumed to not pose a significant risk. The presence of a chemical at concentrations above a CHHSL does not indicate that adverse impacts to human health are occurring or will occur, but suggests that further evaluation is warranted (Cal/EPA, January 2005).

The following CHHSLs were used for comparison: Table 1 of the *California Human Health Screening Levels for Soil and Comparison to Other Potential Environmental Concerns* (Cal/EPA, January 2005), Revised California Human Health Screening Levels for Beryllium (Cal/EPA, March 2009), and Revised California Human Health Screening Levels for Lead (Cal/EPA, September 2009). The respective CHHSLs are listed at the end of Table 3 for comparative purposes. Copies of the referenced CHHSLs are in Appendix B.

3. SCOPE OF SERVICES

We performed the scope of services summarized below as requested by Caltrans.

3.1 Pre-field Activities

- Prepared a *Health and Safety Plan* (HSP) dated November 5, 2012, to provide guidelines on the use of personal protective equipment and the health and safety procedures to be implemented by Geocon personnel during field activities. The HSP specified the safety procedures for field work, summarized chemical hazard information, and identified site safety officers, emergency contacts, and the locations of emergency medical care facilities.

- Prepared a *Workplan* dated November 16, 2012, which described the requested scope of services and quality assurance/quality control (QA/QC) sampling and laboratory procedures.

- Retained the services of Advanced Technology Laboratories (ATL), a Caltrans-approved and California-certified analytical laboratory, to perform the chemical analyses of soil and equipment blank samples.

- Provided a minimum of 48-hours' notice to the subscribing utilities via Underground Service Alert (Ticket Number A23070662) prior to job site mobilization.

3.2 Soil Sampling

The soil investigation was performed on November 6 and 7, 2012. The investigation consisted of collecting 20 soil samples from five hand-auger borings (1190-115 through 1190-119). Soil samples were collected from each of the hand-auger borings located along the proposed SR-2 offramp relocation area at the following depth intervals: surface to 0.5 foot, 1.0 to 1.5 feet, 2.0 to 2.5 feet, and/or 4.5 to 5.0 feet. Refusal was encountered in boring 1190-116 at a depth of 4.0 feet; thus, a soil sample was collected from a depth interval of 3.5 to 4.0 feet. As specified in the TO, the borings locations were advanced at approximately 300-foot intervals, within the footprint of the proposed construction. The approximate boring locations are shown on Figure 2.

3.3 GPS Coordinates

The borings were located utilizing a global positioning system (GPS) receiver. Data was recorded in the field and downloaded in the office using surveying TerraSync™ or similar software, in State Plane 83 coordinates. Boring latitude and longitude coordinates in decimal degrees are provided in Table 1.

3.4 Laboratory Analyses

Laboratory analyses were performed by ATL. Copies of the laboratory report and chain-of-custody (COC) documentation are in Appendix C. The laboratory reports in Appendix C include results for soil samples that were collected for a Caltrans soundwall project that are presented under separate cover. Based on the Caltrans TO and direction from Caltrans, the samples were analyzed for the following:

- Twenty soil samples were analyzed for both total lead by EPA Test Method 6010B and WET soluble lead using EPA Test Method 7420 with citrate acid as the extractant.
- Thirteen soil samples with WET lead results greater than or equal to 5.0 mg/l were analyzed for soluble lead using the WET with de-ionized water as the extractant (DI-WET) by EPA Test Method 7420.
- Five soil samples were analyzed for TCLP lead using EPA Test Method 7420.
- One soil sample was analyzed for California Code of Regulations (CCR) Title 22 metals following EPA Test Methods 6010B (metals) and 7471 (mercury).
- Two soil samples were analyzed for pH using EPA Test Method 9045C.

Four equipment blank (EB) water samples were analyzed for total lead using EPA Test Method 6010B.

3.5 Report Preparation

This report was prepared to summarize the objectives, procedures, and results of the investigation activities requested by Caltrans.

4. INVESTIGATIVE METHODS

4.1 Soil Sampling

Soil samples were collected from the five borings using hand-auger sampling equipment. Samples that were analyzed for metals were collected from designated sample intervals, placed into new re-sealable plastic bags and homogenized in the field within the sample bag. Homogenized soil within the bag was then transferred into new 4-ounce laboratory-provided glass soil jars, capped, labeled with the sample date/time and a unique soil sample number, and placed in a chilled ice chest pending shipment to the analytical laboratory.

Caltrans assigned a unique ID number to this project (1190). This ID number was included in the database, figures, and in the boring soil sample names. Soil sample identification numbers were assigned (1190-115) based on the TO boring and sample naming convention. Soil sample numbers were designated by the boring number and the top of the 6-inch depth interval from which the sample was collected. For example, the soil sample designated 1190-116-0.0 was obtained from approximately 0 to 0.5 foot.

Quality Assurance/Quality Control (QA/QC) procedures conducted during field activities included sampling equipment decontamination prior to each boring, and use of new re-sealable plastic sample bags, laboratory supplied sample containers, and sample COC documentation. Soil sampling equipment was cleaned between each sample by washing the equipment with an Alconox™ solution followed by a double rinse with de-ionized water. Sampling activities were conducted under supervision of Geocon's field manager.

The hand-auger borings were backfilled with surface soil from the immediate vicinity of the boring locations. Decontamination water was discharged to the ground surface away from areas potentially associated with surface water bodies or storm drain inlets.

4.2 Groundwater Sampling

As requested in the TO, boring 1190-115 was advanced to a depth of 16-feet with a direct-push drilling rig to evaluate the potential presence of groundwater. Groundwater was not encountered in the boring.

4.3 Equipment Blank Sampling

Four equipment blank samples were collected to verify proper cleaning of the sampling equipment. The equipment blank samples were obtained by passing distilled water over the decontaminated sampling equipment into unpreserved laboratory-provided containers.

4.4 Deviations from Workplan

Geocon performed the scope of work as described in the Workplan dated November 16, 2012 with the following exceptions:

- Refusal was encountered in boring 1190-116 at a depth of 4.0 feet; thus, a soil sample was collected from a depth interval of 3.5 to 4.0 feet.
- Groundwater was not encountered in the one boring advanced to evaluate the presence of groundwater. Therefore, a groundwater sample was not collected.

5. FIELD OBSERVATIONS AND INVESTIGATIVE RESULTS

5.1 Soil Conditions

The soil conditions encountered in the hand-auger borings generally consisted of dark brown, slightly moist to moist, medium dense silty sand and gray-brown, moist, dense, fine to coarse sand with some gravel. Groundwater was not encountered in the soil borings.

5.2 Analytical Results

Soil analytical results are summarized in Tables 1 and 2. Results were J-Flagged between the Practical Quantitation Limit (PQL) and the calculated Method Detection Limit (MDL). Results that are J-Flagged are estimated values since it becomes difficult to accurately quantitate the analyte near the MDL. Copies of the laboratory report and COC documentation are in Appendix C. Analytical results are summarized below:

- **Total lead** was reported for the 20 soil samples at concentrations ranging from 6.5 to 3,700 mg/kg.
- **WET lead** was reported for the 20 samples analyzed at concentrations ranging from 0.48 J to 230 mg/l.
- **WET-DI lead** was reported for eight of the 13 samples analyzed at concentrations ranging from 0.28 J to 1.0 mg/l.
- **TCLP lead** was reported for each of the five samples analyzed at concentrations ranging from 1.4 to 7.2 mg/l.

- **Title 22 metals** beryllium, silver and thallium were not detected at concentrations above their respective MDLs in the only sample analyzed; antimony and selenium had "J" flagged concentrations. Concentrations of the Title 22 metals, with the exception of lead, were less than ten times their respective STLCs and therefore additional testing using the WET method was not required.

- **pH** was reported at 6.4 for the two samples analyzed.

- Total lead was reported for one of the four equipment blank samples (1190-EB-3) at 0.0031 J mg/l. The equipment blank results are in Table 1.

5.3 Data Validation

Geocon and ATL use QA/QC measures to minimize and control errors associated with field and laboratory methods. Field QA/QC measures consist of cleaning sampling equipment between each use with a detergent solution followed by tap and distilled/purified water rinses. Based on the equipment blank sample analytical results, it appears that the decontamination procedures were sufficient to minimize the potential for cross-contamination resulting from inadequate equipment decontamination.

Laboratory QA/QC measures include the use of matrix spikes, duplicates, and method blanks, in addition to calculation of percent recovery and relative percentage difference (RPD). A review of the laboratory QA/QC results indicates satisfactory data reporting, and the data are of sufficient quality for the purposes of this report.

6. DATA EVALUATION

6.1 Lead

Statistical methods were applied to the total lead data to evaluate: 1) the upper confidence limits (UCLs) of the arithmetic means of the total lead concentrations for each sampling depth; and 2) if an acceptable correlation between total and soluble lead concentrations exists that would allow the prediction of soluble lead concentrations based on calculated UCLs.

6.1.1 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 were used to calculate the UCLs. The bootstrap results are included in Appendix D. The calculated UCLs and statistical results are summarized in the following tables:

SAMPLE INTERVAL (feet)	90% TOTAL LEAD UCL (mg/kg)	95% TOTAL LEAD UCL (mg/kg)	TOTAL LEAD MEAN (mg/kg)	MINIMUM VALUE (mg/kg)	MAXIMUM VALUE (mg/kg)
0.0 to 0.5	2,677	2,906	1,976	530	3,700
1.0 to 1.5*	250	250	163	31	250
2.0 to 2.5	408.4	465.7	245.1	6.5	740
4.5 to 5.0**	180	180	77.9	9.6	180

* An insufficient number of distinct values for this interval to calculate UCLs; thus the highest total lead data was used for the UCLs.
** An insufficient number of samples were collected from this interval; thus the highest total lead data was used for the UCLs.

6.1.2 Correlation of Total and Soluble Lead

Total and corresponding WET soluble lead concentrations are bivariate data with a linear structure. This linear structure should allow for the prediction of WET soluble lead concentrations based on the UCLs calculated above in Section 6.1.1.

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

WET Soluble Lead

The *correlation coefficient* for the 20 (x, y) data points (i.e., soil samples analyzed for both total lead [*x*] and WET soluble lead [*y*]) was 0.9860. A *correlation coefficient* greater than or equal to 0.8 is an acceptable indicator that a correlation exists. Consequently, an acceptable *correlation coefficient* was achieved for the lead data.

For the *correlation coefficient* that indicates a linear relationship between total and WET soluble lead concentrations, it is possible to compute the line of dependence or a best-fit line between the two variables. A least squares method was used to find the equation of a best-fit line (regression line) by forcing the y-intercept equal to zero since that is a known point. The equation of the regression line was determined to be $y = 0.0587(x)$, where *x* represents total lead concentrations and *y* represents predicted WET soluble lead concentrations. This equation was used to estimate the expected WET soluble lead concentrations for the UCLs calculated in Section 6.1.1. Regression analysis results and a scatter plot depicting the (*x, y*) data points along with the regression line are in Appendix D. The 90% and 95% UCL-predicted WET soluble lead concentrations for various excavation depths are presented in Section 7.0.

The 90% and 95% UCL-predicted WET soluble lead concentrations for each sampling interval are presented in Appendix D.

TCLP Soluble Lead

Regression analysis was performed for total lead and TCLP soluble lead data. The *correlation coefficient* for the five (*x, y*) data points (i.e., soil samples analyzed for both total lead and TCLP soluble lead) was 0.9097. A *correlation coefficient* greater than or equal to 0.8 is an acceptable indicator that a correlation exists. Consequently, an acceptable *correlation coefficient* was achieved for the total lead and TCLP soluble lead data.

For the *correlation coefficient* that indicates a linear relationship between total and TCLP soluble lead concentrations, it is possible to compute the line of dependence or a best-fit line between the two variables. A least squares method was used to find the equation of a best-fit line (regression line) by forcing the y-intercept equal to zero since that is a known point. The equation of the regression line was $y = 0.0018(x)$, where *x* represents the total lead concentration and *y* represents the predicted TCLP soluble lead concentration. This equation was used to estimate the expected TCLP soluble lead concentrations for the UCLs calculated in Section 6.1.1. Regression analysis results and a scatter plot depicting the (*x, y*) data points along with the regression line are in Appendix D. The UCL-predicted WET and TCLP soluble lead concentrations are presented in Section 6.0.

7. FINDINGS AND CONCLUSIONS

7.1 ADL Soil Waste Classification/Disposal

Hazardous waste classification based on the 90% UCL is considered sufficient to satisfy a good faith effort as discussed in SW-846. Risk assessment characterization is typically based on the 95% UCL in accordance with the Risk Assessment Guidance for Superfund (RAGS) Volume 1 Documentation for Exposure Assessment. Per Caltrans, 90% UCLs are to be used to evaluate onsite reuse, and 95% UCLs are to be used to evaluate offsite reuse or disposal. Excavation scenarios were evaluated based on the calculated total lead UCLs for each sample interval and weighted averages for various excavation depths. Weighted averages are calculated by using the respective total lead UCLs based on various excavation scenarios. For depth intervals where no sample was collected, the calculated total lead UCL for the sampling interval above is used as representative value. In addition, the reuse of excavated soil has been evaluated, as applicable, based on the DTSC requirements for the Statewide Variance.

Two of the five soil samples had TCLP soluble lead concentrations exceeding the RCRA hazardous waste threshold of 5.0 mg/l. The highest calculated total lead UCL is 2,906 mg/kg. A waste may have the potential of exceeding the RCRA threshold when the waste's representative total lead concentration is greater than or equal to 100 mg/kg (20 times the RCRA threshold) since TCLP soluble lead analysis uses

a 1:20 dilution ratio. Based on the TCLP regression analysis (i.e., soil samples analyzed for both total lead and TCLP soluble lead), soil excavated from the top 0.5 foot may require disposal as a RCRA hazardous waste since the highest calculated total lead UCL of 2,906 mg/kg would yield a TCLP soluble lead concentration of 5.2 mg/l, greater than the federal RCRA hazardous waste threshold of 5.0 mg/l. Thus, soil generated from the top 0.5 foot within this area may require disposal as a RCRA hazardous waste. The designated disposal facility may require additional testing to confirm waste classification.

The table below summarizes the excavation scenarios, the predicted WET soluble lead concentrations and the waste classification for excavated soil within this area as represented by borings 1190-115 through 1190-119 based on the calculated total lead UCLs and the relationship between total and WET soluble lead.

Excavation Depth	90% UCL		95% UCL		SOIL TYPE	
	Total Lead (mg/kg)	Predicted WET (mg/kg)	Total Lead (mg/kg)	Predicted WET (mg/kg)	Invoke Variance	Surplus Soil
0 to 0.5 foot	2,677.0	157.1	2,906.0	170.6	Type Z-3	Type Z-3
0.5 to 5.0 feet	*599.9*	*35.2*	*657.2*	*38.6*	*Type Y-1*	*Type Z-2*
0 to 1.5 feet	1,868.0	109.7	2,020.7	118.6	Type Y-2	Type Z-2
1.5 to 5.0 feet	*353.1*	*20.7*	*394.1*	*23.1*	*Type Y-1*	*Type Z-2*
0 to 2.5 feet	1,252.5	73.5	1,355.5	79.6	Type Y-1	Type Z-2
2.5 to 5.0 feet	*362.7*	*21.3*	*408.6*	*24.0*	*Type Y-1*	*Type Z-2*
0 to 5.0 feet	807.6	47.4	882.1	51.8	Type Y-1	Type Z-2

Soil excavated to a depth of 5.0 feet or shallower would be classified as a hazardous waste since the 90% UCL-predicted WET lead concentrations are greater than the STLC for lead of 5.0 mg/l. Soil excavated from the top 5.0 feet or shallower would not be classified as RCRA hazardous since the 90% UCL-predicted TCLP lead concentrations are less than the RCRA hazardous waste threshold of 5.0 mg/l. Based on the DI-WET soluble lead and pH results, the top 5.0 feet or shallower of soil may be reused onsite in accordance with the DTSC Variance (as Caltrans Type Y-1) by placing the lead-impacted soil under at least one foot of non-hazardous soil or a pavement structure maintained by Caltrans.

If excavated soil from the top 0.5 foot will not be reused onsite, then excavated soil from the top 0.5 foot would likely be disposed of as a RCRA hazardous waste since the 95% UCL-predicted TCLP lead concentration is greater than the RCRA hazardous waste threshold of 5.0 mg/l.

Based on the 95% UCL-predicted TCLP lead concentrations of less than 5.0 mg/l, soil excavated from the top 1.5 to 5.0 feet will not likely be disposed of as a RCRA hazardous waste. Thus, if excavated soil from the top 1.5 to 5.0 feet will not be reused onsite, then the excavated soil should be either (1) managed and disposed of as a California hazardous waste or (2) stockpiled and resampled to confirm waste classification in accordance with specific disposal facility acceptance criteria, if applicable.

7.2 Title 22 Metals

One soil sample was analyzed for Title 22 metals. With the exception of lead, the reported concentrations of Title 22 metals were less than their respective TTLCs and ten times their respective STLCs.

The Title 22 metals concentrations for the soil samples collected from the borings were compared with the CHHSLs and the published background levels typically present in California soils as presented in *Background Concentrations of Trace and Major Elements in California Soils* (Kearney Foundation of Soil Science, Division of Agriculture and Natural Resources, University of California, March 1996). Arsenic, cadmium and lead were the only metals reported at concentrations greater than the residential and/or industrial CHHSLs and/or published background levels. Arsenic was detected in the soil sample at 3.8 mg/kg, greater than the CHHSL for residential land use of 0.07 mg/kg and commercial/industrial land use of 0.24 mg/kg. Arsenic is a naturally occurring element; therefore, the reported concentrations were compared to regional background concentrations. The March 2008 Department of Toxic Substances Control (DTSC) publication *Determination of a Southern California Regional Background Arsenic Concentration in Soil* establishes a regional background for arsenic within Southern California including Los Angeles County using naturally occurring and anthropogenic concentrations of arsenic. The report finds that the upper-bound background concentration for arsenic within Los Angeles County is 12 mg/kg. The reported arsenic concentration is less than 12 mg/kg; therefore, the arsenic concentration reported for the soil sample is considered to be consistent with background concentrations of arsenic in Los Angeles County.

Cadmium was detected in the soil sample at 2.2 mg/kg, greater than the CHHSL for residential land use of 1.7 mg/kg; however, the cadmium concentration was less than the CHHSL for commercial/industrial land use of 7.5 mg/kg.

7.3 pH

Soil pH was reported for the two soil samples at 6.4.

7.4 Worker Protection

Per Caltrans' requirements, contractor(s) should prepare a project-specific Health and Safety Plan (HSP) to prevent or minimize worker exposure to lead-impacted soil. The HSP should include a Lead Compliance Plan outlining protocols for environmental and personnel monitoring, requirements for personal protective equipment, and other appropriate health and safety protocols and procedures for the handling of lead-impacted soil.

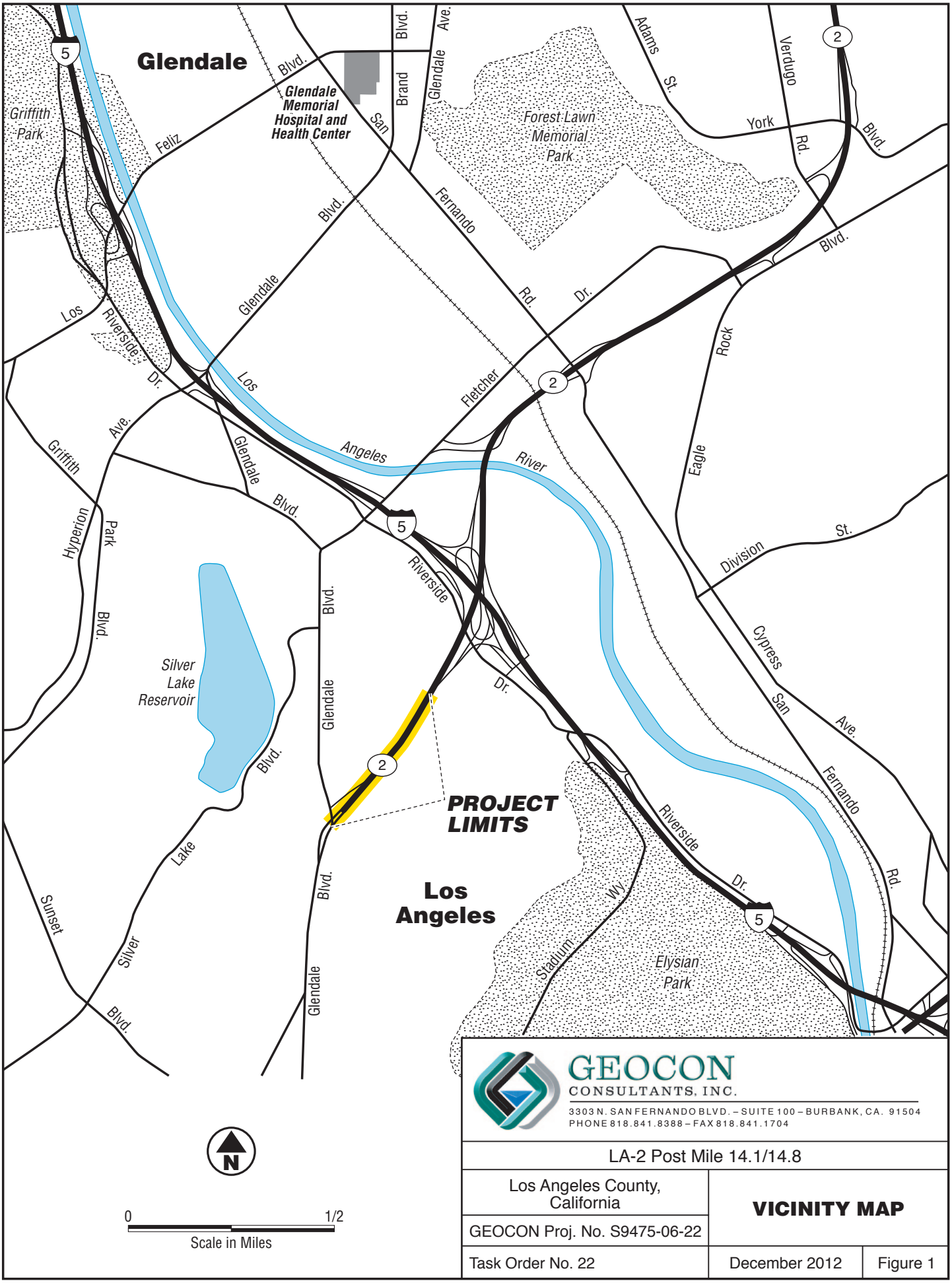
8. REPORT LIMITATIONS

This report has been prepared exclusively for Caltrans. The information obtained is only relevant as of the date of the latest site visit and will require an update to reflect additional information obtained.

The conclusions and recommendations presented herein are based on a limited number of samples collected from in-place soil location according to Caltrans-prescribed protocol. The purpose of these sampling and characterization activities was to reasonably predict the character of soil to be disturbed for planned construction activities within the described limits of the Caltrans right-of-way.

The Client should recognize that this report is not a comprehensive site characterization and should not be construed as such. The appropriate regulatory agency may require additional investigations. The findings and conclusions as presented in this report are predicated on the results of the limited soil sampling and laboratory analyses 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 only be deemed conclusive with respect to the information obtained. No guarantee or warranty of the results of the report is implied within the intent of this report or any subsequent reports, correspondence, or consultation, either express or implied. Geocon strived to perform the services summarized herein in accordance with the local standard of care in the geographic region at the time the services were rendered.



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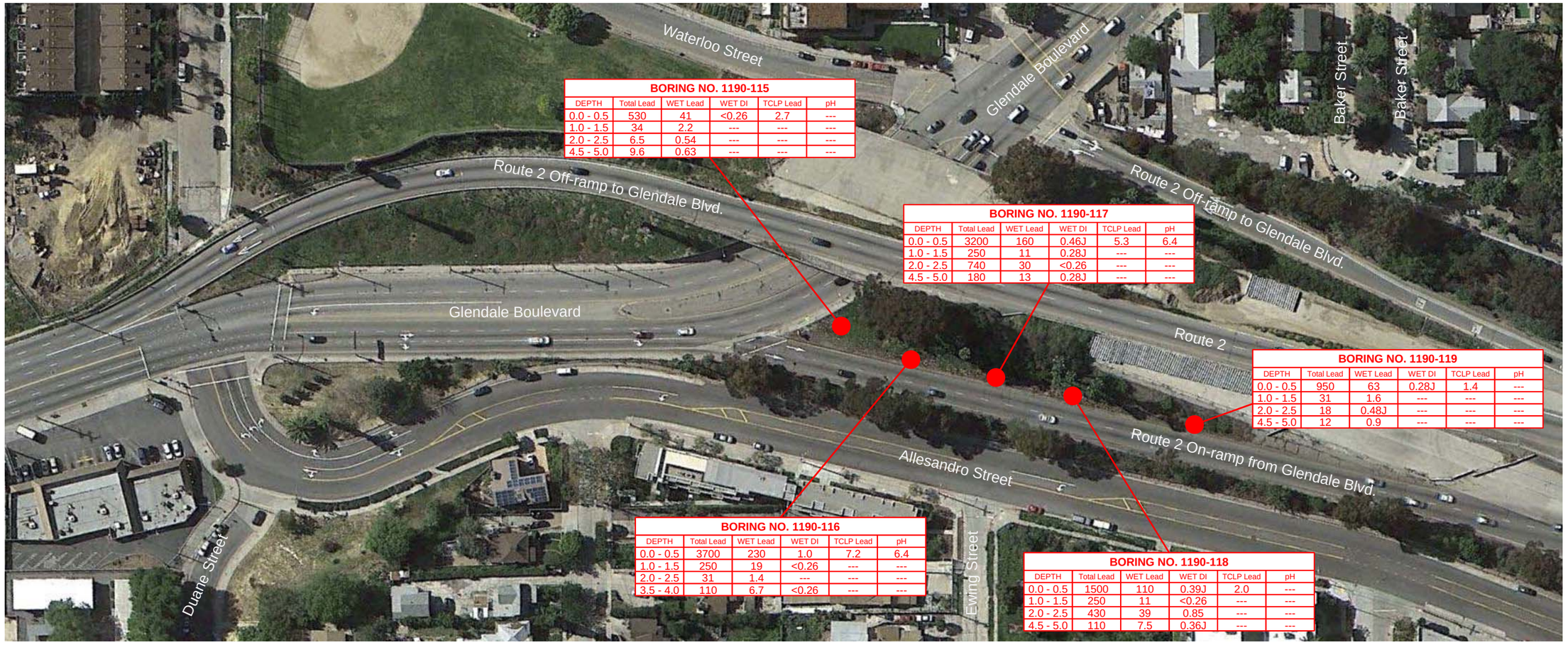
Los Angeles County, California

VICINITY MAP

GEOCON Proj. No. S9475-06-22

Task Order No. 22 | December 2012 | Figure 1



BORING NO. 1190-115

DEPTH	Total Lead	WET Lead	WET DI	TCLP Lead	pH
0.0 - 0.5	530	41	<0.26	2.7	---
1.0 - 1.5	34	2.2	---	---	---
2.0 - 2.5	6.5	0.54	---	---	---
4.5 - 5.0	9.6	0.63	---	---	---

BORING NO. 1190-117

DEPTH	Total Lead	WET Lead	WET DI	TCLP Lead	pH
0.0 - 0.5	3200	160	0.46J	5.3	6.4
1.0 - 1.5	250	11	0.28J	---	---
2.0 - 2.5	740	30	<0.26	---	---
4.5 - 5.0	180	13	0.28J	---	---

BORING NO. 1190-119

DEPTH	Total Lead	WET Lead	WET DI	TCLP Lead	pH
0.0 - 0.5	950	63	0.28J	1.4	---
1.0 - 1.5	31	1.6	---	---	---
2.0 - 2.5	18	0.48J	---	---	---
4.5 - 5.0	12	0.9	---	---	---

BORING NO. 1190-116

DEPTH	Total Lead	WET Lead	WET DI	TCLP Lead	pH
0.0 - 0.5	3700	230	1.0	7.2	6.4
1.0 - 1.5	250	19	<0.26	---	---
2.0 - 2.5	31	1.4	---	---	---
3.5 - 4.0	110	6.7	<0.26	---	---

BORING NO. 1190-118

DEPTH	Total Lead	WET Lead	WET DI	TCLP Lead	pH
0.0 - 0.5	1500	110	0.39J	2.0	---
1.0 - 1.5	250	11	<0.26	---	---
2.0 - 2.5	430	39	0.85	---	---
4.5 - 5.0	110	7.5	0.36J	---	---

LEGEND

- ● -Approximate boring location
- TOTAL Lead -Total Lead results in mg/kg
- WET Lead -WET Lead results in mg/l
- WET DI -WET DI Lead results in mg/l
- TCLP Lead -TCLP Lead results in mg/l
- DEPTH -Depth in feet
- <0.5 -Not detected at or above laboratory detection limits specified
- J -Estimated Value: Results qualified as an estimated value due to analytical bias in precision of accuracy

0 100' 200'

BASE MAP: Google Earth Maps, 2010
REFERENCE AREA: Caltrans, Layout Plan, L-1

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CHL | | 8000

SITE PLAN - OFFRAMP

CALTRANS
ROUTE 2 - ADL INVESTIGATION
POST MILE 14.1/14.8
LOS ANGELES, CALIFORNIA

DECEMBER 2012 | PROJECT NO. S9475-06-22 | FIG. 2

TABLE 1

BORING COORDINATES AND SUMMARY OF SOIL ANALYTICAL RESULTS - LEAD AND pH

LOS ANGELES ROUTE 2 FROM GLENDALE BOULEVARD UNDERCROSSING TO ROSEBUD AVENUE UNDERCROSSING - OFFRAMP

CITY OF LOS ANGELES, CALIFORNIA

SAMPLE ID	LATITUDE	LONGITUDE	SAMPLE DATE	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	WET-DI LEAD (mg/l)	TCLP LEAD (mg/l)	pH (pH units)
1190-115-0	34.09138195	-118.258244	11/6/2012	530	41	<0.26	2.7	---
1190-115-1			11/6/2012	34	2.2	---	---	---
1190-115-2			11/6/2012	6.5	0.54	---	---	---
1190-115-4.5			11/6/2012	9.6	0.63	---	---	---
1190-116-0.0	34.09151645	-118.2580458	11/7/2012	3,700	230	1.0	7.2	6.4
1190-116-1.0			11/7/2012	250	19	<0.26	---	---
1190-116-2.0			11/7/2012	31	1.4	---	---	---
1190-116-3.5			11/7/2012	110	6.7	<0.26	---	---
1190-117-0.0	34.09167695	-118.2578809	11/7/2012	3,200	160	0.46 J	5.3	6.4
1190-117-1.0			11/7/2012	250	11	0.28 J	---	---
1190-117-2.0			11/7/2012	740	30	<0.26	---	---
1190-117-4.5			11/7/2012	180	13	0.28 J	---	---
1190-118-0.0	34.09183033	-118.2577254	11/7/2012	1,500	110	0.39 J	2.0	---
1190-118-1.0			11/7/2012	250	11	<0.26	---	---
1190-118-2.0			11/7/2012	430	39	0.85	---	---
1190-118-4.5			11/7/2012	110	7.5	0.36 J	---	---
1190-119-0.0	34.09209082	-118.2574497	11/7/2012	950	63	0.28 J	1.4	---
1190-119-1.0			11/7/2012	31	1.6	---	---	---
1190-119-2.0			11/7/2012	18	0.48 J	---	---	---
1190-119-4.5			11/7/2012	12	0.9	---	---	---
EQUIPMENT BLANKS								
1190-EB-1			11/6/2012	<0.0028	---	---	---	---
1190-EB-2			11/6/2012	<0.0028	---	---	---	---
1190-EB-3			11/7/2012	0.0031 J	---	---	---	---
1190-EB-4			11/8/2012	<0.0028	---	---	---	---

Notes: WET = Waste extraction test

WET-DI = Waste extraction test using de-ionized water as the extractant

TCLP = Toxicity Characteristic Leaching Procedure

< = Less than the laboratory reporting limit specified

--- = Not analyzed

J = Analyte detected below the Practical Quantitation Limit but above or equal to the Method Detection Limit. Result is an estimated concentration.

mg/kg = Milligrams per kilogram

mg/l = Milligrams per liter

TABLE 2

SUMMARY OF SOIL ANALYTICAL RESULTS - TITLE 22 METALS

LOS ANGELES ROUTE 2 FROM GLENDALE BOULEVARD UNDERCROSSING TO ROSEBUD AVENUE UNDERCROSSING - OFFRAMP

CITY OF LOS ANGELES, CALIFORNIA

ANALYTE	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	Mercury
SAMPLE ID	Results in milligrams per kilogram																
1190-116-0.0	0.81 J	3.8	160	<0.06	2.2	21	5.4	50	3,700	2.6	19	0.39 J	<0.08	<0.30	19	520	0.21
TTLC	500	500	10,000	75	100	2,500	8,000	2,500	1,000	3,500	2,000	100	500	700	2,400	5,000	20
10 X STLC	150	50	1,000	7.5	10	50	800	250	50	3,500	200	10	50	70	240	2,500	2.0
CHHSLs																	
Industrial	380	0.24	63,000	190	7.5	100,000	3,200	38,000	320	4,800	16,000	4,800	4,800	63	6,700	100,000	180
Residential	30	0.07	5,200	16	1.7	100,000	660	3,000	80	380	1,600	380	380	5.0	530	23,000	18
Background Concentrations [1]																	
Minimum	0.15	0.6	133	0.25	0.05	23	2.7	9.1	12.4	0.1	9.0	0.015	0.10	0.17	39	88	0.10
Maximum	1.95	12	1,400	2.70	1.70	1,579	46.9	96.4	97.1	9.6	509	0.430	8.30	1.10	288	236	0.90
Mean	0.60	3.5	509	1.28	0.36	122	14.9	28.7	23.9	1.3	57	0.058	0.80	0.56	112	149	0.26

Notes:

< = Less than the laboratory reporting limit specified

J = Analyte detected below the Practical Quantitation Limit but above or equal to the Method Detection Limit. Result is an estimated concentration.

TTLC = Total Threshold Limit Concentration

STLC = Soluble Threshold Limit Concentration

CHHSLs = California Environmental Protection Agency, California Human Health Screening Levels for industrial and residential land use

TTLC, STLC, and CHHSLs shown for chromium are for chromium III

[1] *Background Concentrations of Trace and Major Elements in California Soils (Kearney Foundation of Soil Science, Division of Agricultural and Natural Resources, University of California, March 1996)*

Maximum arsenic background concentration source - Determination of a Southern California Regional Background Arsenic Concentration in Soil, DTSC March 2008

APPENDIX A

California Environmental Protection Agency
Department of Toxic Substances Control

VARIANCE

Applicant Names:

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

Variance No. V09HQSCD006

Effective Date: July 1, 2009

Expiration Date: July 1, 2014

Modification History:

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

Beverly Rikala
Team Leader, Operating Facilities Team
Department of Toxic Substances Control

Date: 6/30/09

1. INTRODUCTION.

a) Pursuant to Health and Safety Code, section 25143, the California Department of Toxic Substances Control (DTSC) grants this variance to the applicant below for waste considered to be hazardous solely because of its lead concentrations and as further specified herein.

b) DTSC hereby grants this variance only from the requirements specified herein and only in accordance with all terms and conditions specified herein.

2. IDENTIFYING INFORMATION.

APPLICANT/OWNER/OPERATOR

State of California
Department of Transportation, (Caltrans)
All Districts

3. TYPE OF VARIANCE.

Generation, Manifest, Transportation, Storage and Disposal.

4. ISSUANCE AND EXPIRATION DATES.

DATE ISSUED: July 1, 2009 EXPIRATION DATE: July 1, 2014

5. APPLICABLE STATUTES AND REGULATIONS. The hazardous waste that is the subject of this variance is fully regulated under Health and Safety Code, section 25100, et seq. and California Code of Regulations, title 22, division 4.5 except as specifically identified in Section 8 of this variance.

6. DEFINITION. For purposes of this variance, "lead-contaminated soil(s)" shall mean soil that meets the criteria for hazardous waste but contains less than 3397 mg/kg total lead and is hazardous primarily because of aerially-deposited lead contamination associated with exhaust emissions from the operation of motor vehicles.

7. FINDINGS/DETERMINATIONS. DTSC has determined that the variance applicant meets the requirements set forth in Health and Safety Code, section 25143 for a variance from specific regulatory requirements as outlined in Section 8 of this variance. The specific determinations and findings made by DTSC are as follows:

a) Caltrans intends to excavate, stockpile, transport, bury and cover large volumes of soil associated with highway construction projects. In the more urbanized highway corridors around the State this soil is contaminated with lead, primarily due to historic emissions from automobile exhausts. In situ sampling and laboratory testing has shown that some of the soil contains concentrations of lead in excess of State regulatory thresholds, and thus any generated waste from disturbance of the soil

would be regulated as hazardous waste. Such soil contains a Total Threshold Limit Concentration (TTLC) of 1000 milligrams per kilogram (mg/kg) or more lead and/or it meets or exceeds the Soluble Threshold Limit Concentration (STLC) for lead of 5 milligrams per liter (mg/l). A Human Health Risk Assessment prepared for this variance concludes that soil contaminated with elevated concentrations of lead can be managed in a way that presents no significant risk to human health.

b) The lead-contaminated soil will be placed only in Caltrans' right-of-way. Depending on concentration levels, the wastes will be covered with a minimum thickness of one (1) foot of non-hazardous soil or asphalt/concrete cover and will always be at least five (5) feet above the highest groundwater elevation. Caltrans will assure that proper health and safety procedures will be followed for workers, including any persons engaged in maintenance work in areas where the waste has been buried and covered.

c) DTSC finds and requires that the lead-contaminated soil excavated, stockpiled, transported, buried and covered pursuant to this variance is a non-RCRA hazardous waste, and that the waste management activity is insignificant as a potential hazard to human health and safety and the environment, when managed in accordance with the conditions, limitations and other requirements specified in this variance.

8. PROVISIONS WAIVED.

Provided Caltrans meets the terms and conditions of this variance, DTSC waives the hazardous waste management requirements of Health and Safety Code, Chapter 6.5 and California Code of Regulations, title 22 for the lead-contaminated soil that Caltrans reuses in projects that would require Caltrans to obtain a permit for a disposal facility and any other generator requirements that concern the transportation, manifesting, storage and land disposal of hazardous waste.

9. SPECIFIC CONDITIONS, LIMITATIONS AND OTHER REQUIREMENTS.

In order for the provisions discussed in section 8 to be waived, lead-contaminated soil must not exceed the contaminant concentrations discussed below and Caltrans management practices must meet all the following conditions:

a) Caltrans implementation of this variance shall comply with all applicable state laws and regulations for water quality control, water quality control plans, waste discharge requirements (including storm water permits), and others issued by the State Water Resources Control Board (SWRCB) and/or a California Regional Water Quality Control Board (RWQCB). Caltrans shall provide written notification to the appropriate RWQCB at least 30 days prior to advertisement for bids of projects that involve invocation of this variance, or as otherwise negotiated with the SWRCB or appropriate RWQCB.

b) The waivers in this variance shall only be applied to lead-contaminated soil that is not a RCRA hazardous waste and is hazardous primarily because of aerially-

deposited lead contamination associated with exhaust emissions from the operation of motor vehicles. The variance is not applicable to any other hazardous waste.

c) Soil containing 1.5 mg/l extractable lead or less (based on a modified waste extraction test using deionized water as the extractant) and 1411 mg/kg or less total lead may be used as fill provided that the lead-contaminated soil is placed a minimum of five (5) feet above the maximum historic water table elevation and covered with at least one (1) foot of nonhazardous soil that will be maintained by Caltrans to prevent future erosion.

d) Soil containing 150 mg/L extractable lead or less (based on a modified waste extraction test using deionized water as the extractant) and 3397 mg/kg or less total lead may be used as fill provided that the lead-contaminated soils are placed a minimum of five (5) feet above the maximum historic water table elevation and protected from infiltration by a pavement structure which will be maintained by Caltrans.

e) Lead-contaminated soil with a pH less than 5.5 but greater than 5.0 shall only be used as fill material under the paved portion of the roadway. Lead-contaminated soil with a pH at or less than 5.0 shall be managed as a hazardous waste.

f) For each project that has the potential to generate waste by disturbing lead-contaminated soil (as defined in 6), Caltrans shall conduct sampling and analysis to adequately characterize the soils containing aerially deposited lead in the areas of planned excavation along the project route. Such sampling and analysis shall include the Toxicity Characteristic Leaching Procedure (TCLP) as prescribed by the United States Environmental Protection Agency to determine whether concentrations of contaminants in soil exceed federal criteria for classification as a hazardous waste.

g) Lead-contaminated soil managed pursuant to this variance shall not be moved outside the designated corridor boundaries (see paragraph t) below. All lead-contaminated soil not buried and covered within the same Caltrans corridor where it originated is not eligible for management under this variance and shall be managed as a hazardous waste.

h) Lead-contaminated soil managed pursuant to this variance shall not be placed in areas where it would become in contact with groundwater or surface water (such as streams and rivers).

i) Lead-contaminated soil managed pursuant to this variance shall be buried and covered only in locations that are protected from erosion that may result from storm water run-on and run-off.

j) The lead-contaminated soil shall be buried and covered in a manner that will prevent accidental or deliberate breach of the asphalt, concrete, and/or cover soil.

k) The presence of lead-contaminated soil shall be incorporated into the projects' as-built drawings. The as-built drawings shall be annotated with the location, representative analytical data, and volume of lead-contaminated soil. The as-built drawings shall also state the depth of the cover. These as-built drawings shall be retained by Caltrans.

l) Caltrans shall ensure that no other hazardous wastes, other than the lead-contaminated hazardous waste soil, are placed in the burial areas.

m) Lead-contaminated soil shall not be buried within ten (10) feet of culverts or locations subject to frequent worker exposure.

n) Excavated lead-contaminated soil not placed into the designated area (fill area, roadbed area) by the end of the working day shall be stockpiled and covered with sheets of polyethylene or at least one foot of non-hazardous soil. The lead-contaminated soil, while stockpiled or under transport, shall be protected from contacting surface water and from being dislodged or transported by wind or storm water. The stockpile covers shall be inspected at least once a week and within 24 hours after rainstorms. If the lead-contaminated soil is stockpiled for more than 4 days from the time of excavation, Caltrans shall restrict public access to the stockpile by using barriers that meet the safety requirements of the construction zone. The lead-contaminated soil shall be stockpiled for no more than 90 days from the time the soil is first excavated. If the contaminated soil is stockpiled beyond the 90 day limit Caltrans shall:

1. notify DTSC in writing of the 90 day exceedance and expected date of removal;
2. perform weekly inspections of the stockpiled material to ensure that there is adequate protection from run-on, runoff, public access, and wind dispersion; and
3. notify DTSC on weekly basis of the stockpile status until the stockpile is removed.

The lead-contaminated soil shall be stockpiled for no more than 180 days from the time the soil is first excavated.

o) Caltrans shall ensure that all stockpiling of lead-contaminated soil remains within the project area of the specified corridor. Stockpiling of lead-contaminated soil within the specified corridor, but outside the project area, is prohibited.

p) Caltrans shall conduct confirmatory sampling of any stockpile area in areas not known or expected to contain lead-contaminated soil after removal of the lead-contaminated soil to ensure that contamination has not been left behind or has not migrated from the stockpiled material to the surrounding soils.

q) Caltrans shall stockpile lead-contaminated soil only on high ground (i.e. no sump areas or low points) so that stockpiled soil will not come in contact with surface

water run-on or run-off.

r) Caltrans shall not stockpile lead-contaminated soil in environmentally and ecologically sensitive areas.

s) Caltrans shall ensure that storm/rain run-off that has come into contact with stockpiled lead-contaminated soil will not flow to storm drains, inlets, or waters of the State.

t) Caltrans may dispose of the lead-contaminated soil only within the operating right-of-way of an existing highway, as defined in Streets and Highways Code, section 23. Caltrans may move lead-contaminated soil from one Caltrans project to another Caltrans project only if the lead-contaminated soil remains within the same designated corridor.

Caltrans shall record any movement of lead-contaminated soil by using a bill of lading. The bill of lading must contain: 1) the US DOT description including shipping name, hazard class and ID number; 2) handling codes; 3) quantity of material; 4) volume of material; 5) date of shipment; 6) origin and destination of shipment; and 7) any specific handling instructions. The bill of lading shall be referenced in and kept on file with the project's as-built drawings. The lead-contaminated soil must be kept covered during transportation.

u) For each specific corridor where this variance is to be implemented, all of the following information shall be submitted in writing to DTSC at least five (5) days before construction of any project begins:

1. plan drawing designating the boundaries of the corridor where lead-contaminated soils will be excavated, stockpiled, buried and covered;

2. a list of the Caltrans projects that the corridor encompasses;

3. a list of Caltrans contractors that will be conducting any phase of work on any project affected by this variance;

4. duration of corridor construction;

5. location where sampling and analytical data used to make lead concentration level determinations are kept (e.g. a particular Caltrans project file);

6. name and phone number (including area code) of project resident engineer and project manager;

7. location where Caltrans and contractor health and safety plan and records are kept;

8. location of project special provisions (including page or section number) for soil excavation, transportation, stockpile, burial and placement of cover material;

9. location of project drawings (including drawing page number) for soil excavation, burial and placement of cover in plan and cross section (for example, "The project plans are located at the resident engineer's office located at 5th and Main Streets, City of Fresno, See pages xxxxx of contract xxxx");

10. updated information if a Caltrans project within the corridor is added, changed or deleted; and

11. type of environmental document prepared for each project, date of adoption, document title, Clearing House number and where the document is available for review. A copy of the Caltrans Categorical Exemption, Categorical Exclusion Form, or if filed, the Notice of Exemption for any project shall be submitted to the DTSC Headquarters Project Manager.

v) Changes in location of lead-contaminated soil placement, quantities or protection measures (field changes) shall be noted in the resident engineer's project log within five (5) days of the field change.

w) Caltrans shall ensure that field changes are in compliance with the requirements of this variance.

x) Operational procedures described in the California Environmental Quality Act (CEQA) Special Initial Study shall be followed by Caltrans for activities conducted under this variance.

y) Caltrans shall implement appropriate health and safety procedures to protect its employees and the public, and to prevent or minimize exposure to potentially hazardous wastes. A project-specific health and safety plan must be prepared and implemented. The monitoring and exposure standards shall be based on construction standards for exposure to lead in California Code of Regulations, title 8, section 1532.1.

z) Caltrans shall provide a district Coordinator for this variance. This Coordinator will be the primary point of contact for information flowing to, or received from, DTSC regarding any matter or submission under this variance. Caltrans shall promptly notify DTSC of the name of Coordinator and any change in the Coordinator.

aa) Caltrans shall conduct regular inspections, consistent with Caltrans' Maintenance Division's current Pavement Inspection and Slope Inspection programs, of the locations where lead-contaminated soil has been buried and/or covered pursuant to this variance. If site inspection reveals deterioration of cover so that conditions in the variance are not met, Caltrans shall repair or replace the cover.

bb) Caltrans shall develop and implement a record keeping mechanisms to record and retain permanent records of all locations where lead-contaminated soil has been buried per this variance. The records shall be made available to DTSC.

cc) If areas subject to the terms of this variance are sold, relinquished or abandoned (including roadways), all future property owners shall be notified in writing in advance by Caltrans of the requirements of this variance, and Caltrans shall provide the owner with a copy of the variance. A copy of such a notice shall be sent to DTSC and contain the corridor location and project. Caltrans shall also disclose to DTSC and the new owner the location of areas where lead-contaminated soil has been buried. Future property owners shall be subject to the same requirements as Caltrans.

dd) For the purposes of informing the public about instances where the variance is implemented, Caltrans shall:

1. maintain current fact sheets at all Caltrans resident engineer offices and the Caltrans District office. Caltrans shall make the fact sheets available to anyone expressing an interest in variance-related work.

2. maintain a binder(s) containing copies of all reports submitted to DTSC at the District office. Caltrans shall ensure that the binders are readily accessible to the public.

3. carry out the following actions when it identifies additional projects:

(A) notify the public via a display advertisement in a newspaper of general circulation in that area.

(B) update and distribute the fact sheet to the mailing list and repository locations.

ee) Lead-contaminated soil may be buried only in areas where access is limited or where lead-contaminated soil is covered and contained by a pavement structure.

ff) Dust containing lead-contaminated soil must be controlled. Water or dust palliative may be applied to control dust. If visible dust migration occurs, all excavation, stockpiling and truck loading and burying must be stopped. The granting of this variance confers no relief on Caltrans from compliance with the laws, regulations and requirements enforced by any local air district or the California Air Resources Board.

gg) Sampling and analysis is required to show the lead-contaminated soil meets the variance criteria. All sampling and analysis must be conducted in accordance with the appropriate methods specified in U.S. EPA SW-846.

hh) DTSC retains the right to require Caltrans or any future owner to remove, and properly dispose of, lead-contaminated soil in the event DTSC determines it is necessary for protection of public health, safety or the environment.

ii) DTSC finds that some projects involving lead-contaminated soil are joint projects between Caltrans and other government entities. In these joint projects, Caltrans may not be the lead agency implementing the project although Caltrans is still involved if the project occurs on its right-of-way.

Caltrans may invoke this variance for joint projects where Caltrans and local government entity are involved provided that 1) the project is within the Caltrans Right-of-Way; 2) Caltrans reviews/ oversees all phases of the project including design, contracting, environmental assessment, construction, operation, and maintenance; and 3) Caltrans oversees the project to verify all variance conditions are complied with. Caltrans will be fully responsible for the variance notification and implementation in these joint projects.

jj) All correspondence shall be directed to the following office:

Hazardous Waste Permitting
Department of Toxic Substances Control
8800 Cal Center Drive
Sacramento, CA 95826

Attn: Caltrans Lead Variance Notification Unit

10. DISCLAIMER.

a) The issuance of this variance does not relieve Caltrans of the responsibility for compliance with Health and Safety Code, chapter 6.5, or the regulations adopted thereunder, and any other laws and regulations other than those specifically identified in Section 8 of this variance. Caltrans is subject to all terms and conditions herein. The granting of this variance confers no relief from compliance with any federal, State or local requirements other than those specifically provided herein.

b) The issuance of this variance does not release Caltrans from any liability associated with the handling of hazardous waste, except as specifically provided herein and subject to all terms and conditions of this variance.

11. VARIANCE MODIFICATION OR REVOCATION. This variance is subject to review at the discretion of DTSC and may be modified or revoked by DTSC upon change of ownership and at any other time pursuant to Health and Safety Code, section 25143.

12. CEQA DETERMINATION. DTSC adopted a Negative Declaration on June 30, 2009.

Approved:

6/30/09
Date

Beverly Rikala
Operating Facilities Team
Department of Toxic Substances Control

APPENDIX B

Table 1. California Human Health Screening Levels for Soil And Comparison To Other Potential Environmental Concerns

Chemical	[1]Soil Human Health Screening Levels (mg/kg of dry soil)		[2]Other Potential Environmental Concerns Posed By Contaminated Soil			
	Residential Land Use	Commercial/ Industrial Land Use Only	[3]Leaching	[4]Ecotoxicity	[5]Nuisance/ Aesthetic Concerns	[6]Other
Organic Acidic Chemicals						
2,4-D	6.9E+02	7.7E+03	X	X	o	
2,4,5-T	5.5E+02	6.1E+03	X	X	o	
Pentachlorophenol	4.4E+00	1.3E+01	X	X	o	
Organic Neutral Chemicals						
Aldrin	3.3E-02	1.3E-01	o	X	o	
Benzo(a)pyrene	3.8E-02	1.3E-01	o	X	o	TPH
Chlordane	4.3E-01	1.7E+00	o	X	o	
DDD	2.3E+00	9.0E+00	o	X	o	
DDE	1.6E+00	6.3E+00	o	X	o	
DDT	1.6E+00	6.3E+00	o	X	o	
Dieldrin	3.5E-02	1.3E-01	X	X	o	
1,4 Dioxane	1.8E+01	6.4E+01	X	o	o	
Dioxin (2,3,7,8-TCDD)	4.6E-06	1.9E-05	o	o	o	
Endrin	2.1E+01	2.3E+02	X	X	o	
Heptachlor	1.3E-01	5.2E-01	X	X	o	
Lindane	5.0E-01	2.0E+00	X	X	o	
Kepone	3.5E-02	1.3E-01	X	o	o	
Methoxychlor	3.4E+02	3.8E+03	o	X	o	
Mirex	3.1E-02	1.2E-01	X	X	o	
PCBs	8.9E-02	3.0E-01	o	X	o	
Toxaphene	4.6E-01	1.8E+00	X	X	o	

Table 1. California Human Health Screening Levels for Soil And Comparison To Other Potential Environmental Concerns

Chemical	[1]Soil Human Health Screening Levels (mg/kg of dry soil)		[2]Other Potential Environmental Concerns Posed By Contaminated Soil			
	Residential Land Use	Commercial/ Industrial Land Use Only	[3]Leaching	[4]Ecotoxicity	[5]Nuisance/ Aesthetic Concerns	[6]Other
Inorganic Chemicals						
Antimony and compounds	3.0E+01	3.8E+02	site specific	o	o	
Arsenic	7.0E-02	2.4E-01	site specific	X	o	Ambient background
Barium and compounds	5.2E+03	6.3E+04	site specific	X	o	Construction workers
Beryllium and compounds	1.5E+02	1.7E+03	site specific	X	o	
Beryllium oxide[7]	9.1E-02	4.1E-01	o	o	o	Construction workers
Beryllium sulfate[7]	2.1E-04	9.5E-04	o	o	o	
Cadmium and compounds	1.7E+00	7.5E+00	site specific	X	o	Ambient background
Chromium III	1.0E+05	1.0E+05	site specific	X	X	
Chromium VI	1.7E+01	3.7E+01	site specific	X	o	Construction workers
Cobalt	6.6E+02	3.2E+03	site specific	X	o	Construction workers
Copper and compounds	3.0E+03	3.8E+04	site specific	X	X	
Fluoride	4.6E+03	5.7E+04	site specific	o	o	
Lead and lead compounds	1.5E+02	3.5E+03[9]	site specific	X	o	Uptake in fruits and vegetables
Lead acetate[7]	2.3E+00	1.0E+01	X	o	o	
Mercury and compounds	1.8E+01	1.8E+02	site specific	X	o	
Molybdenum	3.8E+02	4.8E+03	site specific	X	X	
Nickel and compounds	1.6E+03	1.6E+04	site specific	X	X	Construction workers
Nickel subsulfide[7]	3.8E-01	1.1E+04	site specific	o	o	
Perchlorate[8]	pp[8]	pp[8]	X	o	o	
Selenium	3.8E+02	4.8E+03	site specific	X	X	
Silver and compounds	3.8E+02	4.8E+03	site specific	X	X	
Thallium and compounds	5.0E+00	6.3E+01	site specific	o	o	Ambient background
Vanadium and compounds	5.3E+02	6.7E+03	site specific	X	X	

Table 1. California Human Health Screening Levels for Soil And Comparison To Other Potential Environmental Concerns

Chemical	[1]Soil Human Health Screening Levels (mg/kg of dry soil)		[2]Other Potential Environmental Concerns Posed By Contaminated Soil			
	Residential Land Use	Commercial/ Industrial Land Use Only	[3]Leaching	[4]Ecotoxicity	[5]Nuisance/ Aesthetic Concerns	[6]Other
Zinc	2.3E+04	1.0E+05	site specific	X	X	

Notes:

1. Direct-exposure screening levels address human exposure to chemicals in soil via incidental ingestion, dermal absorption and inhalation of vapors and particulates emitted to outdoor air (refer to Appendix 1). Assumes impacted soil is situated at or near the ground surface or could be at some time in the future. Volatile chemicals not included at this time (refer to Section 2.5).
   "Residential Land Use" screening levels generally considered appropriate for other sensitive uses (e.g., day-care centers, hospitals, etc.).
   Commercial/industrial properties should be evaluated using both residential and commercial/industrial CHHSLs. A deed restriction that prohibits use of the property for sensitive purposes may be required at sites that are evaluated and/or remediated under a commercial/industrial land use scenario only.
   Carcinogens: CHHSLs based on target cancer risk of 10^{-6}. Cal/EPA cancer slope factors used when available.
   Noncarcinogens: CHHSLs based on target hazard quotient of 1.0.
   Calculation of cumulative risk may be required at sites where multiple contaminants with similar health effects are present (see Section 2.8).
   Residential and C/I soil CHHSLs for arsenic below background for most sites in California (0.07 mg/kg and 0.24 mg/kg, respectively - see Appendix 1). Use identified or anticipated background as screening level (see Section 2.7).
2. Environmental concerns in addition to direct exposure that may need to be considered in evaluation of contaminated soil. Based on a comparison of soil CHHSLs to soil screening levels for noted concerns compiled by the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB 2003). The need to address other environmental concerns must be evaluated separately in coordination with the lead regulatory agency (See Sections 1.4, 2.2 and Chapter 4).
   "X": Noted concern may outweigh direct-exposure risks at many sites and drive decisions for cleanup actions.
   "o": Potential concern but generally will be addressed if cleanup of contaminated soils to meet direct-exposure CHHSLs is carried out.
   "site specific": Potential concern, but evaluation as to whether this factor is a potential concern must be done on a site specific basis.
3. Leaching of chemicals from soil and subsequent impacts to groundwater. Soil ESLs consider of impacts to drinking water resources, re-emission of volatile chemicals from groundwater into overlying buildings and discharges of contaminated groundwater to surface water. Leaching of metals from soil should be evaluated on a site-specific basis, depending on the potential mobility of the metal species present. Laboratory-based leaching studies are generally preferred over model-derived screening levels.
4. Toxicity to terrestrial flora and fauna. Need to consider ecotoxicity concerns generally determined on a site-by-site basis.
5. Nuisance and gross contamination concerns address odors and aesthetic concerns as well as general resource degradation and presence of potentially mobile free product.
6. Other pertinent environmental concerns and considerations as determined on a site-specific basis.
   Health risk to construction workers may outweigh risk to residents or commercial/industrial workers for chemicals that are carcinogenic due to increased exposure to airborne dust particles and incidental ingestion of soil. Uptake of chemicals in edible fruits and vegetables from soil may need to be considered in some cases for noted chemicals.
7. These metal salts are significantly (greater than 10-fold) more toxic than the values for the metals in general. If it is known that this chemical was used at the site, the screening number for this chemical should be used instead of the screening number for the metal and its compounds.
8. Calculation of a screening number for the chemical has been postponed (pp) until the toxicity criterion currently being developed by OEHHA is published as a final document.
9. This screening number is above the Total Threshold Limit Concentration for lead of 1000 mg/kg, as defined in Title 22, California Code of Regulations. It is also above the US EPA Region IX PRG of 800 mg/kg.

REVISED CALIFORNIA HUMAN HEALTH SCREENING LEVELS FOR BERYLLIUM

March 2009

Integrated Risk Assessment Branch
Office of Environmental Health Hazard Assessment
California Environmental Protection Agency

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Revised California Human Health Screening Levels for Beryllium

March 2009

Prepared by
Office of Environmental Health Hazard Assessment

LIST OF CONTRIBUTORS

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Revised California Human Health Screening Levels for Beryllium

Preface

In 2005, the California Office of Environmental Health Hazard Assessment (OEHHA) released a final document on the development of a list of soil screening numbers based on "protection of public health and safety" as required by Health and Safety Code Section 57008 (OEHHA, 2005). The screening numbers have no regulatory authority and are published solely as reference values that may be used by citizen groups, community organizations, property owners, developers, and local government officials to determine sites that would likely need no further action if a full risk assessment were conducted. How these soil screening levels should be applied is explained in "Use of California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties," (Cal/EPA, 2005).

Beryllium CHHSLs

For a CHHSL to be calculated, a chemical must have a toxicity criterion. A toxicity criterion mathematically relates a measure of exposure to a chemical to its toxic effect. For non-carcinogens it is generally the highest dose of the chemical not expected to cause a toxic effect. For a carcinogen it is the relationship between the risk of getting cancer caused by the chemical and the daily exposure to the chemical. In the OEHHA (2005) document, separate CHHSLs were developed for beryllium oxide, beryllium sulfate and all other forms of beryllium called "beryllium and compounds" because the three forms had different toxicity criteria. In 2005 the OEHHA Toxicity Criteria Database showed that all three were carcinogenic when inhaled. However, beryllium oxide and sulfate were considered carcinogenic when ingested, while "beryllium and compounds" was not. Residents and workers ingest far more soil at a site than the tiny amount that is inhaled after the soil is disturbed and becomes airborne dust. Therefore, the oral exposure generally drives the risk. This is why the CHHSLs for beryllium oxide and sulfate (considered carcinogenic when ingested) are so low compared to the CHHSL for beryllium and compounds (not considered carcinogenic when ingested)..

Beryllium Toxicity Criteria

The Toxicity Criteria Database is a Web site (www.oehha.ca.gov/risk/ChemicalDB/index.asp) that compiles the decisions of OEHHA's ongoing evaluation of chemical toxicity. (The Integrated Risk Information System (IRIS) is the equivalent for the United States Environmental Protection Agency (USEPA) Web site). Toxicity criteria are based on a scientific study in which animals or humans have been exposed to several dose levels of the chemical and the incidence of adverse health effects has been measured. These scientific studies must meet certain criteria to be used.

Federal and California legislation in the mid 1980s required rapid criteria development of chemical toxicity at both levels of government. Some of these criteria were rescinded on reevaluation. The Beryllium Health Assessment document published in 1987 (USEPA, 1987) was the basis for oral cancer criteria for some forms of beryllium for both USEPA and

California. Shortly after the publication of the Beryllium Health Assessment document, both USEPA and OEHHA listed both oral and inhalation toxicity criteria for various forms of beryllium. USEPA reevaluated the 1987 Health Assessment document and scientific basis for calling beryllium oxide and beryllium sulfate carcinogenic by the oral route. The USEPA withdrew its oral potency factor on the April 3, 1998.

The USEPA toxicity criteria database (IRIS) has the following statement for beryllium and beryllium compounds, "The basis for not using the Schroeder and Mitchener rat study (1975a) is that the incidences of gross or malignant tumors in the control and beryllium-exposed groups were not significantly different." The Schroeder and Mitchener rat study (1975) was the previous basis for considering beryllium carcinogenic by the oral route. USEPA also stated, "The oral database is considered inadequate for the assessment of carcinogenicity." (IRIS, 1998). As a result, the IRIS Web site only lists a non-cancer Reference Dose (RfD) for oral exposure to beryllium.

Following the USEPA reevaluation, OEHHA reviewed the oral carcinogenicity for beryllium to determine a drinking water health goal (Public Health Goal; PHG). In the PHG document (OEHHA, 2003), OEHHA concurred with the USEPA decision and based the drinking water health goal for all beryllium compounds on a non-cancer effect. OEHHA states, "In this case the chemical is a known human carcinogen, based on exposures by the inhalation route, but oral cancer potency cannot be determined." (OEHHA, 2003).

The OEHHA PHG for beryllium is based on the same non-cancer scientific study used to determine the USEPA RfD , however, it is 10 times lower. This is because, after OEHHA identifies an appropriate study upon which to base the PHG, a No Observable Effect Level (NOAEL) is determined. OEHHA and USEPA identified the same NOAEL. The second step is to divide the NOAEL by an Uncertainty Factor (UF) that accounts for the uncertainty in extrapolating the NOAEL in animals to one for humans which was the same for OEHHA and USEPA. When OEHHA suspects that a chemical could cause cancer but lacks a credible study on which to base a cancer potency, the UF is increased 10-fold on the non-cancer criterion which was the case for beryllium. Therefore, the beryllium PHG is based on a toxicity criterion of 0.0002 mg/kg-d. The USEPA RfD, on which the 2005 beryllium and beryllium compounds is based, is 0.002 mg/kg-d.

Calculation of New Beryllium CHHSLs

Calculations are shown below for new CHHSL values for beryllium oxide, beryllium sulfate and "beryllium and compounds" and they will replace the values from the 2005 document. This is done in order to make the CHHSLs consistent with the most recent OEHHA toxicity evaluation. Two changes are required for consistency. First, the less health protective USEPA toxicity criterion of 0.002 mg/kg-d used to compute the 2005 beryllium and beryllium compounds CHHSL will be replaced with the toxicity criterion used to compute the OEHHA PHG. Second, none of the toxicity criteria used will be based on an oral cancer potency value.

Cancer Calculations

The OEHHA inhalation cancer slope factor for beryllium sulfate is 3000 $(mg/kg\text{-}d)^{-1}$. For all other beryllium compounds including beryllium oxide, the inhalation slope factor is 8.4 $(mg/kg\text{-}d)^{-1}$. The equations used to compute a CHHSL when an inhalation slope, but not an oral slope factor, is available is:

Residential CHHSL based on inhalation of cancer-causing dust

$$CHHSL_{res} = \frac{TR \times AT \times PEF}{CSF_i \times EF_r \times \left(\left(\frac{IR_a \times (ED_r - ED_c)}{BW_a} \right) + \left(\frac{IR_c \times ED_c}{BW_c} \right) \right)}$$

Where:

TR is the target risk - 10^{-6} (one in a million)
AT is 70 year lifetime in days called an averaging time 25550 days
PEF is the particulate emission factor - 1.316×10^9 m^3 air/kg soil
CSFi is the cancer slope factor for inhalation - 3000 $(mg/kg\text{-}d)^{-1}$ beryllium sulfate and 8.4 $(mg/kg\text{-}d)^{-1}$ for all other forms of beryllium including beryllium oxide.
IRa is the inhalation rate of an adult - 20 m^3/d
IRc is the inhalation rate of a child - 10 m^3/d
EFr is the exposure frequency for a resident - 350 days per year
EDr is the total exposure duration of a resident - 30 years
EDc is the exposure duration of a resident as a child - 6 years
BWa is the body weight of an adult – 70 kg
BWc is the body weight of an adult – 15 kg

Solving this residential equation modeling inhaled dust with these parameters for beryllium sulfate gives a CHHSL of 2.9 mg/kg. For all other forms of beryllium including beryllium oxide the CHHSL based on inhaled dust is 1043 mg/kg. CHSSLs are rounded to two significant figures yielding 2.9 and 1000 mg/kg, respectively.

Commercial/Industrial CHHSL based on inhalation of cancer-causing dust

$$CHHSL_{ind} = \frac{TR \times AT \times PEF}{\frac{CSF_i \times IR_w \times EF_w \times ED_w}{BW_w}}$$

Where:

TR is the target risk - 10^{-6} (one in a million)
AT is 70 year lifetime in days called an averaging time - 25550 days
PEF is the particulate emission factor - 1.316×10^9 m^3 air/kg soil

CSFi is the cancer slope factor for inhalation - 3000 $(mg/kg\text{-}d)^{-1}$ beryllium sulfate and 8.4 $(mg/kg\text{-}d)^{-1}$ for all other forms of beryllium including beryllium oxide.
IRw is the inhalation rate of an worker - 20 m^3/d
EFw is the exposure frequency for a worker - 250 days per year
EDw is the total exposure duration of a worker - 25 years
BWw is the body weight of a worker - 70 kg

Solving this industrial equation modeling inhaled dust with these parameters for beryllium sulfate gives a CHHSL of 6.3 mg/kg. For all other forms of beryllium including beryllium oxide the CHHSL based on inhaled dust is 2242 mg/kg. CHSSLs are rounded to two significant figures yielding 6.3 and 2200 mg/kg, respectively.

Non Cancer Calculations

The OEHHA PHG drinking water criterion is based on a RfD that is 10-fold less than the one published by the USEPA. This value is 0.002 mg/kg-d. This value is used in the calculations below.

Residential CHHSL based on noncancer health effects to a child

$$CHHSL_{res} = \frac{THQ \times BW_c \times 365}{EF_r \times \left(\left(\frac{IRS_c}{RfD_{oral} \times 10^6} \right) + \left(\frac{AF_c \times SA_c \times ABS}{RfD_{oral} \times 10^6} \right) + \left(\frac{IRA_c}{RfD_{inh} \times PEF} \right) \right)}$$

Where:

THQ is the target hazard quotient – 1.0
PEF is the particulate emission factor - 1.316×10^9 m^3 air/kg soil
RfDoral is the OEHHA reference dose for oral exposure - 0.0002 mg/kg-d
RfDinh is the USEPA reference dose for inhalation exposure - 0.00000571 mg/kg-d
IRc is the inhalation rate of a child - 10 m^3/d
IRSc is the soil ingestion rate of a child 200 mg/d
EFr is the exposure frequency for a resident - 350 days per year
EDc is the exposure duration of a resident as a child - 6 years
BWc is the body weight of a child - 15 kg
AFc is the soil to skin adherence factor for a child- 0.2 mg/cm^2
SAc is the surface area of skin to which soil can stick for a child – 2800 cm^2/d
ABS is the percent of chemical that can be absorbed through the skin -1%

Solving this residential equation modeling ingestion, inhalation and dermal contact with these parameters gives a CHHSL of 16 mg/kg.

Commercial/Industrial CHHSL based on noncancer health effects to a worker

$$CHHSL_{ind} = \frac{THQ \times BW_w \times 365}{EF_w \times \left(\left(\frac{IRS_w}{RfD_{oral} \times 10^6} \right) + \left(\frac{AF_w \times SA_w \times ABS}{RfD_{oral} \times 10^6} \right) + \left(\frac{IRA_w}{RfD_{inh} \times PEF} \right) \right)}$$

Where:

THQ is the target hazard quotient - 1.0
PEF is the particulate emission factor - 1.316 x 10^9 m^3 air/kg soil
RfDoral is the OEHHA reference dose for oral exposure - 0.0002 mg/kg-d
RfDinh is the USEPA reference dose for inhalation exposure - 0.00000571 mg/kg-d
IRw is the inhalation rate of a worker - 20 m^3/d
IRSw is the soil ingestion rate of a worker 100 mg/d
EFw is the exposure frequency for a worker - 250 days per year
EDw is the exposure duration of a resident as a worker - 25 years
BWw is the body weight of an adult - 70 kg
AFw is the soil to skin adherence factor for a worker- 0.2 mg/cm^2
SAw is the surface area of skin to which soil can stick for a worker - 3300 cm^2/d
ABS is the percent of chemical that can be absorbed through the skin -1%

Solving this industrial equation modeling ingestion, inhalation and dermal contact with these parameters gives a CHHSL of 190 mg/kg.

Conclusion

Summary of 2005 CHHSLs for Beryllium (mg/kg soil)

Scenario	Residential		Commercial/Industrial	
Effect	Cancer	Non-cancer	Cancer	Non-cancer
Beryllium and Compounds	1000	**150**	2200	**1700**
Beryllium Oxide	**0.091**[a]	150	**0.41**	1700
Beryllium Sulfate	**0.00021**	150	**0.00095**	1700

[a] The values in bold are the 2005 CHHSLs for each compound and scenario.

Summary of Recalculated CHHSLs for Beryllium (mg/kg soil)

Scenario	Residential		Commercial/Industrial	
Effect	Cancer	Non-cancer	Cancer	Non-cancer
Beryllium and Compounds	1000	16	2200	190
Beryllium Oxide	1000	16	2200	190
Beryllium Sulfate	2.9	16	6.3	190

Because the inadvertent ingestion of soil drives these calculations, eliminating the oral cancer potencies for beryllium oxide and beryllium sulfate dramatically increases the CHHSLs based on carcinogenicity from those published previously. Likewise, decreasing the oral RfD by a factor of 10 reduced the new CHHSLs based on non-cancer effects for beryllium and beryllium compounds 10-fold.

Summary of Updated 2008 CHHSLs for Beryllium (mg/kg soil)

Scenario	Residential	Commercial/Industrial
Beryllium Sulfate	2.9	6.3
All Other Beryllium Compounds	16	190

The residential CHHSL for beryllium sulfate is 2.9 mg/kg and the industrial CHHSL is 6.3 mg/kg. For all other forms of beryllium (including beryllium oxide), the non-cancer residential value of 16 is lower than the cancer residential value of 1000. Therefore, the residential CHHSL is 16 mg/kg. For all other forms of beryllium (including beryllium oxide), the non-cancer commercial/industrial value of 190 is lower than the cancer commercial/industrial value of 2200 mg/kg. Therefore, the commercial/industrial CHHSL is 190 mg/kg.

References

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Appendix

Reponses to Comments Received on the September 2008 Review Draft Report

Dr. Jean Rabovsky representing herself.

Dr. Rabovsky points out that the document is unclear. The table showing the candidate CHSSLs did not include values for non-cancer endpoints for beryllium sulfate or beryllium oxide. She was concerned that the Office of Environmental Health Hazard Assessment (OEHHA) did not consider non-cancer endpoints. The revised tables have all values to avoid confusion.

Mr. Lawrence Szuhay representing Brush Wellman, Inc.

Mr. Szuhay had two comments:

1. In 2003, OEHHA should not have adopted the Public Health Goal (PHG) with the additional 10-fold safety factor. He believes that this is "improper and unnecessarily conservative."
2. OEHHA should not compute a CHHSL for beryllium based on a cancer endpoint for inhalation.

Mr. Szuhay provided extensive written material in support of his two comments. Unfortunately, the two comments do not pertain to the action taken. OEHHA did not reevaluate the basis of either the beryllium PHG or the inhalation slope factor for any forms of beryllium as part of the CHHSL development process. Both the PHG and inhalation slope factors underwent a public comment period culminating in the adoption of the existing criteria in earlier actions by OEHHA that were not part of the CHHSL development process.

OEHHA eliminated oral cancer potency values for beryllium oxide and beryllium sulfate based on the findings of the 2003 beryllium PHG. In addition, OEHHA choose to use the reference dose developed for the PHG in 2003 instead of the U.S. Environmental Protection Agency's Integrated Risk Information System (IRIS) criterion.

REVISED CALIFORNIA HUMAN HEALTH SCREENING LEVELS FOR LEAD

September 2009

Integrated Risk Assessment Branch
Office of Environmental Health Hazard Assessment
California Environmental Protection Agency

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Revised California Human Health Screening Levels for Lead

September 2009

Prepared by
Office of Environmental Health Hazard Assessment

LIST OF CONTRIBUTORS

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Jim Carlisle, D.V.M., Senior Toxicologist, Integrated Risk Assessment Branch

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Revised California Human Health Screening Level for Lead

Introduction

The California Office of Environmental Health Hazard Assessment (OEHHA) has recently developed a 1 µg/dL benchmark for source-specific incremental change in blood lead levels for protection of school children and fetuses (OEHHA, 2007). The publication of this value required a review of the residential Soil Screening Level for lead (CHHSL), which currently stands at 150 mg/kg and the commercial/industrial CHHSL, which currently stands at 3500 mg/kg (OEHHA, 2005 revision). Application of this Soil Screening Level is explained in "Use of California Human Health Screening Levels in Evaluation of Contaminated Properties" (Cal/EPA, 2005).

Methods

The essence of this task was to estimate a concentration in soil that would lead to an incremental increase in blood lead (Pb_B) of up to 1 µg/dL, in people exposed to that soil. For the residential CHHSL for lead we evaluated the exposure to a child resident. For the commercial/industrial CHHSL we evaluated the exposure to a pregnant adult worker.

Residential Child Scenario

The Department of Toxic Substances Control's Leadspread model (DTSC, 2007) was used to estimate blood lead concentrations in children. The Leadspread model considers exposure to lead in soil by three pathways: ingestion, re-suspension and inhalation, and dermal contact. The Leadspread model was queried for the soil lead concentrations that would give rise to a 90th percentile estimate of increase in blood lead of 1 µg/dL using the "goal seek" function in Excel™. Model inputs and outputs for the Child Scenario are shown in Table 1.

Table 1: Leadspread Input Values

FACTOR	LEVEL	UNITS
Lead in Soil/Dust	77	µg/g
Soil ingestion	100	mg/day
Ingestion constant	0.16	(µg/dl)/(µg/day)
Oral bioavailability	0.44	unitless
Skin area	2900	cm^2
Soil adherence	200	$\mu g/cm^2$
Dermal uptake constant	0.0001	(µg/dl)/(µg/day)
Respirable dust	1.5	ug/m^3
Breathing rate	6.8	m^3/day
Inhalation constant	0.192	(µg/dl)/(µg/day)
Exposure days per week	7	days/wk
Geometric Standard Deviation[1]	1.6	µg/dL
Background lead in air[2]	0	$\mu g/m^3$
Lead in water[2]	0	µg/L
Home-grown produce[3]	0	percent
Resulting 90th percentile increase in blood lead	1	µg/dL

[1] Based on blood lead levels in geographically limited populations of children (EPA, 2007)

[2] Because this soil screening level is based on a change in blood lead due to the exposure under evaluation, no background exposures are included.

[3] As explained in (OEHHA, 2005) the food pathway is not used in calculating soil screening levels. These screening levels may not be appropriate for sites to be used for gardening or farming.

Occupational Adult Scenario

U.S. EPA's Adult Lead Model (ALM) (EPA, 2005) was used to estimate the blood lead concentration in a fetus of an adult worker exposed to lead-contaminated soil. The model was queried directly for the soil lead concentrations that would give rise to the 90th percentile estimate of change in blood lead of 1 µg/dL using the "goal seek" function in Excel™. Model inputs and outputs are shown in Table 2. Inputs that were changed from default values are in bold.

Table 2: ALM Input and Output Values for the Occupational Scenario

FACTOR	UNITS	VALUE
Fetal/maternal Pb_B ratio	--	0.9
Biokinetic Slope Factor	µg/dL per µg/day	0.4
Geometric standard deviation Pb_B (GSD)	--	**1.8**[2]
Baseline Pb_B	µg/dL	**0.0**[3]
Soil ingestion rate (including soil-derived indoor dust)	g/day	0.050
Absorption fraction	--	0.12
Exposure frequency	days/yr	**250**[4]
Averaging time	days/yr	365
Pb_B of adult worker, geometric mean	µg/dL	0.6[1]
90th percentile Pb_B among fetuses of adult workers	µg/dL	1.0
Target Pb_B level of concern	µg/dL	**1.0**
Probability that fetal Pb_B > Pb_Bt, assuming lognormal distribution	percent	10 %
Soil lead concentration	µg/g or ppm	320[1]

[1] Calculated value
[2] The default GSD in ALM (2.1) was changed to 1.8. EPA (2001) recommended a value of 1.8 for relatively homogeneous populations. The default GSD in ALM reflects variability in the population as a whole. This variability has many components, including variability in exposure concentration. The latter source of variability is reduced or eliminated in a population exposed to soil containing 320 ppm.
[3] No baseline Pb_B is assumed, since the target change in blood lead is an incremental change due to the soil in question.
[4] The value of 250 days per year is consistent with other CHHSLs.

Results

The Soil Screening Levels resulting from the analyses described above are shown in Table 3.

Table 3: Comparison of 2005 CHHSLs to Revised CHHSLs

Residential CHHSL* (mg/kg)		Commercial/Industrial CHHSL[1] (mg/kg)	
2005	Revised	2005	Revised
150	80	3500	320

[1] Rounded to nearest multiple of 10.

Discussion

The previous CHHSLs for lead were calculated as the maximum soil concentration which, combined with an assumed background lead exposure from food, air, and water, would result in a total blood lead not to exceed 10 µg/dl. The proposed CHHSLs are calculated differently: they are calculated as the level in soil that could result in up to a 1 µg/dl increase in blood lead, irrespective of background exposures. Background exposures are not typically considered in other CHHSLs or other screening levels.

The proposed CHHSLs for lead consider two sources of uncertainty: the relationship between blood lead level and cognitive ability, and the relationship between lead levels in the environment and blood lead levels. The first source of uncertainty involves the fitting of a model to the blood lead and IQ data in the meta-analysis of Lanphear et al. (2005) that was used to determine the relationship between blood lead and IQ. To be conservative OEHHA (2007) used a 97.5% upper confidence limit on the slope of the IQ versus Pb_B curve.

The other source of uncertainty is the relationship between environmental lead levels and blood lead levels. Both Leadspread and the ALM account for this by predicting a distribution of blood lead values for any given set of environmental inputs. The percentiles of the Pb_B versus soil Pb curve reflect physiological and behavioral variability in individual responses to similar environmental concentrations. Although the previous CHHSL for lead was based on the 99th percentile of that distribution, the revised CHHSL is based on the 90th percentile of the distribution. The reason for this change is that the benchmark change in blood lead concentration is a health-protective estimate, based on risk to children, whereas the previous target blood lead level was based on a "level of concern" that did not incorporate recent scientific information and focused on individual - rather than population - risks.

The overall approach to accommodating the two sources of uncertainty can be summarized as follows: the CHHSLs represent concentrations in soil that have no more than a 2.5% probability of decreasing IQ by more than 1 point in a 90th percentile child or fetus.

References

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EPA 2001, Review of Adult Lead Models: Evaluation of Models for Assessing Human Health Risks Associated with Lead Exposures at Non-Residential Areas of Superfund and Other Hazardous Waste Sites U.S. EPA, Office of Solid Waste and Emergency Response OSWER #9285.7-46 (Table 1.1).

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Appendix

Response to comments

OEHHA received two comments on the draft CHHSL for lead. Both commentors suggested that the lead CHHSL should be applied only to anthropogenic lead, i.e. that background lead should not be included.

OEHHA response: In its response to comment #48 to the original 2005 CHHSL document, OEHHA stated "The health-based screening number for arsenic is intended for arsenic contamination resulting from human activity." This could also be applied to lead and other elements. However, the final determination of background levels and how they will be accounted for in any site-specific decision is ultimately up to those making the site-specific decision.

APPENDIX C

November 20, 2012

Mike Conkle
Geocon Consultants, Inc.
3303 N. San Fernando Blvd., Suite 100
Burbank, CA 91504
Tel: (818) 841-8388
Fax:(818) 841-1704

ELAP No.: 1838
NELAP No.: 02107CA
CSDLAC No.: 10196
ORELAP No.: CA300003
TCEQ No.: T104704502

Re: ATL Work Order Number : 1203892

Client Reference : Los Angeles Route 2, S9475-06-22

Enclosed are the results for sample(s) received on November 06, 2012 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

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

Sincerely,

Eddie Rodriguez
Laboratory Director

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/20/2012

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
1190-101-0.0	1203892-01	Soil	11/06/12 9:49	11/06/12 15:19
1190-101-1.0	1203892-02	Soil	11/06/12 9:53	11/06/12 15:19
1190-101-2.0	1203892-03	Soil	11/06/12 10:11	11/06/12 15:19
1190-101-3.0	1203892-04	Soil	11/06/12 10:23	11/06/12 15:19
1190-102-0.0	1203892-05	Soil	11/06/12 9:48	11/06/12 15:19
1190-102-1.0	1203892-06	Soil	11/06/12 9:54	11/06/12 15:19
1190-102-2.0	1203892-07	Soil	11/06/12 10:11	11/06/12 15:19
1190-102-4.0	1203892-08	Soil	11/06/12 10:36	11/06/12 15:19
1190-104-0.0	1203892-09	Soil	11/06/12 11:35	11/06/12 15:19
1190-104-1.0	1203892-10	Soil	11/06/12 11:37	11/06/12 15:19
1190-104-2.0	1203892-11	Soil	11/06/12 11:41	11/06/12 15:19
1190-104-4.0	1203892-12	Soil	11/06/12 11:57	11/06/12 15:19
1190-105-0.0	1203892-13	Soil	11/06/12 12:20	11/06/12 15:19
1190-105-1.0	1203892-14	Soil	11/06/12 12:27	11/06/12 15:19
1190-105-2.0	1203892-15	Soil	11/06/12 12:35	11/06/12 15:19
1190-105-3.5	1203892-16	Soil	11/06/12 12:41	11/06/12 15:19
1190-106-0.0	1203892-17	Soil	11/06/12 13:02	11/06/12 15:19
1190-106-1.0	1203892-18	Soil	11/06/12 13:04	11/06/12 15:19
1190-106-2.0	1203892-19	Soil	11/06/12 13:06	11/06/12 15:19
1190-106-3.5	1203892-20	Soil	11/06/12 13:14	11/06/12 15:19
1190-107-0.0	1203892-21	Soil	11/06/12 14:00	11/06/12 15:19
1190-107-1.0	1203892-22	Soil	11/06/12 14:02	11/06/12 15:19
1190-107-2.0	1203892-23	Soil	11/06/12 14:06	11/06/12 15:19
1190-107-4.5	1203892-24	Soil	11/06/12 14:15	11/06/12 15:19
1190-EB-1	1203892-25	Water	11/06/12 14:23	11/06/12 15:19

CASE NARRATIVE

Results were J-flagged. "J" is used to flag those results that are between the PQL (Practical Quantitation Limit) and the calculated MDL (Method Detection Limit). Results that are "J" flagged are estimated values since it becomes difficult to accurately quantitate the analyte near the MDL.

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/20/2012

Lead by ICP-AES EPA 6010B

Analyte: Lead **Analyst: SB**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203892-01	1190-101-0.0	**52**	mg/kg	1.0	0.18	1	B2K0134	11/07/2012	11/08/12 13:49	
1203892-02	1190-101-1.0	**42**	mg/kg	1.0	0.18	1	B2K0134	11/07/2012	11/08/12 13:50	
1203892-03	1190-101-2.0	**13**	mg/kg	1.0	0.18	1	B2K0134	11/07/2012	11/08/12 13:50	
1203892-04	1190-101-3.0	**9.7**	mg/kg	1.0	0.18	1	B2K0134	11/07/2012	11/08/12 13:51	
1203892-05	1190-102-0.0	**380**	mg/kg	1.0	0.18	1	B2K0134	11/07/2012	11/08/12 13:51	
1203892-06	1190-102-1.0	**44**	mg/kg	1.0	0.18	1	B2K0134	11/07/2012	11/08/12 13:52	
1203892-07	1190-102-2.0	**29**	mg/kg	1.0	0.18	1	B2K0134	11/07/2012	11/08/12 13:52	
1203892-08	1190-102-4.0	**170**	mg/kg	1.0	0.18	1	B2K0134	11/07/2012	11/08/12 13:54	
1203892-09	1190-104-0.0	**350**	mg/kg	1.0	0.18	1	B2K0134	11/07/2012	11/08/12 13:55	
1203892-10	1190-104-1.0	**380**	mg/kg	1.0	0.18	1	B2K0134	11/07/2012	11/08/12 13:55	
1203892-11	1190-104-2.0	**130**	mg/kg	1.0	0.18	1	B2K0134	11/07/2012	11/08/12 13:57	
1203892-12	1190-104-4.0	**200**	mg/kg	1.0	0.18	1	B2K0134	11/07/2012	11/08/12 13:57	
1203892-13	1190-105-0.0	**570**	mg/kg	1.0	0.18	1	B2K0134	11/07/2012	11/08/12 13:58	
1203892-14	1190-105-1.0	**280**	mg/kg	1.0	0.18	1	B2K0134	11/07/2012	11/08/12 13:58	
1203892-15	1190-105-2.0	**150**	mg/kg	1.0	0.18	1	B2K0134	11/07/2012	11/08/12 13:59	
1203892-16	1190-105-3.5	**400**	mg/kg	1.0	0.18	1	B2K0134	11/07/2012	11/08/12 14:01	
1203892-17	1190-106-0.0	**87**	mg/kg	1.0	0.18	1	B2K0134	11/07/2012	11/08/12 14:01	
1203892-18	1190-106-1.0	**200**	mg/kg	1.0	0.18	1	B2K0134	11/07/2012	11/08/12 14:02	
1203892-19	1190-106-2.0	**150**	mg/kg	1.0	0.18	1	B2K0134	11/07/2012	11/08/12 14:02	
1203892-20	1190-106-3.5	**99**	mg/kg	1.0	0.18	1	B2K0134	11/07/2012	11/08/12 14:03	
1203892-21	1190-107-0.0	**18**	mg/kg	1.0	0.18	1	B2K0135	11/07/2012	11/08/12 14:08	
1203892-22	1190-107-1.0	**7.0**	mg/kg	1.0	0.18	1	B2K0135	11/07/2012	11/08/12 14:08	
1203892-23	1190-107-2.0	**15**	mg/kg	1.0	0.18	1	B2K0135	11/07/2012	11/08/12 14:09	
1203892-24	1190-107-4.5	**22**	mg/kg	1.0	0.18	1	B2K0135	11/07/2012	11/08/12 14:09	

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100		Report To :	Mike Conkle
Burbank , CA 91504		Reported :	11/20/2012

Lead by ICP-AES EPA 6010B

Analyte: Lead **Analyst: PT**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203892-25	1190-EB-1	**ND**	mg/L	0.0050	0.0028	1	B2K0142	11/07/2012	11/08/12 13:03	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/20/2012

STLC Lead by AA (Direct Aspiration) by EPA 7420

Analyte: Lead **Analyst: VV**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203892-01	1190-101-0.0	**4.1**	mg/L	0.50	0.26	1	B2K0213	11/09/2012	11/13/12 15:50	
1203892-02	1190-101-1.0	**2.8**	mg/L	0.50	0.26	1	B2K0213	11/09/2012	11/13/12 15:50	
1203892-03	1190-101-2.0	**0.96**	mg/L	0.50	0.26	1	B2K0213	11/09/2012	11/13/12 15:50	
1203892-04	1190-101-3.0	**0.55**	mg/L	0.50	0.26	1	B2K0213	11/09/2012	11/13/12 15:50	
1203892-05	1190-102-0.0	**24**	mg/L	2.5	1.3	5	B2K0213	11/09/2012	11/13/12 15:53	
1203892-06	1190-102-1.0	**2.5**	mg/L	0.50	0.26	1	B2K0213	11/09/2012	11/13/12 15:53	
1203892-07	1190-102-2.0	**1.8**	mg/L	0.50	0.26	1	B2K0213	11/09/2012	11/13/12 15:53	
1203892-08	1190-102-4.0	**9.1**	mg/L	0.50	0.26	1	B2K0213	11/09/2012	11/12/12 16:27	
1203892-09	1190-104-0.0	**24**	mg/L	2.5	1.3	5	B2K0213	11/09/2012	11/12/12 16:28	
1203892-10	1190-104-1.0	**27**	mg/L	2.5	1.3	5	B2K0213	11/09/2012	11/12/12 16:31	
1203892-11	1190-104-2.0	**11**	mg/L	1.0	0.52	2	B2K0213	11/09/2012	11/12/12 16:34	
1203892-12	1190-104-4.0	**14**	mg/L	1.0	0.52	2	B2K0213	11/09/2012	11/12/12 16:36	
1203892-13	1190-105-0.0	**47**	mg/L	5.0	2.6	10	B2K0213	11/09/2012	11/12/12 16:37	
1203892-14	1190-105-1.0	**27**	mg/L	2.5	1.3	5	B2K0213	11/09/2012	11/12/12 16:38	
1203892-15	1190-105-2.0	**9.1**	mg/L	0.50	0.26	1	B2K0213	11/09/2012	11/12/12 16:39	
1203892-16	1190-105-3.5	**20**	mg/L	2.5	1.3	5	B2K0213	11/09/2012	11/12/12 16:41	
1203892-17	1190-106-0.0	**8.9**	mg/L	0.50	0.26	1	B2K0213	11/09/2012	11/12/12 16:41	
1203892-18	1190-106-1.0	**19**	mg/L	2.5	1.3	5	B2K0213	11/09/2012	11/12/12 16:42	
1203892-19	1190-106-2.0	**13**	mg/L	1.0	0.52	2	B2K0213	11/09/2012	11/12/12 16:43	
1203892-20	1190-106-3.5	**7.0**	mg/L	0.50	0.26	1	B2K0213	11/09/2012	11/12/12 16:44	
1203892-21	1190-107-0.0	**1.0**	mg/L	0.50	0.26	1	B2K0214	11/09/2012	11/12/12 16:47	
1203892-22	1190-107-1.0	**0.44**	mg/L	0.50	0.26	1	B2K0214	11/09/2012	11/12/12 16:47	J
1203892-23	1190-107-2.0	**0.55**	mg/L	0.50	0.26	1	B2K0214	11/09/2012	11/12/12 16:48	
1203892-24	1190-107-4.5	**0.98**	mg/L	0.50	0.26	1	B2K0214	11/09/2012	11/12/12 16:48	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/20/2012

STLC-DI Lead by AA (Direct Aspiration) EPA 7420

Analyte: Lead **Analyst: VV**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203892-05	1190-102-0.0	**ND**	mg/L	0.50	0.26	1	B2K0474	11/19/2012	11/19/12 18:01	
1203892-08	1190-102-4.0	**ND**	mg/L	0.50	0.26	1	B2K0474	11/19/2012	11/19/12 18:01	
1203892-09	1190-104-0.0	**ND**	mg/L	0.50	0.26	1	B2K0474	11/19/2012	11/19/12 18:01	
1203892-10	1190-104-1.0	**ND**	mg/L	0.50	0.26	1	B2K0474	11/19/2012	11/19/12 18:01	
1203892-11	1190-104-2.0	**ND**	mg/L	0.50	0.26	1	B2K0474	11/19/2012	11/19/12 18:02	
1203892-12	1190-104-4.0	**ND**	mg/L	0.50	0.26	1	B2K0474	11/19/2012	11/19/12 18:02	
1203892-13	1190-105-0.0	**ND**	mg/L	0.50	0.26	1	B2K0474	11/19/2012	11/19/12 18:02	
1203892-14	1190-105-1.0	**ND**	mg/L	0.50	0.26	1	B2K0474	11/19/2012	11/19/12 18:03	
1203892-15	1190-105-2.0	**ND**	mg/L	0.50	0.26	1	B2K0474	11/19/2012	11/19/12 18:03	
1203892-16	1190-105-3.5	**ND**	mg/L	0.50	0.26	1	B2K0474	11/19/2012	11/19/12 18:04	
1203892-17	1190-106-0.0	**ND**	mg/L	0.50	0.26	1	B2K0474	11/19/2012	11/19/12 18:05	
1203892-18	1190-106-1.0	**ND**	mg/L	0.50	0.26	1	B2K0474	11/19/2012	11/19/12 18:05	
1203892-19	1190-106-2.0	**ND**	mg/L	0.50	0.26	1	B2K0474	11/19/2012	11/19/12 18:05	
1203892-20	1190-106-3.5	**ND**	mg/L	0.50	0.26	1	B2K0474	11/19/2012	11/19/12 18:05	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/20/2012

QUALITY CONTROL SECTION

Lead by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0134 - EPA 3050 Modified									
Blank (B2K0134-BLK1)					Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	0.308896	1.0			NR				J
Blank (B2K0134-BLK2)					Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	0.795087	1.0			NR				J
LCS (B2K0134-BS1)					Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	49.2686	1.0	50.0000		98.5	80 - 120			
Duplicate (B2K0134-DUP1)		**Source: 1203892-20**			Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	105.648	1.0		99.3246	NR		6.17	20	
Duplicate (B2K0134-DUP2)		**Source: 1203892-10**			Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	319.795	1.0		380.326	NR		17.3	20	
Matrix Spike (B2K0134-MS1)		**Source: 1203892-20**			Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	384.778	1.0	250.000	99.3246	114	46 - 116			
Matrix Spike (B2K0134-MS2)		**Source: 1203892-10**			Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	699.280	1.0	250.000	380.326	128	46 - 116			M1
Matrix Spike Dup (B2K0134-MSD1)		**Source: 1203892-20**			Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	368.834	1.0	250.000	99.3246	108	46 - 116	4.23	20	
Batch B2K0135 - EPA 3050 Modified									
Blank (B2K0135-BLK1)					Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	0.579619	1.0			NR				J
Blank (B2K0135-BLK2)					Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	0.625778	1.0			NR				J
LCS (B2K0135-BS1)					Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	51.0735	1.0			NR	80 - 120			
Duplicate (B2K0135-DUP1)		**Source: 1203893-08**			Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	14.3020	1.0		8.69968	NR		48.7	20	R
Duplicate (B2K0135-DUP2)		**Source: 1203893-06**			Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	3.72192	1.0		4.26524	NR		13.6	20	
Matrix Spike (B2K0135-MS1)		**Source: 1203893-08**			Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	267.791	1.0	250.000	8.69968	104	46 - 116			
Matrix Spike (B2K0135-MS2)		**Source: 1203893-06**			Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	261.969	1.0	250.000	4.26524	103	46 - 116			

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/20/2012

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

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0135 - EPA 3050 Modified (continued)									
Matrix Spike Dup (B2K0135-MSD1)		**Source: 1203893-08**			Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	208.604	1.0	250.000	8.69968	80.0	46 - 116	24.8	20	M1
Batch B2K0142 - EPA 3010A									
Blank (B2K0142-BLK1)					Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	ND	0.0050			NR				
LCS (B2K0142-BS1)					Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	0.997462	0.0050	1.00000		99.7	80 - 120			
Duplicate (B2K0142-DUP1)		**Source: 1203891-21**			Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	ND	0.0050		ND	NR			20	
Matrix Spike (B2K0142-MS1)		**Source: 1203891-21**			Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	2.22399	0.0050	2.50000	ND	89.0	78 - 117			
Matrix Spike Dup (B2K0142-MSD1)		**Source: 1203891-21**			Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	2.20098	0.0050	2.50000	ND	88.0	78 - 117	1.04	20	
Batch S2K0103 - B2K0142									
Instrument Blank (S2K0103-IBL1)					Prepared: 11/8/2012 Analyzed: 11/8/2012				
Lead	ND	0.0050			NR				
Batch S2K0110 - B2J0834									
Instrument Blank (S2K0110-IBL1)					Prepared: 11/8/2012 Analyzed: 11/8/2012				
Lead	ND	1.0			NR				

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/20/2012

STLC Lead by AA (Direct Aspiration) by EPA 7420 - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0213 - STLC Extraction									
Blank (B2K0213-BLK1)					Prepared: 11/9/2012 Analyzed: 11/13/2012				
Lead	ND	0.50			NR				
Blank (B2K0213-BLK2)					Prepared: 11/9/2012 Analyzed: 11/13/2012				
Lead	ND	0.50			NR				
LCS (B2K0213-BS1)					Prepared: 11/9/2012 Analyzed: 11/13/2012				
Lead	5.13098	0.05	5.00000		103	80 - 120			
Duplicate (B2K0213-DUP1)		**Source: 1203892-10**			Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	28.9425	2.5		26.5618	NR		8.58	20	
Duplicate (B2K0213-DUP2)		**Source: 1203892-20**			Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	7.84717	0.50		6.98233	NR		11.7	20	
Matrix Spike (B2K0213-MS1)		**Source: 1203892-10**			Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	30.8552	0.25	5.00000	26.5618	85.9	80 - 120			
Matrix Spike (B2K0213-MS2)		**Source: 1203892-20**			Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	12.7672	0.10	5.00000	6.98233	116	80 - 120			
Matrix Spike Dup (B2K0213-MSD1)		**Source: 1203892-10**			Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	31.5362	0.25	5.00000	26.5618	99.5	80 - 120	2.18	20	
Batch B2K0214 - STLC Extraction									
Blank (B2K0214-BLK1)					Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	0.312963	0.50			NR				J
Blank (B2K0214-BLK2)					Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	0.308525	0.50			NR				J
LCS (B2K0214-BS1)					Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	5.46035	0.05	5.00000		109	80 - 120			
Duplicate (B2K0214-DUP1)		**Source: 1203893-06**			Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	0.287301	0.50		0.298588	NR		3.85	20	J
Duplicate (B2K0214-DUP2)		**Source: 1203893-08**			Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	0.699101	0.50		0.735906	NR		5.13	20	
Matrix Spike (B2K0214-MS1)		**Source: 1203893-06**			Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	5.25433	0.05	5.00000	0.298588	99.1	80 - 120			
Matrix Spike (B2K0214-MS2)		**Source: 1203893-08**			Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	5.76130	0.05	5.00000	0.735906	101	80 - 120			
Batch S2K0170 - B2K0214									
Instrument Blank (S2K0170-IBL1)					Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	ND	0.50			NR				

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/20/2012

STLC Lead by AA (Direct Aspiration) by EPA 7420 - Quality Control (cont'd)

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch S2K0170 - B2K0214 (continued)									
Instrument Blank (S2K0170-IBL1) - Continued					Prepared: 11/12/2012 Analyzed: 11/12/2012				
Batch S2K0189 - B2K0213									
Instrument Blank (S2K0189-IBL1)					Prepared: 11/13/2012 Analyzed: 11/13/2012				
Lead	ND	0.50			NR				

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/20/2012

STLC-DI Lead by AA (Direct Aspiration) EPA 7420 - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0474 - STLC DI Extraction									
Blank (B2K0474-BLK1)					Prepared: 11/19/2012 Analyzed: 11/19/2012				
Lead	ND	0.50			NR				
Blank (B2K0474-BLK2)					Prepared: 11/19/2012 Analyzed: 11/19/2012				
Lead	ND	0.50			NR				
LCS (B2K0474-BS1)					Prepared: 11/19/2012 Analyzed: 11/19/2012				
Lead	4.90850	0.05	5.00000		98.2	80 - 120			
Duplicate (B2K0474-DUP1)		**Source: 1203892-16**			Prepared: 11/19/2012 Analyzed: 11/19/2012				
Lead	ND	0.50		ND	NR			20	
Duplicate (B2K0474-DUP2)		**Source: 1203893-05**			Prepared: 11/19/2012 Analyzed: 11/19/2012				
Lead	ND	0.50		ND	NR			20	
Matrix Spike (B2K0474-MS1)		**Source: 1203892-16**			Prepared: 11/19/2012 Analyzed: 11/19/2012				
Lead	4.93208	0.05	5.00000	ND	98.6	80 - 120			
Matrix Spike (B2K0474-MS2)		**Source: 1203893-05**			Prepared: 11/19/2012 Analyzed: 11/19/2012				
Lead	5.00207	0.05	5.00000	ND	100	80 - 120			
Matrix Spike Dup (B2K0474-MSD1)		**Source: 1203892-16**			Prepared: 11/19/2012 Analyzed: 11/19/2012				
Lead	5.03539	0.05	5.00000	ND	101	80 - 120	2.07	20	
Batch S2K0290 - B2K0474									
Instrument Blank (S2K0290-IBL1)					Prepared: 11/19/2012 Analyzed: 11/19/2012				
Lead	ND	0.50			NR				

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100		Report To :	Mike Conkle
Burbank , CA 91504		Reported :	11/20/2012

Notes and Definitions

R	RPD value outside acceptance criteria. Calculation is based on raw values.
M1	Matrix spike recovery outside of acceptance limit. The analytical batch was validated by the laboratory control sample.
J	Analyte detected below the Practical Quantitation Limit but above or equal to the Method Detection Limit. Result is an estimated concentration.
ND	Analyte not detected at or above reporting limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA1	CA-NELAP (CDPH)
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

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

CHAIN OF CUSTODY RECORD

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

Client: Geocon
Attention: Mike Conkle
Address: 3303 North San Fernando Blvd Suite 100
City: Burbank State: CA Zip Code: 91504
Tel: 818-841-8388
Fax: 818-841-1704

Project Name: Los Angeles Route 2 Project #: S9475-06-22 Sampler: (Signature)

Relinquished by: (Signature and Printed Name) Mike Alcott	Date: 11/6/12	Time: 1519	Received by: (Signature and Printed Name) RBUCH TYKWOOD/ATL	Date: 11/6/12	Time: 1519
Relinquished by: (Signature and Printed Name) FEDEX	Date: 11/6/12	Time: 1641	Received by: (Signature and Printed Name) FEDEX	Date: 11/6/12	Time: 1641
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: 11/6/12
Mike Conkle (Print Name) Date
Mike Conkle (Signature)

Send Report To:
Attn: Mike Conkle
Co: Geocon Consultants Inc.
Addr: 3303 North San Fernando Blvd Suite 100
City: Burbank State: CA Zip: 91504

Bill To:
Attn: Mike Conkle
Co: Geocon Consultants Inc.
Addr: 3303 North San Fernando Blvd Suite 100
City: Burbank State: CA Zip: 91504

Special Instructions/Comments:
CT Contract 07A2729
Run samples for total lead and STLC. STLC results greater than 5.0 mg/l will be analyze with the soluble lead test by WET using de-ionized water (DI-WET) as the extractant.
Report MDLs and PQLs

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: Total Lead by EPA Method 6010 | STLC by (WET) Method | Soluble Lead Test by (DI-WET) Meth | Title 22 metals | SVOC by 8270 SIM

SPECIFY APPROPRIATE MATRIX: SOIL | WATER | GROUND WATER | WASTEWATER

PRESERVATION: QA/QC RTNE ☐ CT ☐ SWRCB ☐ Logcode____ OTHER ____

ITEM	LAB USE ONLY: Lab No.	Sample Description: Sample ID / Location	Date	Time	Total Lead by EPA Method 6010	STLC by (WET) Method	Soluble Lead Test by (DI-WET) Meth	Title 22 metals	SVOC by 8270 SIM	SOIL	WATER	GROUND WATER	WASTEWATER	TAT	Container(s) #	Type	REMARKS
	1203892-1	1190-101-0.0	11/6/12	0949	x					x				E	1	G J	
	-2	1190-101-1.0		0953	x					x				E	1	G J	
	-3	1190-101-2.0		1011	x					x				E	1	G J	
	-4	1190-101-3.0		1023	x					x				E	1	G J	
	-5	1190-102-0.0		0948	x					x				E	1	G J	
	-6	1190-102-1.0		0954	x					x				E	1	G J	
	-7	1190-102-2.0		1011	x					x				E	1	G J	
	-8	1190-102-3.0		1036	x					x				E	1	G J	
	-9	1190-104-0.0		1135	x					x				E	1	G J	
	-10	1190-104-1.0		1137	x					x				E	1	G J	
	-11	1190-104-2.0		1141	x					x				E	1	G J	
	-12	1190-104-3.0		1157	x					x				E	1	G J	
	-13	1190-105-0.0		1220	x					x				E	1	G J	
	-14	1190-105-1.0		1227	x					x				E	1	G J	
	-15	1190-105-2.0		1235	x					x				E	1	G J	
	-16	1190-105-3.5		1241	x					x				E	1	G J	
	-17	1190-106-0.0		1302	x					x				E	1	G J	
	-18	1190-106-1.0		1304	x					x				E	1	G J	
	-19	1190-106-2.0		1306	x					x				E	1	G J	
	-20	1190-106-3.5		1314	x					x				E	1	G J	

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

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

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

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

CHAIN OF CUSTODY RECORD

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

FOR LABORATORY USE ONLY

P.O. #: _____
Logged By: _____ Date: _____

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other: _____

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

Client: Geocon | Address: 3303 North San Fernando Blvd Suite 100 | Tel: 818-841-8388
Attention: Mike Conkle | City: Burbank | State: CA | Zip Code: 91504 | Fax: 818-841-1704
Project Name: Los Angeles Route 2 | Project #: S9475-06-22 | Sampler: Mike Hacko (Signature)

Relinquished by: (Signature and Printed Name)	Mike Hacko	Date: 11/6/12	Time: 1519	Received by: (Signature and Printed Name) ABT-EL MARIA GAMAS	Date: 11/6/12	Time: 1519
Relinquished by: (Signature and Printed Name)	MANUEL	Date: 11/6/12	Time: 1641	Received by: (Signature and Printed Name) FEDEX	Date: 11/6/12	Time: 1641
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: Mike Conkle 11/6/12 (Print Name / Date)
Mike Conkle (Signature)

Send Report To:
Attn: Mike Conkle
Co: Geocon Consultants Inc.
Addr: 3303 North San Fernando Blvd Suite 100
City: Burbank State: CA Zip: 91504

Bill To:
Attn: Mike Conkle
Co: Geocon Consultants Inc.
Addr: 3303 North San Fernando Blvd Suite 100
City: Burbank State: CA Zip: 91504

Special Instructions/Comments:
CT Contract 07A2729
Run samples for total lead and STLC. STLC results greater than 5.0 mg/l will be analyze with the soluble lead test by WET using de-ionized water (DI-WET) as the extractant.
Report MDLs and PQLs

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: Total Lead by EPA Method 6010 | STLC by (WET) Method | Soluble Lead Test by (DI-WET) Meth | Title 22 metals | SVOC by 8270 SIM

SPECIFY APPROPRIATE MATRIX: SOIL | WATER | GROUND WATER | WASTEWATER

PRESERVATION

QA/QC: RTNE ☐ CT ☐ SWRCB ☐ Logcode_____ OTHER _____

ITEM	LAB USE ONLY: Lab No.	Sample Description: Sample ID / Location	Date	Time	Total Lead by EPA Method 6010	STLC by (WET) Method	Soluble Lead Test by (DI-WET) Meth	Title 22 metals	SVOC by 8270 SIM	SOIL	WATER	GROUND WATER	WASTEWATER	TAT	Container(s) #	Container(s) Type	REMARKS
	123852-21	1190-107-0.0	11/6/12	1400	x					x				E	1	G J	
	-22	1190-107-1.0	"	1402	x					x				E	1	G J	
	-23	1190-107-2.0	"	1406	x					x				E	1	G J	
	-24	1190-107-4.5	"	1415	x					x				E	1	G J	
	-25	1190-EB-1	"	1423	x					x				E	1	P J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	

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

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

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

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

ADVANCED TECHNOLOGY LABORATORIES

November 30, 2012

ELAP No.: 1838
NELAP No.: 02107CA
CSDLAC No.: 10196
ORELAP No.: CA300003
TCEQ No.: T104704502

Mike Conkle
Geocon Consultants, Inc.
3303 N. San Fernando Blvd., Suite 100
Burbank, CA 91504
Tel: (818) 841-8388
Fax:(818) 841-1704

Re: ATL Work Order Number : 1203892

Client Reference : Los Angeles Route 2, S9475-06-22

Enclosed are the results for sample(s) received on November 06, 2012 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

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

Sincerely,

Eddie Rodriguez
Laboratory Director

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100		Report To :	Mike Conkle
Burbank , CA 91504		Reported :	11/30/2012

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
1190-102-0.0	1203892-05	Soil	11/06/12 9:48	11/06/12 15:19
1190-104-0.0	1203892-09	Soil	11/06/12 11:35	11/06/12 15:19
1190-104-1.0	1203892-10	Soil	11/06/12 11:37	11/06/12 15:19
1190-105-0.0	1203892-13	Soil	11/06/12 12:20	11/06/12 15:19
1190-105-3.5	1203892-16	Soil	11/06/12 12:41	11/06/12 15:19

CASE NARRATIVE

Results were J-flagged. "J" is used to flag those results that are between the PQL (Practical Quantitation Limit) and the calculated MDL (Method Detection Limit). Results that are "J" flagged are estimated values since it becomes difficult to accurately quantitate the analyte near the MDL.

Sample Receiving/General Comments

Sample amount used for TCLP analysis by EPA 1311 is less than the amount required by the method. The client was notified on 11/29/12.

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/30/2012

TCLP Lead by AA (Direct Aspiration) EPA 7420

Analyte: Lead **Analyst: VV**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203892-05	1190-102-0.0	**1.3**	mg/L	0.50	0.26	1	B2K0675	11/29/2012	11/29/12 13:13	
1203892-09	1190-104-0.0	**2.4**	mg/L	0.50	0.26	1	B2K0675	11/29/2012	11/29/12 13:13	
1203892-10	1190-104-1.0	**1.9**	mg/L	0.50	0.26	1	B2K0675	11/29/2012	11/29/12 13:14	
1203892-13	1190-105-0.0	**1.9**	mg/L	0.50	0.26	1	B2K0675	11/29/2012	11/29/12 13:14	
1203892-16	1190-105-3.5	**0.92**	mg/L	0.50	0.26	1	B2K0675	11/29/2012	11/29/12 13:14	

Mercury by AA (Cold Vapor) EPA 7471

Analyte: Mercury **Analyst: VV**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203892-05	1190-102-0.0	**0.17**	mg/kg	0.10	0.008	1	B2K0676	11/29/2012	11/29/12 13:22	
1203892-13	1190-105-0.0	**0.14**	mg/kg	0.10	0.008	1	B2K0676	11/29/2012	11/29/12 13:32	

pH by EPA 9045C

Analyte: pH **Analyst: LA**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203892-05	1190-102-0.0	**5.3**	pH Units	0.10	0.10	1	B2K0680	11/29/2012	11/29/12 15:21	
1203892-13	1190-105-0.0	**6.7**	pH Units	0.10	0.10	1	B2K0680	11/29/2012	11/29/12 15:21	
1203892-16	1190-105-3.5	**7.5**	pH Units	0.10	0.10	1	B2K0680	11/29/2012	11/29/12 15:21	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/30/2012

Client Sample ID 1190-102-0.0
Lab ID: 1203892-05

Title 22 Metals by ICP-AES EPA 6010B — **Analyst: PT**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	**0.44**	2.0	0.35	1	B2K0605	11/26/2012	11/27/12 09:02	J
Arsenic	**2.8**	1.0	0.14	1	B2K0605	11/26/2012	11/27/12 09:02	
Barium	**130**	1.0	0.15	1	B2K0605	11/26/2012	11/27/12 09:02	
Beryllium	ND	1.0	0.06	1	B2K0605	11/26/2012	11/27/12 09:02	
Cadmium	**0.88**	1.0	0.03	1	B2K0605	11/26/2012	11/27/12 09:02	J
Chromium	**14**	1.0	0.20	1	B2K0605	11/26/2012	11/27/12 09:02	
Cobalt	**5.5**	1.0	0.03	1	B2K0605	11/26/2012	11/27/12 09:02	
Copper	**30**	2.0	0.28	1	B2K0605	11/26/2012	11/27/12 09:02	
Molybdenum	**1.5**	1.0	0.05	1	B2K0605	11/26/2012	11/27/12 09:02	
Nickel	**14**	1.0	0.19	1	B2K0605	11/26/2012	11/27/12 09:02	
Selenium	ND	1.0	0.38	1	B2K0605	11/26/2012	11/27/12 09:02	
Silver	ND	1.0	0.08	1	B2K0605	11/26/2012	11/27/12 09:02	
Thallium	ND	1.0	0.30	1	B2K0605	11/26/2012	11/27/12 09:02	
Vanadium	**21**	1.0	0.10	1	B2K0605	11/26/2012	11/27/12 09:02	
Zinc	**160**	1.0	0.74	1	B2K0605	11/26/2012	11/27/12 09:02	

Client Sample ID 1190-105-0.0
Lab ID: 1203892-13

Title 22 Metals by ICP-AES EPA 6010B — **Analyst: PT**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	0.35	1	B2K0605	11/26/2012	11/27/12 09:14	
Arsenic	**2.2**	1.0	0.14	1	B2K0605	11/26/2012	11/27/12 09:14	
Barium	**130**	1.0	0.15	1	B2K0605	11/26/2012	11/27/12 09:14	
Beryllium	ND	1.0	0.06	1	B2K0605	11/26/2012	11/27/12 09:14	
Cadmium	**0.78**	1.0	0.03	1	B2K0605	11/26/2012	11/27/12 09:14	J
Chromium	**11**	1.0	0.20	1	B2K0605	11/26/2012	11/27/12 09:14	
Cobalt	**4.9**	1.0	0.03	1	B2K0605	11/26/2012	11/27/12 09:14	
Copper	**20**	2.0	0.28	1	B2K0605	11/26/2012	11/27/12 09:14	
Molybdenum	**0.70**	1.0	0.05	1	B2K0605	11/26/2012	11/27/12 09:14	J
Nickel	**14**	1.0	0.19	1	B2K0605	11/26/2012	11/27/12 09:14	
Selenium	ND	1.0	0.38	1	B2K0605	11/26/2012	11/27/12 09:14	
Silver	ND	1.0	0.08	1	B2K0605	11/26/2012	11/27/12 09:14	
Thallium	ND	1.0	0.30	1	B2K0605	11/26/2012	11/27/12 09:14	
Vanadium	**19**	1.0	0.10	1	B2K0605	11/26/2012	11/27/12 09:14	
Zinc	**140**	1.0	0.74	1	B2K0605	11/26/2012	11/27/12 09:14	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/30/2012

QUALITY CONTROL SECTION

Title 22 Metals by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0605 - EPA 3050B									
Blank (B2K0605-BLK1)					Prepared: 11/26/2012 Analyzed: 11/27/2012				
Antimony	ND	2.0			NR				
Arsenic	ND	1.0			NR				
Barium	0.325204	1.0			NR				J
Beryllium	ND	1.0			NR				
Cadmium	ND	1.0			NR				
Chromium	0.258350	1.0			NR				J
Cobalt	ND	1.0			NR				
Copper	ND	2.0			NR				
Molybdenum	ND	1.0			NR				
Nickel	ND	1.0			NR				
Selenium	ND	1.0			NR				
Silver	ND	1.0			NR				
Thallium	ND	1.0			NR				
Vanadium	ND	1.0			NR				
Zinc	ND	1.0			NR				
LCS (B2K0605-BS1)					Prepared: 11/26/2012 Analyzed: 11/27/2012				
Antimony	44.1885	2.0	50.0000		88.4	80 - 120			
Arsenic	44.4662	1.0	50.0000		88.9	80 - 120			
Barium	46.3774	1.0	50.0000		92.8	80 - 120			
Beryllium	46.1350	1.0	50.0000		92.3	80 - 120			
Cadmium	46.3020	1.0	50.0000		92.6	80 - 120			
Chromium	48.0556	1.0	50.0000		96.1	80 - 120			
Cobalt	47.7002	1.0	50.0000		95.4	80 - 120			
Copper	47.2455	2.0	50.0000		94.5	80 - 120			
Molybdenum	48.4604	1.0	50.0000		96.9	80 - 120			
Nickel	46.8758	1.0	50.0000		93.8	80 - 120			
Selenium	40.6497	1.0	50.0000		81.3	80 - 120			
Silver	44.6569	1.0	50.0000		89.3	80 - 120			
Thallium	48.8054	1.0	50.0000		97.6	80 - 120			
Vanadium	46.0809	1.0	50.0000		92.2	80 - 120			
Zinc	48.4848	1.0	50.0000		97.0	80 - 120			
Duplicate (B2K0605-DUP1)		**Source: 1203892-05**			Prepared: 11/26/2012 Analyzed: 11/27/2012				
Antimony	0.397804	2.0		0.442755	NR		10.7	20	J
Arsenic	2.61041	1.0		2.75090	NR		5.24	20	
Barium	139.858	1.0		125.968	NR		10.5	20	
Beryllium	ND	1.0		ND	NR			20	
Cadmium	0.881814	1.0		0.876010	NR		0.660	20	J
Chromium	13.8612	1.0		14.4266	NR		4.00	20	
Cobalt	5.22795	1.0		5.45003	NR		4.16	20	
Copper	29.2441	2.0		30.1842	NR		3.16	20	
Molybdenum	1.32078	1.0		1.51793	NR		13.9	20	

Certificate of Analysis

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3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/30/2012

Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0605 - EPA 3050B (continued)									
Duplicate (B2K0605-DUP1) - Continued		**Source: 1203892-05**			Prepared: 11/26/2012 Analyzed: 11/27/2012				
Nickel	12.8927	1.0		13.5417	NR		4.91	20	
Selenium	ND	1.0		ND	NR			20	
Silver	ND	1.0		ND	NR			20	
Thallium	ND	1.0		ND	NR			20	
Vanadium	21.2902	1.0		21.4223	NR		0.619	20	
Zinc	159.945	1.0		156.375	NR		2.26	20	
Matrix Spike (B2K0605-MS1)		**Source: 1203892-05**			Prepared: 11/26/2012 Analyzed: 11/27/2012				
Antimony	59.3561	2.0	125.000	0.442755	47.1	44 - 105			
Arsenic	94.5318	1.0	125.000	2.75090	73.4	57 - 103			
Barium	225.465	1.0	125.000	125.968	79.6	36 - 134			
Beryllium	92.0519	1.0	125.000	ND	73.6	64 - 106			
Cadmium	88.7390	1.0	125.000	0.876010	70.3	58 - 102			
Chromium	109.936	1.0	125.000	14.4266	76.4	55 - 105			
Cobalt	97.7604	1.0	125.000	5.45003	73.8	59 - 105			
Copper	130.496	2.0	125.000	30.1842	80.2	64 - 117			
Molybdenum	93.8405	1.0	125.000	1.51793	73.9	59 - 108			
Nickel	104.796	1.0	125.000	13.5417	73.0	52 - 109			
Selenium	87.9875	1.0	125.000	ND	70.4	56 - 100			
Silver	83.0114	1.0	125.000	ND	66.4	65 - 107			
Thallium	84.2978	1.0	125.000	ND	67.4	47 - 100			
Vanadium	115.567	1.0	125.000	21.4223	75.3	64 - 110			
Zinc	253.727	1.0	125.000	156.375	77.9	37 - 123			
Matrix Spike Dup (B2K0605-MSD1)		**Source: 1203892-05**			Prepared: 11/26/2012 Analyzed: 11/27/2012				
Antimony	59.7259	2.0	125.000	0.442755	47.4	44 - 105	0.621	20	
Arsenic	92.3206	1.0	125.000	2.75090	71.7	57 - 103	2.37	20	
Barium	217.269	1.0	125.000	125.968	73.0	36 - 134	3.70	20	
Beryllium	90.5090	1.0	125.000	ND	72.4	64 - 106	1.69	20	
Cadmium	89.2368	1.0	125.000	0.876010	70.7	58 - 102	0.559	20	
Chromium	108.494	1.0	125.000	14.4266	75.3	55 - 105	1.32	20	
Cobalt	97.3074	1.0	125.000	5.45003	73.5	59 - 105	0.464	20	
Copper	127.732	2.0	125.000	30.1842	78.0	64 - 117	2.14	20	
Molybdenum	91.8146	1.0	125.000	1.51793	72.2	59 - 108	2.18	20	
Nickel	103.911	1.0	125.000	13.5417	72.3	52 - 109	0.848	20	
Selenium	86.7395	1.0	125.000	ND	69.4	56 - 100	1.43	20	
Silver	80.7485	1.0	125.000	ND	64.6	65 - 107	2.76	20	M1
Thallium	83.3012	1.0	125.000	ND	66.6	47 - 100	1.19	20	
Vanadium	112.780	1.0	125.000	21.4223	73.1	64 - 110	2.44	20	
Zinc	240.506	1.0	125.000	156.375	67.3	37 - 123	5.35	20	
Batch S2K0360 - B2K0603									
Instrument Blank (S2K0360-IBL1)					Prepared: 11/27/2012 Analyzed: 11/27/2012				
Antimony	ND	2.0			NR				
Arsenic	ND	1.0			NR				
Barium	ND	1.0			NR				

Certificate of Analysis

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3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/30/2012

Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch S2K0360 - B2K0603 (continued)									
Instrument Blank (S2K0360-IBL1) - Continued					Prepared: 11/27/2012 Analyzed: 11/27/2012				
Beryllium	ND	1.0			NR				
Cadmium	ND	1.0			NR				
Chromium	ND	1.0			NR				
Cobalt	ND	1.0			NR				
Copper	ND	2.0			NR				
Molybdenum	ND	1.0			NR				
Nickel	ND	1.0			NR				
Selenium	ND	1.0			NR				
Silver	ND	1.0			NR				
Thallium	ND	1.0			NR				
Vanadium	ND	1.0			NR				
Zinc	ND	1.0			NR				

Certificate of Analysis

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Burbank , CA 91504	Reported : 11/30/2012

TCLP Lead by AA (Direct Aspiration) EPA 7420 - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0675 - EPA 3010A_SOIL									
Blank (B2K0675-BLK1)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	ND	0.50			NR				
Blank (B2K0675-BLK2)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	ND	0.50			NR				
Blank (B2K0675-BLK3)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	ND	0.50			NR				
Blank (B2K0675-BLK4)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	ND	0.50			NR				
LCS (B2K0675-BS1)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	0.904168	0.50	1.00000		90.4	80 - 120			
Duplicate (B2K0675-DUP1)		**Source: 1203937-69**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	0.630692	0.50		0.483791	NR		26.4	20	R
Duplicate (B2K0675-DUP2)		**Source: 1203922-13**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	1.38699	0.50		1.39431	NR		0.526	20	
Matrix Spike (B2K0675-MS1)		**Source: 1203937-69**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	3.48598	0.50	2.50000	0.483791	120	80 - 120			
Matrix Spike (B2K0675-MS2)		**Source: 1203922-13**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	4.06373	0.50	2.50000	1.39431	107	80 - 120			
Matrix Spike Dup (B2K0675-MSD1)		**Source: 1203937-69**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	3.50819	0.50	2.50000	0.483791	121	80 - 120	0.635	20	M1
Batch S2K0407 - B2K0675									
Instrument Blank (S2K0407-IBL1)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	ND	0.50			NR				

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/30/2012

Mercury by AA (Cold Vapor) EPA 7471 - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0676 - EPA 7471									
Blank (B2K0676-BLK1)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Mercury	ND	0.10			NR				
LCS (B2K0676-BS1)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Mercury	0.860874	0.10	0.833333		103	80 - 120			
Duplicate (B2K0676-DUP1)		**Source: 1203892-05**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Mercury	0.164644	0.10		0.165772	NR		0.683	20	
Matrix Spike (B2K0676-MS1)		**Source: 1203892-05**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Mercury	0.880898	0.10	0.833333	0.165772	85.8	70 - 130			
Matrix Spike (B2K0676-MS2)		**Source: 1203892-05**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Mercury	0.007162		5.00000E-3	0.001989	103	70 - 130			
Matrix Spike Dup (B2K0676-MSD1)		**Source: 1203892-05**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Mercury	0.878486	0.10	0.833333	0.165772	85.5	70 - 130	0.274	20	
Batch S2K0406 - B2K0676									
Instrument Blank (S2K0406-IBL1)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Mercury	ND	0.10			NR				

Certificate of Analysis

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3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/30/2012

pH by EPA 9045C - Quality Control

Analyte	Result (pH Units)	PQL (pH Units)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0680 - Prep_WC_1_S									
Duplicate (B2K0680-DUP1)		**Source: 1203924-22**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
pH	6.80000	0.10		6.98000	NR		2.61	20	

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100		Report To :	Mike Conkle
Burbank , CA 91504		Reported :	11/30/2012

Notes and Definitions

R	RPD value outside acceptance criteria. Calculation is based on raw values.
M1	Matrix spike recovery outside of acceptance limit. The analytical batch was validated by the laboratory control sample.
J	Analyte detected below the Practical Quantitation Limit but above or equal to the Method Detection Limit. Result is an estimated concentration.
ND	Analyte not detected at or above reporting limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA1	CA-NELAP (CDPH)
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

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

Diane Galvan

From: Mike Conkle [conkle@geoconinc.com]
Sent: Wednesday, November 21, 2012 2:39 PM
To: Diane Galvan
Subject: FW: geocon project number S9475-06-22 - additional analysis
Attachments: S9475-06-22 ATL Add Analysis.xlsx

Hi Diane,
We would like to run the test indicated with an "X" on the attached table. These samples are for Geocon project number S9475-06-22. ATL work order nos. 1203892, 1203893, 1203922, and 1203954.

Let me know if you have questions.

Michael P. Conkle, PG | *Senior Geologist*
Geocon
3303 N. San Fernando Blvd. Suite 100, Burbank, CA 91504
Tel 818.841.8388 Fax 818.841.1704 Cell 213.503.7841
http://www.geoconinc.com

SAMPLE ID	SAMPLE DATE	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	WET-DI LEAD (mg/l)	TCLP LEAD (mg/l)	pH (pH units)	METALS
1190-101-0.0	11/6/2012	52	4.1				
1190-101-1.0	11/6/2012	42	2.8				
1190-101-2.0	11/6/2012	13	0.96				
1190-101-3.0	11/6/2012	9.7	0.55				
1190-102-0.0	11/6/2012	380	24	<0.26	X	X	X
1190-102-1.0	11/6/2012	44	2.5				
1190-102-2.0	11/6/2012	29	1.8				
1190-102-4.0	11/6/2012	170	9.1	<0.26			
1190-103-0	11/6/2012	150	16	<0.26			
1190-103-1	11/6/2012	4.3	0.30 J				
1190-103-2	11/6/2012	14	1.2				
1190-103-4.5	11/6/2012	8.7	0.74				
1190-104-0.0	11/6/2012	350	24	<0.26	X		
1190-104-1.0	11/6/2012	380	27	<0.26	X		
1190-104-2.0	11/6/2012	130	11	<0.26			
1190-104-4.0	11/6/2012	200	14	<0.26			
1190-105-0.0	11/6/2012	570	47	<0.26	X	X	X
1190-105-1.0	11/6/2012	280	27	<0.26			
1190-105-2.0	11/6/2012	150	9.1	<0.26			
1190-105-3.5	11/6/2012	400	20	<0.26	X	X	
1190-106-0.0	11/6/2012	87	8.9	<0.26			
1190-106-1.0	11/6/2012	200	19	<0.26			
1190-106-2.0	11/6/2012	150	13	<0.26			
1190-106-3.5	11/6/2012	99	7.0	<0.26			
1190-107-0.0	11/6/2012	18	1.0				
1190-107-1.0	11/6/2012	7.0	0.44 J				
1190-107-2.0	11/6/2012	15	0.55				
1190-107-4.5	11/6/2012	22	0.98				
DRAFT: 1190-108-0.0	11/7/2012	340	24	X	X	X	X
DRAFT: 1190-108-1.0	11/7/2012	200	30	X	X	X	
DRAFT: 1190-108-2.0	11/7/2012	16	1.3				
DRAFT: 1190-108-4.5	11/7/2012	17	0.87				
DRAFT: 1190-109-0.0	11/8/2012	72	3.6				
DRAFT: 1190-109-1.0	11/8/2012	100	6.4	X			
DRAFT: 1190-109-2.0	11/8/2012	50	3.1				
DRAFT: 1190-109-3.0	11/8/2012	48	2.9				
DRAFT: 1190-110-0.0	11/8/2012	130	8.4	X			
DRAFT: 1190-110-1.0	11/8/2012	110	8.2	X			
DRAFT: 1190-110-2.0	11/8/2012	6.2	0.71				
DRAFT: 1190-110-4.5	11/8/2012	47	3.7				

DRAFT: 1190-111-0.0	11/8/2012	350	21	X	X	X	X
DRAFT: 1190-111-1.0	11/8/2012	220	11	X	X		
DRAFT: 1190-111-2.0	11/8/2012	15	0.94				
DRAFT: 1190-111-4.5	11/8/2012	41	2.7				
DRAFT: 1190-112-0.0	11/8/2012	90	3.9				
DRAFT: 1190-112-1.0	11/8/2012	79	4.2				
DRAFT: 1190-112-2.0	11/8/2012	7.1	0.61				
DRAFT: 1190-112-4.5	11/8/2012	5.5	0.51				
DRAFT: 1190-113-0.0	11/8/2012	150	9.0	X	X		
DRAFT: 1190-113-1.0	11/8/2012	88	5.0	X			
DRAFT: 1190-113-2.0	11/8/2012	33	1.4				
DRAFT: 1190-113-4.5	11/8/2012	60	3.2				
DRAFT: 1190-114-0.0	11/8/2012	42	1.8				
DRAFT: 1190-114-1.0	11/8/2012	11	0.51				
DRAFT: 1190-114-2.0	11/8/2012	7.5	0.3				
DRAFT: 1190-114-4.5	11/8/2012	17	0.86				
1190-115-0	11/6/2012	530	41	<0.26	X		
1190-115-1	11/6/2012	34	2.2				
1190-115-2	11/6/2012	6.5	0.54				
1190-115-4.5	11/6/2012	9.6	0.63				
DRAFT: 1190-116-0.0	11/7/2012	3,700	230	X	X	X	X
DRAFT: 1190-116-1.0	11/7/2012	250	19	X			
DRAFT: 1190-116-2.0	11/7/2012	31	1.4				
DRAFT: 1190-116-3.5	11/7/2012	110	6.7	X			
DRAFT: 1190-117-0.0	11/7/2012	3,200	160	X	X	X	
DRAFT: 1190-117-1.0	11/7/2012	250	11	X			
DRAFT: 1190-117-2.0	11/7/2012	740	30	X			
DRAFT: 1190-117-4.5	11/7/2012	180	13	X			
DRAFT: 1190-118-0.0	11/7/2012	1,500	110	X	X		
DRAFT: 1190-118-1.0	11/7/2012	250	11	X			
DRAFT: 1190-118-2.0	11/7/2012	430	39	X			
DRAFT: 1190-118-4.5	11/7/2012	110	7.5	X			
DRAFT: 1190-119-0.0	11/7/2012	950	63	X	X		
DRAFT: 1190-119-1.0	11/7/2012	31	1.6				
DRAFT: 1190-119-2.0	11/7/2012	18	0.48				
DRAFT: 1190-119-4.5	11/7/2012	12	0.9				

November 20, 2012

Mike Conkle
Geocon Consultants, Inc.
3303 N. San Fernando Blvd., Suite 100
Burbank, CA 91504
Tel: (818) 841-8388
Fax:(818) 841-1704

ELAP No.: 1838
NELAP No.: 02107CA
CSDLAC No.: 10196
ORELAP No.: CA300003
TCEQ No.: T104704502

Re: ATL Work Order Number : 1203893

Client Reference : Los Angeles Route 2, S9475-06-22

Enclosed are the results for sample(s) received on November 06, 2012 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

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

Sincerely,

Eddie Rodriguez
Laboratory Director

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100		Report To :	Mike Conkle
Burbank , CA 91504		Reported :	11/20/2012

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
1190-115-0	1203893-01	Soil	11/06/12 11:50	11/06/12 15:19
1190-115-1	1203893-02	Soil	11/06/12 11:51	11/06/12 15:19
1190-115-2	1203893-03	Soil	11/06/12 11:52	11/06/12 15:19
1190-115-4.5	1203893-04	Soil	11/06/12 11:53	11/06/12 15:19
1190-103-0	1203893-05	Soil	11/06/12 13:05	11/06/12 15:19
1190-103-1	1203893-06	Soil	11/06/12 13:06	11/06/12 15:19
1190-103-2	1203893-07	Soil	11/06/12 13:07	11/06/12 15:19
1190-103-4.5	1203893-08	Soil	11/06/12 13:08	11/06/12 15:19
1190-EB-2	1203893-09	Water	11/06/12 13:20	11/06/12 15:19

CASE NARRATIVE

Results were J-flagged. "J" is used to flag those results that are between the PQL (Practical Quantitation Limit) and the calculated MDL (Method Detection Limit). Results that are "J" flagged are estimated values since it becomes difficult to accurately quantitate the analyte near the MDL.

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/20/2012

Lead by ICP-AES EPA 6010B

Analyte: Lead **Analyst: SB**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203893-01	1190-115-0	**530**	mg/kg	1.0	0.18	1	B2K0135	11/07/2012	11/08/12 14:10	
1203893-02	1190-115-1	**34**	mg/kg	1.0	0.18	1	B2K0135	11/07/2012	11/08/12 14:10	
1203893-03	1190-115-2	**6.5**	mg/kg	1.0	0.18	1	B2K0135	11/07/2012	11/08/12 14:11	
1203893-04	1190-115-4.5	**9.6**	mg/kg	1.0	0.18	1	B2K0135	11/07/2012	11/08/12 14:11	
1203893-05	1190-103-0	**150**	mg/kg	1.0	0.18	1	B2K0135	11/07/2012	11/08/12 14:12	
1203893-06	1190-103-1	**4.3**	mg/kg	1.0	0.18	1	B2K0135	11/07/2012	11/08/12 14:14	
1203893-07	1190-103-2	**14**	mg/kg	1.0	0.18	1	B2K0135	11/07/2012	11/08/12 14:15	
1203893-08	1190-103-4.5	**8.7**	mg/kg	1.0	0.18	1	B2K0135	11/07/2012	11/08/12 14:16	

Lead by ICP-AES EPA 6010B

Analyte: Lead **Analyst: PT**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203893-09	1190-EB-2	**ND**	mg/L	0.0050	0.0028	1	B2K0142	11/07/2012	11/08/12 13:05	

STLC Lead by AA (Direct Aspiration) by EPA 7420

Analyte: Lead **Analyst: SB**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203893-01	1190-115-0	**41**	mg/L	5.0	2.6	10	B2K0214	11/09/2012	11/12/12 16:50	
1203893-02	1190-115-1	**2.2**	mg/L	0.50	0.26	1	B2K0214	11/09/2012	11/12/12 16:50	
1203893-03	1190-115-2	**0.54**	mg/L	0.50	0.26	1	B2K0214	11/09/2012	11/12/12 16:50	
1203893-04	1190-115-4.5	**0.63**	mg/L	0.50	0.26	1	B2K0214	11/09/2012	11/12/12 16:51	
1203893-05	1190-103-0	**16**	mg/L	1.0	0.52	2	B2K0214	11/09/2012	11/12/12 16:52	
1203893-06	1190-103-1	**0.30**	mg/L	0.50	0.26	1	B2K0214	11/09/2012	11/12/12 16:53	J
1203893-07	1190-103-2	**1.2**	mg/L	0.50	0.26	1	B2K0214	11/09/2012	11/12/12 16:54	
1203893-08	1190-103-4.5	**0.74**	mg/L	0.50	0.26	1	B2K0214	11/09/2012	11/12/12 16:55	

Certificate of Analysis

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3303 N. San Fernando Blvd., Suite 100		Report To :	Mike Conkle
Burbank , CA 91504		Reported :	11/20/2012

STLC-DI Lead by AA (Direct Aspiration) EPA 7420

Analyte: Lead **Analyst: VV**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203893-01	1190-115-0	**ND**	mg/L	0.50	0.26	1	B2K0474	11/19/2012	11/19/12 18:06	
1203893-05	1190-103-0	**ND**	mg/L	0.50	0.26	1	B2K0474	11/19/2012	11/19/12 18:06	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/20/2012

QUALITY CONTROL SECTION

Lead by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0135 - EPA 3050 Modified									
Blank (B2K0135-BLK1)					Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	0.579619	1.0			NR				J
Blank (B2K0135-BLK2)					Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	0.625778	1.0			NR				J
LCS (B2K0135-BS1)					Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	51.0735	1.0			NR	80 - 120			
Duplicate (B2K0135-DUP1)		**Source: 1203893-08**			Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	14.3020	1.0		8.69968	NR		48.7	20	R
Duplicate (B2K0135-DUP2)		**Source: 1203893-06**			Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	3.72192	1.0		4.26524	NR		13.6	20	
Matrix Spike (B2K0135-MS1)		**Source: 1203893-08**			Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	267.791	1.0	250.000	8.69968	104	46 - 116			
Matrix Spike (B2K0135-MS2)		**Source: 1203893-06**			Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	261.969	1.0	250.000	4.26524	103	46 - 116			
Matrix Spike Dup (B2K0135-MSD1)		**Source: 1203893-08**			Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	208.604	1.0	250.000	8.69968	80.0	46 - 116	24.8	20	M1
Batch B2K0142 - EPA 3010A									
Blank (B2K0142-BLK1)					Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	ND	0.0050			NR				
LCS (B2K0142-BS1)					Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	0.997462	0.0050	1.00000		99.7	80 - 120			
Duplicate (B2K0142-DUP1)		**Source: 1203891-21**			Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	ND	0.0050		ND	NR			20	
Matrix Spike (B2K0142-MS1)		**Source: 1203891-21**			Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	2.22399	0.0050	2.50000	ND	89.0	78 - 117			
Matrix Spike Dup (B2K0142-MSD1)		**Source: 1203891-21**			Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	2.20098	0.0050	2.50000	ND	88.0	78 - 117	1.04	20	
Batch S2K0103 - B2K0142									
Instrument Blank (S2K0103-IBL1)					Prepared: 11/8/2012 Analyzed: 11/8/2012				
Lead	ND	0.0050			NR				
Batch S2K0110 - B2J0834									

Certificate of Analysis

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3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/20/2012

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

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch S2K0110 - B2J0834 (continued)									
Instrument Blank (S2K0110-IBL1)					Prepared: 11/8/2012 Analyzed: 11/8/2012				
Lead	ND	1.0			NR				

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/20/2012

STLC Lead by AA (Direct Aspiration) by EPA 7420 - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0214 - STLC Extraction									
Blank (B2K0214-BLK1)					Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	0.312963	0.50			NR				J
Blank (B2K0214-BLK2)					Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	0.308525	0.50			NR				J
LCS (B2K0214-BS1)					Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	5.46035	0.05	5.00000		109	80 - 120			
Duplicate (B2K0214-DUP1)		**Source: 1203893-06**			Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	0.287301	0.50		0.298588	NR		3.85	20	J
Duplicate (B2K0214-DUP2)		**Source: 1203893-08**			Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	0.699101	0.50		0.735906	NR		5.13	20	
Matrix Spike (B2K0214-MS1)		**Source: 1203893-06**			Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	5.25433	0.05	5.00000	0.298588	99.1	80 - 120			
Matrix Spike (B2K0214-MS2)		**Source: 1203893-08**			Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	5.76130	0.05	5.00000	0.735906	101	80 - 120			
Batch S2K0170 - B2K0214									
Instrument Blank (S2K0170-IBL1)					Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	ND	0.50			NR				

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/20/2012

STLC-DI Lead by AA (Direct Aspiration) EPA 7420 - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0474 - STLC DI Extraction									
Blank (B2K0474-BLK1)					Prepared: 11/19/2012 Analyzed: 11/19/2012				
Lead	ND	0.50			NR				
Blank (B2K0474-BLK2)					Prepared: 11/19/2012 Analyzed: 11/19/2012				
Lead	ND	0.50			NR				
LCS (B2K0474-BS1)					Prepared: 11/19/2012 Analyzed: 11/19/2012				
Lead	4.90850	0.05	5.00000		98.2	80 - 120			
Duplicate (B2K0474-DUP1)		**Source: 1203892-16**			Prepared: 11/19/2012 Analyzed: 11/19/2012				
Lead	ND	0.50		ND	NR			20	
Duplicate (B2K0474-DUP2)		**Source: 1203893-05**			Prepared: 11/19/2012 Analyzed: 11/19/2012				
Lead	ND	0.50		ND	NR			20	
Matrix Spike (B2K0474-MS1)		**Source: 1203892-16**			Prepared: 11/19/2012 Analyzed: 11/19/2012				
Lead	4.93208	0.05	5.00000	ND	98.6	80 - 120			
Matrix Spike (B2K0474-MS2)		**Source: 1203893-05**			Prepared: 11/19/2012 Analyzed: 11/19/2012				
Lead	5.00207	0.05	5.00000	ND	100	80 - 120			
Matrix Spike Dup (B2K0474-MSD1)		**Source: 1203892-16**			Prepared: 11/19/2012 Analyzed: 11/19/2012				
Lead	5.03539	0.05	5.00000	ND	101	80 - 120	2.07	20	
Batch S2K0290 - B2K0474									
Instrument Blank (S2K0290-IBL1)					Prepared: 11/19/2012 Analyzed: 11/19/2012				
Lead	ND	0.50			NR				

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100		Report To :	Mike Conkle
Burbank , CA 91504		Reported :	11/20/2012

Notes and Definitions

R	RPD value outside acceptance criteria. Calculation is based on raw values.
M1	Matrix spike recovery outside of acceptance limit. The analytical batch was validated by the laboratory control sample.
J	Analyte detected below the Practical Quantitation Limit but above or equal to the Method Detection Limit. Result is an estimated concentration.
ND	Analyte not detected at or above reporting limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA1	CA-NELAP (CDPH)
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

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

CHAIN OF CUSTODY RECORD

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

FOR LABORATORY USE ONLY

P.O. #: _____
Logged By: _____ Date: _____

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other: _____

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

Client: Geocon
Attention: Mike Conkle
Address: 3303 North San Fernando Blvd Suite 100
City: Burbank State: CA Zip Code: 91504
Tel: 818-841-8388
Fax: 818-841-1704

Project Name: Los Angeles Route 2 Project #: S9475-06-22 Sampler: M. O'Brien (Signature)

Relinquished by: (Signature and Printed Name)	Date: 11/6/12	Time: 1519	Received by: (Signature and Printed Name)	Date: 11/6/12	Time: 1819
Relinquished by: (Signature and Printed Name)	Date: 11/6/12	Time: 1519	Received by: (Signature and Printed Name)	Date: 11/6/12	Time: 1519
Relinquished by: (Signature and Printed Name)	Date: 11/6/12	Time: 1641	Received by: (Signature and Printed Name)	Date: 11/6/12	Time: 1641

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter: Mike Conkle
Print Name: Mike Conkle Date
Signature: Mike Conkle

Send Report To:
Attn: Mike Conkle
Co: Geocon Consultants Inc.
Addr: 3303 North San Fernando Blvd Suite 100
City: Burbank State: CA Zip: 91504

Bill To:
Attn: Mike Conkle
Co: Geocon Consultants Inc.
Addr: 3303 North San Fernando Blvd Suite 100
City: Burbank State: CA Zip: 91504

Special Instructions/Comments:
CT Contract 07A2729
Run samples with total lead greater than 40 mg/kg by WET.
Run TCLP and Ph with total lead greater than 100 mg/kg.
Report MDLs and PQLs
Run samples for total lead and STLC
STLC results greater than 5 mg/L
will be analyzed with the soluble lead test (DI-WET)
Run waste water samples for TPH-D with silica gel clean-up
QA/QC
RTNE ☐
CT ☐
SWRCB ☐ Logcode _____
OTHER _____

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

ITEM	LAB USE ONLY: Lab No.	Sample Description: Sample ID / Location	Date	Time	Total Lead by EPA Method 6010	STLC by (WET) Method	Soluble Lead Test by (DI-WET) Meth	Title 22 metals	SVOC by 8270 SIM	SOIL	WATER	GROUND WATER	WASTEWATER	TAT	Container(s) #	Container(s) Type	REMARKS
	1203893-1	~~NS~~ 1190-115-0	11/6/12	1150	x					x				E	1	G J	
	-2	1		1151	x					x				E	1	G J	
	-3	2		1152	x					x				E	1	G J	
	-4	4.5		1153	x					x				E	1	G J	
	-5	1190-103-0		1305	x					x				E	1	G J	
	-6	1		1306	x					x				E	1	G J	
	-7	2		1307	x					x				E	1	G J	
	-8	4.5		1308	x					x				E	1	G J	
	-9	1190-EB-2		1320	x					x	X			E	1	P J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	

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

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

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

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

ADVANCED TECHNOLOGY LABORATORIES

November 30, 2012

ACCREDITED IN ACCORDANCE WITH nelac

ELAP No.: 1838
NELAP No.: 02107CA
CSDLAC No.: 10196
ORELAP No.: CA300003
TCEQ No.: T104704502

Mike Conkle
Geocon Consultants, Inc.
3303 N. San Fernando Blvd., Suite 100
Burbank, CA 91504
Tel: (818) 841-8388
Fax:(818) 841-1704

Re: ATL Work Order Number : 1203893

Client Reference : Los Angeles Route 2, S9475-06-22

Enclosed are the results for sample(s) received on November 06, 2012 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

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

Sincerely,

Eddie Rodriguez
Laboratory Director

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100		Report To :	Mike Conkle
Burbank , CA 91504		Reported :	11/30/2012

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
1190-115-0	1203893-01	Soil	11/06/12 11:50	11/06/12 15:19

CASE NARRATIVE

Results were J-flagged. "J" is used to flag those results that are between the PQL (Practical Quantitation Limit) and the calculated MDL (Method Detection Limit). Results that are "J" flagged are estimated values since it becomes difficult to accurately quantitate the analyte near the MDL.

Sample Receiving/General Comments

Sample amount used for TCLP analysis by EPA 1311 is less than the amount required by the method. The client was notified on 11/29/12.

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100		Report To :	Mike Conkle
Burbank , CA 91504		Reported :	11/30/2012

TCLP Lead by AA (Direct Aspiration) EPA 7420

Analyte: Lead **Analyst: VV**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203893-01	1190-115-0	**2.7**	mg/L	0.50	0.26	1	B2K0675	11/29/2012	11/29/12 13:16	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/30/2012

QUALITY CONTROL SECTION

TCLP Lead by AA (Direct Aspiration) EPA 7420 - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0675 - EPA 3010A_SOIL									
Blank (B2K0675-BLK1)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	ND	0.50			NR				
Blank (B2K0675-BLK2)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	ND	0.50			NR				
Blank (B2K0675-BLK3)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	ND	0.50			NR				
Blank (B2K0675-BLK4)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	ND	0.50			NR				
LCS (B2K0675-BS1)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	0.904168	0.50	1.00000		90.4	80 - 120			
Duplicate (B2K0675-DUP1)		**Source: 1203937-69**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	0.630692	0.50		0.483791	NR		26.4	20	R
Duplicate (B2K0675-DUP2)		**Source: 1203922-13**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	1.38699	0.50		1.39431	NR		0.526	20	
Matrix Spike (B2K0675-MS1)		**Source: 1203937-69**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	3.48598	0.50	2.50000	0.483791	120	80 - 120			
Matrix Spike (B2K0675-MS2)		**Source: 1203922-13**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	4.06373	0.50	2.50000	1.39431	107	80 - 120			
Matrix Spike Dup (B2K0675-MSD1)		**Source: 1203937-69**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	3.50819	0.50	2.50000	0.483791	121	80 - 120	0.635	20	M1
Batch S2K0407 - B2K0675									
Instrument Blank (S2K0407-IBL1)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	ND	0.50			NR				

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100		Report To :	Mike Conkle
Burbank , CA 91504		Reported :	11/30/2012

Notes and Definitions

R	RPD value outside acceptance criteria. Calculation is based on raw values.
M1	Matrix spike recovery outside of acceptance limit. The analytical batch was validated by the laboratory control sample.
ND	Analyte not detected at or above reporting limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA1	CA-NELAP (CDPH)
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

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

Diane Galvan

From: Mike Conkle [conkle@geoconinc.com]
Sent: Wednesday, November 21, 2012 2:39 PM
To: Diane Galvan
Subject: FW: geocon project number S9475-06-22 - additional analysis
Attachments: S9475-06-22 ATL Add Analysis.xlsx

Hi Diane,
We would like to run the test indicated with an "X" on the attached table. These samples are for Geocon project number S9475-06-22. ATL work order nos. 1203892, 1203893, 1203922, and 1203954.

Let me know if you have questions.

Michael P. Conkle, PG | *Senior Geologist*
Geocon
3303 N. San Fernando Blvd. Suite 100, Burbank, CA 91504
Tel 818.841.8388 Fax 818.841.1704 Cell 213.503.7841
http://www.geoconinc.com

SAMPLE ID	SAMPLE DATE	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	WET-DI LEAD (mg/l)	TCLP LEAD (mg/l)	pH (pH units)	METALS
1190-101-0.0	11/6/2012	52	4.1				
1190-101-1.0	11/6/2012	42	2.8				
1190-101-2.0	11/6/2012	13	0.96				
1190-101-3.0	11/6/2012	9.7	0.55				
1190-102-0.0	11/6/2012	380	24	<0.26	X	X	X
1190-102-1.0	11/6/2012	44	2.5				
1190-102-2.0	11/6/2012	29	1.8				
1190-102-4.0	11/6/2012	170	9.1	<0.26			
1190-103-0	11/6/2012	150	16	<0.26			
1190-103-1	11/6/2012	4.3	0.30 J				
1190-103-2	11/6/2012	14	1.2				
1190-103-4.5	11/6/2012	8.7	0.74				
1190-104-0.0	11/6/2012	350	24	<0.26	X		
1190-104-1.0	11/6/2012	380	27	<0.26	X		
1190-104-2.0	11/6/2012	130	11	<0.26			
1190-104-4.0	11/6/2012	200	14	<0.26			
1190-105-0.0	11/6/2012	570	47	<0.26	X	X	X
1190-105-1.0	11/6/2012	280	27	<0.26			
1190-105-2.0	11/6/2012	150	9.1	<0.26			
1190-105-3.5	11/6/2012	400	20	<0.26	X	X	
1190-106-0.0	11/6/2012	87	8.9	<0.26			
1190-106-1.0	11/6/2012	200	19	<0.26			
1190-106-2.0	11/6/2012	150	13	<0.26			
1190-106-3.5	11/6/2012	99	7.0	<0.26			
1190-107-0.0	11/6/2012	18	1.0				
1190-107-1.0	11/6/2012	7.0	0.44 J				
1190-107-2.0	11/6/2012	15	0.55				
1190-107-4.5	11/6/2012	22	0.98				
DRAFT: 1190-108-0.0	11/7/2012	340	24	X	X	X	X
DRAFT: 1190-108-1.0	11/7/2012	200	30	X	X	X	
DRAFT: 1190-108-2.0	11/7/2012	16	1.3				
DRAFT: 1190-108-4.5	11/7/2012	17	0.87				
DRAFT: 1190-109-0.0	11/8/2012	72	3.6				
DRAFT: 1190-109-1.0	11/8/2012	100	6.4	X			
DRAFT: 1190-109-2.0	11/8/2012	50	3.1				
DRAFT: 1190-109-3.0	11/8/2012	48	2.9				
DRAFT: 1190-110-0.0	11/8/2012	130	8.4	X			
DRAFT: 1190-110-1.0	11/8/2012	110	8.2	X			
DRAFT: 1190-110-2.0	11/8/2012	6.2	0.71				
DRAFT: 1190-110-4.5	11/8/2012	47	3.7				

DRAFT: 1190-111-0.0	11/8/2012	350	21	X	X	X	X
DRAFT: 1190-111-1.0	11/8/2012	220	11	X	X		
DRAFT: 1190-111-2.0	11/8/2012	15	0.94				
DRAFT: 1190-111-4.5	11/8/2012	41	2.7				
DRAFT: 1190-112-0.0	11/8/2012	90	3.9				
DRAFT: 1190-112-1.0	11/8/2012	79	4.2				
DRAFT: 1190-112-2.0	11/8/2012	7.1	0.61				
DRAFT: 1190-112-4.5	11/8/2012	5.5	0.51				
DRAFT: 1190-113-0.0	11/8/2012	150	9.0	X	X		
DRAFT: 1190-113-1.0	11/8/2012	88	5.0	X			
DRAFT: 1190-113-2.0	11/8/2012	33	1.4				
DRAFT: 1190-113-4.5	11/8/2012	60	3.2				
DRAFT: 1190-114-0.0	11/8/2012	42	1.8				
DRAFT: 1190-114-1.0	11/8/2012	11	0.51				
DRAFT: 1190-114-2.0	11/8/2012	7.5	0.3				
DRAFT: 1190-114-4.5	11/8/2012	17	0.86				
1190-115-0	11/6/2012	530	41	<0.26	X		
1190-115-1	11/6/2012	34	2.2				
1190-115-2	11/6/2012	6.5	0.54				
1190-115-4.5	11/6/2012	9.6	0.63				
DRAFT: 1190-116-0.0	11/7/2012	3,700	230	X	X	X	X
DRAFT: 1190-116-1.0	11/7/2012	250	19	X			
DRAFT: 1190-116-2.0	11/7/2012	31	1.4				
DRAFT: 1190-116-3.5	11/7/2012	110	6.7	X			
DRAFT: 1190-117-0.0	11/7/2012	3,200	160	X	X	X	
DRAFT: 1190-117-1.0	11/7/2012	250	11	X			
DRAFT: 1190-117-2.0	11/7/2012	740	30	X			
DRAFT: 1190-117-4.5	11/7/2012	180	13	X			
DRAFT: 1190-118-0.0	11/7/2012	1,500	110	X	X		
DRAFT: 1190-118-1.0	11/7/2012	250	11	X			
DRAFT: 1190-118-2.0	11/7/2012	430	39	X			
DRAFT: 1190-118-4.5	11/7/2012	110	7.5	X			
DRAFT: 1190-119-0.0	11/7/2012	950	63	X	X		
DRAFT: 1190-119-1.0	11/7/2012	31	1.6				
DRAFT: 1190-119-2.0	11/7/2012	18	0.48				
DRAFT: 1190-119-4.5	11/7/2012	12	0.9				

ADVANCED TECHNOLOGY LABORATORIES

November 21, 2012

ELAP No.: 1838
NELAP No.: 02107CA
CSDLAC No.: 10196
ORELAP No.: CA300003
TCEQ No.: T104704502

Mike Conkle
Geocon Consultants, Inc.
3303 N. San Fernando Blvd., Suite 100
Burbank, CA 91504
Tel: (818) 841-8388
Fax:(818) 841-1704

Re: ATL Work Order Number : 1203922

Client Reference : Los Angeles Route 2, S9475-06-22

Enclosed are the results for sample(s) received on November 07, 2012 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

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

Sincerely,

Eddie Rodriguez
Laboratory Director

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/21/2012

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
1190-116-0.0	1203922-01	Soil	11/07/12 8:42	11/07/12 14:06
1190-116-1.0	1203922-02	Soil	11/07/12 8:46	11/07/12 14:06
1190-116-2.0	1203922-03	Soil	11/07/12 9:21	11/07/12 14:06
1190-116-3.5	1203922-04	Soil	11/07/12 9:26	11/07/12 14:06
1190-117-0.0	1203922-05	Soil	11/07/12 9:37	11/07/12 14:06
1190-117-1.0	1203922-06	Soil	11/07/12 9:40	11/07/12 14:06
1190-117-2.0	1203922-07	Soil	11/07/12 9:55	11/07/12 14:06
1190-117-4.5	1203922-08	Soil	11/07/12 10:18	11/07/12 14:06
1190-118-0.0	1203922-09	Soil	11/07/12 10:31	11/07/12 14:06
1190-118-1.0	1203922-10	Soil	11/07/12 10:35	11/07/12 14:06
1190-118-2.0	1203922-11	Soil	11/07/12 10:44	11/07/12 14:06
1190-118-4.5	1203922-12	Soil	11/07/12 10:54	11/07/12 14:06
1190-119-0.0	1203922-13	Soil	11/07/12 11:08	11/07/12 14:06
1190-119-1.0	1203922-14	Soil	11/07/12 11:11	11/07/12 14:06
1190-119-2.0	1203922-15	Soil	11/07/12 11:15	11/07/12 14:06
1190-119-4.5	1203922-16	Soil	11/07/12 11:19	11/07/12 14:06
1190-EB-3	1203922-17	Water	11/07/12 14:10	11/07/12 14:06

CASE NARRATIVE

Results were J-flagged. "J" is used to flag those results that are between the PQL (Practical Quantitation Limit) and the calculated MDL (Method Detection Limit). Results that are "J" flagged are estimated values since it becomes difficult to accurately quantitate the analyte near the MDL.

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/21/2012

Lead by ICP-AES EPA 6010B

Analyte: Lead **Analyst: PT**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203922-01	1190-116-0.0	**3700**	mg/kg	1.0	0.18	1	B2K0215	11/09/2012	11/12/12 15:45	
1203922-02	1190-116-1.0	**250**	mg/kg	1.0	0.18	1	B2K0215	11/09/2012	11/12/12 15:46	
1203922-03	1190-116-2.0	**31**	mg/kg	1.0	0.18	1	B2K0215	11/09/2012	11/12/12 15:47	
1203922-04	1190-116-3.5	**110**	mg/kg	1.0	0.18	1	B2K0215	11/09/2012	11/12/12 15:47	
1203922-05	1190-117-0.0	**3200**	mg/kg	1.0	0.18	1	B2K0215	11/09/2012	11/12/12 15:48	
1203922-06	1190-117-1.0	**250**	mg/kg	1.0	0.18	1	B2K0215	11/09/2012	11/12/12 15:49	
1203922-07	1190-117-2.0	**740**	mg/kg	1.0	0.18	1	B2K0215	11/09/2012	11/12/12 15:49	
1203922-08	1190-117-4.5	**180**	mg/kg	1.0	0.18	1	B2K0215	11/09/2012	11/12/12 15:51	
1203922-09	1190-118-0.0	**1500**	mg/kg	1.0	0.18	1	B2K0215	11/09/2012	11/12/12 15:51	
1203922-10	1190-118-1.0	**250**	mg/kg	1.0	0.18	1	B2K0215	11/09/2012	11/12/12 15:52	
1203922-11	1190-118-2.0	**430**	mg/kg	1.0	0.18	1	B2K0215	11/09/2012	11/12/12 15:53	
1203922-12	1190-118-4.5	**110**	mg/kg	1.0	0.18	1	B2K0215	11/09/2012	11/12/12 15:54	
1203922-13	1190-119-0.0	**950**	mg/kg	1.0	0.18	1	B2K0215	11/09/2012	11/12/12 15:55	
1203922-14	1190-119-1.0	**31**	mg/kg	1.0	0.18	1	B2K0215	11/09/2012	11/12/12 15:55	
1203922-15	1190-119-2.0	**18**	mg/kg	1.0	0.18	1	B2K0215	11/09/2012	11/12/12 15:56	
1203922-16	1190-119-4.5	**12**	mg/kg	1.0	0.18	1	B2K0215	11/09/2012	11/12/12 15:57	

Lead by ICP-AES EPA 6010B

Analyte: Lead **Analyst: PT**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203922-17	1190-EB-3	**0.0031**	mg/L	0.0050	0.0028	1	B2K0273	11/12/2012	11/12/12 13:29	J

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/21/2012

STLC Lead by AA (Direct Aspiration) by EPA 7420

Analyte: Lead **Analyst: SB**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203922-01	1190-116-0.0	**230**	mg/L	25	13	50	B2K0282	11/12/2012	11/12/12 15:13	
1203922-02	1190-116-1.0	**19**	mg/L	2.5	1.3	5	B2K0282	11/12/2012	11/12/12 15:15	
1203922-03	1190-116-2.0	**1.4**	mg/L	0.50	0.26	1	B2K0282	11/12/2012	11/12/12 15:15	
1203922-04	1190-116-3.5	**6.7**	mg/L	0.50	0.26	1	B2K0282	11/12/2012	11/12/12 15:15	
1203922-05	1190-117-0.0	**160**	mg/L	10	5.2	20	B2K0282	11/12/2012	11/12/12 15:17	
1203922-06	1190-117-1.0	**11**	mg/L	1.0	0.52	2	B2K0282	11/12/2012	11/12/12 15:18	
1203922-07	1190-117-2.0	**30**	mg/L	5.0	2.6	10	B2K0282	11/12/2012	11/12/12 15:22	
1203922-08	1190-117-4.5	**13**	mg/L	1.0	0.52	2	B2K0282	11/12/2012	11/12/12 15:24	
1203922-09	1190-118-0.0	**110**	mg/L	10	5.2	20	B2K0282	11/12/2012	11/12/12 15:26	
1203922-10	1190-118-1.0	**11**	mg/L	1.0	0.52	2	B2K0282	11/12/2012	11/12/12 15:29	
1203922-11	1190-118-2.0	**39**	mg/L	5.0	2.6	10	B2K0282	11/12/2012	11/12/12 15:30	
1203922-12	1190-118-4.5	**7.5**	mg/L	0.50	0.26	1	B2K0282	11/12/2012	11/12/12 15:31	
1203922-13	1190-119-0.0	**63**	mg/L	5.0	2.6	10	B2K0282	11/12/2012	11/12/12 15:32	
1203922-14	1190-119-1.0	**1.6**	mg/L	0.50	0.26	1	B2K0282	11/12/2012	11/12/12 15:33	
1203922-15	1190-119-2.0	**0.48**	mg/L	0.50	0.26	1	B2K0282	11/12/2012	11/12/12 15:33	J
1203922-16	1190-119-4.5	**0.90**	mg/L	0.50	0.26	1	B2K0282	11/12/2012	11/12/12 15:34	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/21/2012

STLC-DI Lead by AA (Direct Aspiration) EPA 7420

Analyte: Lead **Analyst: VV**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203922-01	1190-116-0.0	**1.0**	mg/L	0.50	0.26	1	B2K0520	11/20/2012	11/20/12 17:37	
1203922-02	1190-116-1.0	**ND**	mg/L	0.50	0.26	1	B2K0520	11/20/2012	11/20/12 17:37	
1203922-04	1190-116-3.5	**ND**	mg/L	0.50	0.26	1	B2K0520	11/20/2012	11/20/12 17:37	
1203922-05	1190-117-0.0	**0.46**	mg/L	0.50	0.26	1	B2K0520	11/20/2012	11/20/12 17:37	J
1203922-06	1190-117-1.0	**0.28**	mg/L	0.50	0.26	1	B2K0520	11/20/2012	11/20/12 17:38	J
1203922-07	1190-117-2.0	**ND**	mg/L	0.50	0.26	1	B2K0520	11/20/2012	11/20/12 17:38	
1203922-08	1190-117-4.5	**0.28**	mg/L	0.50	0.26	1	B2K0520	11/20/2012	11/20/12 17:38	J
1203922-09	1190-118-0.0	**0.39**	mg/L	0.50	0.26	1	B2K0520	11/20/2012	11/20/12 17:39	J
1203922-10	1190-118-1.0	**ND**	mg/L	0.50	0.26	1	B2K0520	11/20/2012	11/20/12 17:39	
1203922-11	1190-118-2.0	**0.85**	mg/L	0.50	0.26	1	B2K0520	11/20/2012	11/20/12 17:39	
1203922-12	1190-118-4.5	**0.36**	mg/L	0.50	0.26	1	B2K0520	11/20/2012	11/20/12 17:41	J
1203922-13	1190-119-0.0	**0.28**	mg/L	0.50	0.26	1	B2K0520	11/20/2012	11/20/12 17:41	J

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/21/2012

QUALITY CONTROL SECTION

Lead by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0215 - EPA 3050 Modified									
Blank (B2K0215-BLK1)					Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	0.550272	1.0			NR				J
Blank (B2K0215-BLK2)					Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	0.358965	1.0			NR				J
LCS (B2K0215-BS1)					Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	51.5643	1.0	50.0000		103	80 - 120			
Duplicate (B2K0215-DUP1)		**Source: 1203924-04**			Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	18.3184	1.0		11.0082	NR		49.9	20	R
Duplicate (B2K0215-DUP2)		**Source: 1203922-10**			Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	223.508	1.0		248.909	NR		10.8	20	
Matrix Spike (B2K0215-MS1)		**Source: 1203924-04**			Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	253.281	1.0	250.000	11.0082	96.9	46 - 116			
Matrix Spike (B2K0215-MS2)		**Source: 1203922-10**			Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	396.663	1.0	250.000	248.909	59.1	46 - 116			
Matrix Spike Dup (B2K0215-MSD1)		**Source: 1203924-04**			Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	243.850	1.0	250.000	11.0082	93.1	46 - 116	3.79	20	
Batch B2K0273 - EPA 3010A									
Blank (B2K0273-BLK1)					Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	ND	0.0050			NR				
LCS (B2K0273-BS1)					Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	1.01396	0.0050	1.00000		101	80 - 120			
Duplicate (B2K0273-DUP1)		**Source: 1203912-21**			Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	0.003465	0.0050		0.003170	NR		8.90	20	J
Matrix Spike (B2K0273-MS1)		**Source: 1203912-21**			Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	2.26862	0.0050	2.50000	0.003170	90.6	78 - 117			
Matrix Spike Dup (B2K0273-MSD1)		**Source: 1203912-21**			Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	2.40512	0.0050	2.50000	0.003170	96.1	78 - 117	5.84	20	
Batch S2K0155 - B2K0251									
Instrument Blank (S2K0155-IBL1)					Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	ND	1.0			NR				
Batch S2K0174 - B2K0216									

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/21/2012

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

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch S2K0174 - B2K0216 (continued)									
Instrument Blank (S2K0174-IBL1)					Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	ND	1.0			NR				

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/21/2012

STLC Lead by AA (Direct Aspiration) by EPA 7420 - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0282 - STLC Extraction									
Blank (B2K0282-BLK1)					Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	ND	0.50			NR				
Blank (B2K0282-BLK2)					Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	ND	0.50			NR				
LCS (B2K0282-BS1)					Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	5.64824	0.05	5.00000		113	80 - 120			
Duplicate (B2K0282-DUP1)		**Source: 1203922-09**			Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	111.240	10		111.936	NR		0.624	20	
Duplicate (B2K0282-DUP2)		**Source: 1203954-03**			Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	1.30009	0.50		1.32488	NR		1.89	20	
Matrix Spike (B2K0282-MS1)		**Source: 1203922-09**			Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	122.080	1.0	5.00000	111.936	203	80 - 120			M1
Matrix Spike (B2K0282-MS2)		**Source: 1203954-03**			Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	6.48245	0.05	5.00000	1.32488	103	80 - 120			
Matrix Spike Dup (B2K0282-MSD1)		**Source: 1203922-09**			Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	120.551	1.0	5.00000	111.936	172	80 - 120	1.26	20	M1
Batch S2K0170 - B2K0214									
Instrument Blank (S2K0170-IBL1)					Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	ND	0.50			NR				

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/21/2012

STLC-DI Lead by AA (Direct Aspiration) EPA 7420 - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0520 - STLC DI Extraction									
Blank (B2K0520-BLK1)					Prepared: 11/20/2012 Analyzed: 11/20/2012				
Lead	ND	0.50			NR				
Blank (B2K0520-BLK2)					Prepared: 11/20/2012 Analyzed: 11/20/2012				
Lead	ND	0.50			NR				
LCS (B2K0520-BS1)					Prepared: 11/20/2012 Analyzed: 11/20/2012				
Lead	5.10740	0.05	5.00000		102	80 - 120			
Duplicate (B2K0520-DUP1)		**Source: 1203922-11**			Prepared: 11/20/2012 Analyzed: 11/20/2012				
Lead	0.772310	0.50		0.845411	NR		9.04	20	
Duplicate (B2K0520-DUP2)		**Source: 1203922-13**			Prepared: 11/20/2012 Analyzed: 11/20/2012				
Lead	ND	0.50		0.275720	NR			20	
Matrix Spike (B2K0520-MS1)		**Source: 1203922-11**			Prepared: 11/20/2012 Analyzed: 11/20/2012				
Lead	6.35187	0.05	5.00000	0.845411	110	80 - 120			
Matrix Spike (B2K0520-MS2)		**Source: 1203922-13**			Prepared: 11/20/2012 Analyzed: 11/20/2012				
Lead	5.17556	0.05	5.00000	0.275720	98.0	80 - 120			
Matrix Spike Dup (B2K0520-MSD1)		**Source: 1203922-11**			Prepared: 11/20/2012 Analyzed: 11/20/2012				
Lead	6.40947	0.05	5.00000	0.845411	111	80 - 120	0.903	20	
Batch S2K0313 - B2K0520									
Instrument Blank (S2K0313-IBL1)					Prepared: 11/20/2012 Analyzed: 11/20/2012				
Lead	ND	0.50			NR				

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100		Report To :	Mike Conkle
Burbank , CA 91504		Reported :	11/21/2012

Notes and Definitions

R	RPD value outside acceptance criteria. Calculation is based on raw values.
M1	Matrix spike recovery outside of acceptance limit. The analytical batch was validated by the laboratory control sample.
J	Analyte detected below the Practical Quantitation Limit but above or equal to the Method Detection Limit. Result is an estimated concentration.
ND	Analyte not detected at or above reporting limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA1	CA-NELAP (CDPH)
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

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

CHAIN OF CUSTODY RECORD

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 5.6°C Y ☑ N ☐ 4. SEALED Y ☐ N ☑
2. HEADSPACE (VOA) Y ☐ N ☐ 5. # OF SPLS MATCH COC Y ☑ N ☐
3. CONTAINER INTACT Y ☑ N ☐ 6. PRESERVED Y ☐ N ☐

Client: Geocon
Attention: Mike Conkle
Address: 3303 North San Fernando Blvd Suite 100
City: Burbank State: CA Zip Code: 91504
Tel: 818-841-8388
Fax: 818-841-1704
Project Name: Los Angeles Route 2 Project #: S9475-06-22
Sampler: Mike Hoh (Signature)

Relinquished by: (Signature and Printed Name)	Mike Hoh	Date: 11/7/12	Time: 1406	Received by: (Signature and Printed Name)		Date: 11/7/12	Time: 1406
Relinquished by: (Signature and Printed Name)		Date: 11/7/12	Time: 1602	Received by: (Signature and Printed Name)		Date: 11/7/12	Time: 1605
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: Mike Conkle 11/7/12
Print Name Date
Mike Conkle
Signature

Send Report To:
Attn: Mike Conkle
Co: Geocon Consultants Inc.
Addr: 3303 North San Fernando Blvd Suite 100
City: Burbank State: CA Zip: 91504

Bill To:
Attn: Mike Conkle
Co: Geocon Consultants Inc.
Addr: 3303 North San Fernando Blvd Suite 100
City: Burbank State: CA Zip: 91504

Special Instructions/Comments:
CT Contract 07A2729
Run samples for total lead and STLC. STLC results greater than 5.0 mg/l will be analyze with the soluble lead test by WET using de-ionized water (DI-WET) as the extractant.
Report MDLs and PQLs. Filter and preserve water samples at the Lab.

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: RTNE ☐ CT ☐ SWRCB ☐ Logcode____ OTHER ____

ITEM	LAB USE ONLY: Lab No.	Sample Description: Sample ID / Location	Date	Time	Total Lead by EPA Method 6010	STLC by (WET) Method	Soluble Lead Test by (DI-WET) Meth	Title 22 metals	SVOC by 8270 SIM	SOIL	WATER	GROUND WATER	WASTEWATER	TAT	Container(s) #	Container(s) Type	REMARKS
	1203922-1	1190-116-0.0	11/7/12	0842	x					x				E	1	G J	
	-2	1190-116-1.0		0846	x					x				E	1	G J	
	-3	1190-116-2.0		0921	x					x				E	1	G J	
	-4	1190-116-3.5		0926	x					x				E	1	G J	
	-5	1190-117-0.0		0937	x					x				E	1	G J	
	-6	1190-117-1.0		0940	x					x				E	1	G J	
	-7	1190-117-2.0		0955	x					x				E	1	G J	
	-8	1190-117-4.5		1018	x					x				E	1	G J	
	-9	1190-118-0.0		1031	x					x				E	1	G J	
	-10	1190-118-1.0		1035	x					x				E	1	G J	
	-11	1190-118-2.0		1044	x					x				E	1	G J	
	-12	1190-118-4.5		1054	x					x				E	1	G J	
	-13	1190-119-0.0		1108	x					x				E	1	G J	
	-14	1190-119-1.0		1111	x					x				E	1	G J	
	-15	1190-119-2.0		1115	x					x				E	1	G J	
	-16	1190-119-4.5	↓	1119	x					x				E	1	G J	
	-17	1190-ES-3	↓	1410	x					X				E	1	P J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	

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

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

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

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

ADVANCED TECHNOLOGY LABORATORIES

November 30, 2012

ELAP No.: 1838
NELAP No.: 02107CA
CSDLAC No.: 10196
ORELAP No.: CA300003
TCEQ No.: T104704502

Mike Conkle
Geocon Consultants, Inc.
3303 N. San Fernando Blvd., Suite 100
Burbank, CA 91504
Tel: (818) 841-8388
Fax:(818) 841-1704

Re: ATL Work Order Number : 1203922

Client Reference : Los Angeles Route 2, S9475-06-22

Enclosed are the results for sample(s) received on November 07, 2012 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

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

Sincerely,

Eddie Rodriguez
Laboratory Director

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100		Report To :	Mike Conkle
Burbank , CA 91504		Reported :	11/30/2012

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
1190-116-0.0	1203922-01	Soil	11/07/12 8:42	11/07/12 14:06
1190-117-0.0	1203922-05	Soil	11/07/12 9:37	11/07/12 14:06
1190-118-0.0	1203922-09	Soil	11/07/12 10:31	11/07/12 14:06
1190-119-0.0	1203922-13	Soil	11/07/12 11:08	11/07/12 14:06

CASE NARRATIVE

Results were J-flagged. "J" is used to flag those results that are between the PQL (Practical Quantitation Limit) and the calculated MDL (Method Detection Limit). Results that are "J" flagged are estimated values since it becomes difficult to accurately quantitate the analyte near the MDL.

Sample Receiving/General Comments

Sample amount used for TCLP analysis by EPA 1311 is less than the amount required by the method. The client was notified on 11/29/12.

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/30/2012

TCLP Lead by AA (Direct Aspiration) EPA 7420

Analyte: Lead **Analyst: VV**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203922-01	1190-116-0.0	**7.2**	mg/L	0.50	0.26	1	B2K0675	11/29/2012	11/29/12 13:16	
1203922-05	1190-117-0.0	**5.3**	mg/L	0.50	0.26	1	B2K0675	11/29/2012	11/29/12 13:16	
1203922-09	1190-118-0.0	**2.0**	mg/L	0.50	0.26	1	B2K0675	11/29/2012	11/29/12 13:16	
1203922-13	1190-119-0.0	**1.4**	mg/L	0.50	0.26	1	B2K0675	11/29/2012	11/29/12 13:17	

Mercury by AA (Cold Vapor) EPA 7471

Analyte: Mercury **Analyst: VV**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203922-01	1190-116-0.0	**0.21**	mg/kg	0.10	0.008	1	B2K0676	11/29/2012	11/29/12 13:34	

pH by EPA 9045C

Analyte: pH **Analyst: LA**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203922-01	1190-116-0.0	**6.4**	pH Units	0.10	0.10	1	B2K0680	11/29/2012	11/29/12 15:21	
1203922-05	1190-117-0.0	**6.4**	pH Units	0.10	0.10	1	B2K0680	11/29/2012	11/29/12 15:21	

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100		Report To :	Mike Conkle
Burbank , CA 91504		Reported :	11/30/2012

Client Sample ID 1190-116-0.0

Lab ID: 1203922-01

Title 22 Metals by ICP-AES EPA 6010B **Analyst: PT**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	**0.81**	2.0	0.35	1	B2K0605	11/26/2012	11/27/12 09:15	J
Arsenic	**3.8**	1.0	0.14	1	B2K0605	11/26/2012	11/27/12 09:15	
Barium	**160**	1.0	0.15	1	B2K0605	11/26/2012	11/27/12 09:15	
Beryllium	ND	1.0	0.06	1	B2K0605	11/26/2012	11/27/12 09:15	
Cadmium	**2.2**	1.0	0.03	1	B2K0605	11/26/2012	11/27/12 09:15	
Chromium	**21**	1.0	0.20	1	B2K0605	11/26/2012	11/27/12 09:15	
Cobalt	**5.4**	1.0	0.03	1	B2K0605	11/26/2012	11/27/12 09:15	
Copper	**50**	2.0	0.28	1	B2K0605	11/26/2012	11/27/12 09:15	
Molybdenum	**2.6**	1.0	0.05	1	B2K0605	11/26/2012	11/27/12 09:15	
Nickel	**19**	1.0	0.19	1	B2K0605	11/26/2012	11/27/12 09:15	
Selenium	**0.39**	1.0	0.38	1	B2K0605	11/26/2012	11/27/12 09:15	J
Silver	ND	1.0	0.08	1	B2K0605	11/26/2012	11/27/12 09:15	
Thallium	ND	1.0	0.30	1	B2K0605	11/26/2012	11/27/12 09:15	
Vanadium	**19**	1.0	0.10	1	B2K0605	11/26/2012	11/27/12 09:15	
Zinc	**520**	1.0	0.74	1	B2K0605	11/26/2012	11/27/12 09:15	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/30/2012

QUALITY CONTROL SECTION

Title 22 Metals by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0605 - EPA 3050B									
Blank (B2K0605-BLK1)					Prepared: 11/26/2012 Analyzed: 11/27/2012				
Antimony	ND	2.0			NR				
Arsenic	ND	1.0			NR				
Barium	0.325204	1.0			NR				J
Beryllium	ND	1.0			NR				
Cadmium	ND	1.0			NR				
Chromium	0.258350	1.0			NR				J
Cobalt	ND	1.0			NR				
Copper	ND	2.0			NR				
Molybdenum	ND	1.0			NR				
Nickel	ND	1.0			NR				
Selenium	ND	1.0			NR				
Silver	ND	1.0			NR				
Thallium	ND	1.0			NR				
Vanadium	ND	1.0			NR				
Zinc	ND	1.0			NR				
LCS (B2K0605-BS1)					Prepared: 11/26/2012 Analyzed: 11/27/2012				
Antimony	44.1885	2.0	50.0000		88.4	80 - 120			
Arsenic	44.4662	1.0	50.0000		88.9	80 - 120			
Barium	46.3774	1.0	50.0000		92.8	80 - 120			
Beryllium	46.1350	1.0	50.0000		92.3	80 - 120			
Cadmium	46.3020	1.0	50.0000		92.6	80 - 120			
Chromium	48.0556	1.0	50.0000		96.1	80 - 120			
Cobalt	47.7002	1.0	50.0000		95.4	80 - 120			
Copper	47.2455	2.0	50.0000		94.5	80 - 120			
Molybdenum	48.4604	1.0	50.0000		96.9	80 - 120			
Nickel	46.8758	1.0	50.0000		93.8	80 - 120			
Selenium	40.6497	1.0	50.0000		81.3	80 - 120			
Silver	44.6569	1.0	50.0000		89.3	80 - 120			
Thallium	48.8054	1.0	50.0000		97.6	80 - 120			
Vanadium	46.0809	1.0	50.0000		92.2	80 - 120			
Zinc	48.4848	1.0	50.0000		97.0	80 - 120			
Duplicate (B2K0605-DUP1)		**Source: 1203892-05**			Prepared: 11/26/2012 Analyzed: 11/27/2012				
Antimony	0.397804	2.0		0.442755	NR		10.7	20	J
Arsenic	2.61041	1.0		2.75090	NR		5.24	20	
Barium	139.858	1.0		125.968	NR		10.5	20	
Beryllium	ND	1.0		ND	NR			20	
Cadmium	0.881814	1.0		0.876010	NR		0.660	20	J
Chromium	13.8612	1.0		14.4266	NR		4.00	20	
Cobalt	5.22795	1.0		5.45003	NR		4.16	20	
Copper	29.2441	2.0		30.1842	NR		3.16	20	
Molybdenum	1.32078	1.0		1.51793	NR		13.9	20	

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3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/30/2012

Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0605 - EPA 3050B (continued)									
Duplicate (B2K0605-DUP1) - Continued		**Source: 1203892-05**			Prepared: 11/26/2012 Analyzed: 11/27/2012				
Nickel	12.8927	1.0		13.5417	NR		4.91	20	
Selenium	ND	1.0		ND	NR			20	
Silver	ND	1.0		ND	NR			20	
Thallium	ND	1.0		ND	NR			20	
Vanadium	21.2902	1.0		21.4223	NR		0.619	20	
Zinc	159.945	1.0		156.375	NR		2.26	20	
Matrix Spike (B2K0605-MS1)		**Source: 1203892-05**			Prepared: 11/26/2012 Analyzed: 11/27/2012				
Antimony	59.3561	2.0	125.000	0.442755	47.1	44 - 105			
Arsenic	94.5318	1.0	125.000	2.75090	73.4	57 - 103			
Barium	225.465	1.0	125.000	125.968	79.6	36 - 134			
Beryllium	92.0519	1.0	125.000	ND	73.6	64 - 106			
Cadmium	88.7390	1.0	125.000	0.876010	70.3	58 - 102			
Chromium	109.936	1.0	125.000	14.4266	76.4	55 - 105			
Cobalt	97.7604	1.0	125.000	5.45003	73.8	59 - 105			
Copper	130.496	2.0	125.000	30.1842	80.2	64 - 117			
Molybdenum	93.8405	1.0	125.000	1.51793	73.9	59 - 108			
Nickel	104.796	1.0	125.000	13.5417	73.0	52 - 109			
Selenium	87.9875	1.0	125.000	ND	70.4	56 - 100			
Silver	83.0114	1.0	125.000	ND	66.4	65 - 107			
Thallium	84.2978	1.0	125.000	ND	67.4	47 - 100			
Vanadium	115.567	1.0	125.000	21.4223	75.3	64 - 110			
Zinc	253.727	1.0	125.000	156.375	77.9	37 - 123			
Matrix Spike Dup (B2K0605-MSD1)		**Source: 1203892-05**			Prepared: 11/26/2012 Analyzed: 11/27/2012				
Antimony	59.7259	2.0	125.000	0.442755	47.4	44 - 105	0.621	20	
Arsenic	92.3206	1.0	125.000	2.75090	71.7	57 - 103	2.37	20	
Barium	217.269	1.0	125.000	125.968	73.0	36 - 134	3.70	20	
Beryllium	90.5090	1.0	125.000	ND	72.4	64 - 106	1.69	20	
Cadmium	89.2368	1.0	125.000	0.876010	70.7	58 - 102	0.559	20	
Chromium	108.494	1.0	125.000	14.4266	75.3	55 - 105	1.32	20	
Cobalt	97.3074	1.0	125.000	5.45003	73.5	59 - 105	0.464	20	
Copper	127.732	2.0	125.000	30.1842	78.0	64 - 117	2.14	20	
Molybdenum	91.8146	1.0	125.000	1.51793	72.2	59 - 108	2.18	20	
Nickel	103.911	1.0	125.000	13.5417	72.3	52 - 109	0.848	20	
Selenium	86.7395	1.0	125.000	ND	69.4	56 - 100	1.43	20	
Silver	80.7485	1.0	125.000	ND	64.6	65 - 107	2.76	20	M1
Thallium	83.3012	1.0	125.000	ND	66.6	47 - 100	1.19	20	
Vanadium	112.780	1.0	125.000	21.4223	73.1	64 - 110	2.44	20	
Zinc	240.506	1.0	125.000	156.375	67.3	37 - 123	5.35	20	
Batch S2K0360 - B2K0603									
Instrument Blank (S2K0360-IBL1)					Prepared: 11/27/2012 Analyzed: 11/27/2012				
Antimony	ND	2.0			NR				
Arsenic	ND	1.0			NR				
Barium	ND	1.0			NR				

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/30/2012

Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch S2K0360 - B2K0603 (continued)									
Instrument Blank (S2K0360-IBL1) - Continued					Prepared: 11/27/2012 Analyzed: 11/27/2012				
Beryllium	ND	1.0			NR				
Cadmium	ND	1.0			NR				
Chromium	ND	1.0			NR				
Cobalt	ND	1.0			NR				
Copper	ND	2.0			NR				
Molybdenum	ND	1.0			NR				
Nickel	ND	1.0			NR				
Selenium	ND	1.0			NR				
Silver	ND	1.0			NR				
Thallium	ND	1.0			NR				
Vanadium	ND	1.0			NR				
Zinc	ND	1.0			NR				

Certificate of Analysis

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3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/30/2012

TCLP Lead by AA (Direct Aspiration) EPA 7420 - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0675 - EPA 3010A_SOIL									
Blank (B2K0675-BLK1)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	ND	0.50			NR				
Blank (B2K0675-BLK2)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	ND	0.50			NR				
Blank (B2K0675-BLK3)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	ND	0.50			NR				
Blank (B2K0675-BLK4)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	ND	0.50			NR				
LCS (B2K0675-BS1)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	0.904168	0.50	1.00000		90.4	80 - 120			
Duplicate (B2K0675-DUP1)		**Source: 1203937-69**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	0.630692	0.50		0.483791	NR		26.4	20	R
Duplicate (B2K0675-DUP2)		**Source: 1203922-13**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	1.38699	0.50		1.39431	NR		0.526	20	
Matrix Spike (B2K0675-MS1)		**Source: 1203937-69**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	3.48598	0.50	2.50000	0.483791	120	80 - 120			
Matrix Spike (B2K0675-MS2)		**Source: 1203922-13**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	4.06373	0.50	2.50000	1.39431	107	80 - 120			
Matrix Spike Dup (B2K0675-MSD1)		**Source: 1203937-69**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	3.50819	0.50	2.50000	0.483791	121	80 - 120	0.635	20	M1
Batch S2K0407 - B2K0675									
Instrument Blank (S2K0407-IBL1)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	ND	0.50			NR				

Certificate of Analysis

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3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/30/2012

Mercury by AA (Cold Vapor) EPA 7471 - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0676 - EPA 7471									
Blank (B2K0676-BLK1)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Mercury	ND	0.10			NR				
LCS (B2K0676-BS1)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Mercury	0.860874	0.10	0.833333		103	80 - 120			
Duplicate (B2K0676-DUP1)		**Source: 1203892-05**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Mercury	0.164644	0.10		0.165772	NR		0.683	20	
Matrix Spike (B2K0676-MS1)		**Source: 1203892-05**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Mercury	0.880898	0.10	0.833333	0.165772	85.8	70 - 130			
Matrix Spike (B2K0676-MS2)		**Source: 1203892-05**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Mercury	0.007162		5.00000E-3	0.001989	103	70 - 130			
Matrix Spike Dup (B2K0676-MSD1)		**Source: 1203892-05**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Mercury	0.878486	0.10	0.833333	0.165772	85.5	70 - 130	0.274	20	
Batch S2K0406 - B2K0676									
Instrument Blank (S2K0406-IBL1)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Mercury	ND	0.10			NR				

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/30/2012

pH by EPA 9045C - Quality Control

Analyte	Result (pH Units)	PQL (pH Units)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0680 - Prep_WC_1_S									
Duplicate (B2K0680-DUP1)		**Source: 1203924-22**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
pH	6.80000	0.10		6.98000	NR		2.61	20	

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100		Report To :	Mike Conkle
Burbank , CA 91504		Reported :	11/30/2012

Notes and Definitions

R	RPD value outside acceptance criteria. Calculation is based on raw values.
M1	Matrix spike recovery outside of acceptance limit. The analytical batch was validated by the laboratory control sample.
J	Analyte detected below the Practical Quantitation Limit but above or equal to the Method Detection Limit. Result is an estimated concentration.
ND	Analyte not detected at or above reporting limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA1	CA-NELAP (CDPH)
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

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

Diane Galvan

From: Mike Conkle [conkle@geoconinc.com]
Sent: Wednesday, November 21, 2012 2:39 PM
To: Diane Galvan
Subject: FW: geocon project number S9475-06-22 - additional analysis
Attachments: S9475-06-22 ATL Add Analysis.xlsx

Hi Diane,
We would like to run the test indicated with an "X" on the attached table. These samples are for Geocon project number S9475-06-22. ATL work order nos. 1203892, 1203893, 1203922, and 1203954.

Let me know if you have questions.

Michael P. Conkle, PG | *Senior Geologist*
Geocon
3303 N. San Fernando Blvd. Suite 100, Burbank, CA 91504
Tel 818.841.8388 Fax 818.841.1704 Cell 213.503.7841
http://www.geoconinc.com

SAMPLE ID	SAMPLE DATE	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	WET-DI LEAD (mg/l)	TCLP LEAD (mg/l)	pH (pH units)	METALS
1190-101-0.0	11/6/2012	52	4.1				
1190-101-1.0	11/6/2012	42	2.8				
1190-101-2.0	11/6/2012	13	0.96				
1190-101-3.0	11/6/2012	9.7	0.55				
1190-102-0.0	11/6/2012	380	24	<0.26	X	X	X
1190-102-1.0	11/6/2012	44	2.5				
1190-102-2.0	11/6/2012	29	1.8				
1190-102-4.0	11/6/2012	170	9.1	<0.26			
1190-103-0	11/6/2012	150	16	<0.26			
1190-103-1	11/6/2012	4.3	0.30 J				
1190-103-2	11/6/2012	14	1.2				
1190-103-4.5	11/6/2012	8.7	0.74				
1190-104-0.0	11/6/2012	350	24	<0.26	X		
1190-104-1.0	11/6/2012	380	27	<0.26	X		
1190-104-2.0	11/6/2012	130	11	<0.26			
1190-104-4.0	11/6/2012	200	14	<0.26			
1190-105-0.0	11/6/2012	570	47	<0.26	X	X	X
1190-105-1.0	11/6/2012	280	27	<0.26			
1190-105-2.0	11/6/2012	150	9.1	<0.26			
1190-105-3.5	11/6/2012	400	20	<0.26	X	X	
1190-106-0.0	11/6/2012	87	8.9	<0.26			
1190-106-1.0	11/6/2012	200	19	<0.26			
1190-106-2.0	11/6/2012	150	13	<0.26			
1190-106-3.5	11/6/2012	99	7.0	<0.26			
1190-107-0.0	11/6/2012	18	1.0				
1190-107-1.0	11/6/2012	7.0	0.44 J				
1190-107-2.0	11/6/2012	15	0.55				
1190-107-4.5	11/6/2012	22	0.98				
DRAFT: 1190-108-0.0	11/7/2012	340	24	X	X	X	X
DRAFT: 1190-108-1.0	11/7/2012	200	30	X	X	X	
DRAFT: 1190-108-2.0	11/7/2012	16	1.3				
DRAFT: 1190-108-4.5	11/7/2012	17	0.87				
DRAFT: 1190-109-0.0	11/8/2012	72	3.6				
DRAFT: 1190-109-1.0	11/8/2012	100	6.4	X			
DRAFT: 1190-109-2.0	11/8/2012	50	3.1				
DRAFT: 1190-109-3.0	11/8/2012	48	2.9				
DRAFT: 1190-110-0.0	11/8/2012	130	8.4	X			
DRAFT: 1190-110-1.0	11/8/2012	110	8.2	X			
DRAFT: 1190-110-2.0	11/8/2012	6.2	0.71				
DRAFT: 1190-110-4.5	11/8/2012	47	3.7				

DRAFT: 1190-111-0.0	11/8/2012	350	21	X	X	X	X
DRAFT: 1190-111-1.0	11/8/2012	220	11	X	X		
DRAFT: 1190-111-2.0	11/8/2012	15	0.94				
DRAFT: 1190-111-4.5	11/8/2012	41	2.7				
DRAFT: 1190-112-0.0	11/8/2012	90	3.9				
DRAFT: 1190-112-1.0	11/8/2012	79	4.2				
DRAFT: 1190-112-2.0	11/8/2012	7.1	0.61				
DRAFT: 1190-112-4.5	11/8/2012	5.5	0.51				
DRAFT: 1190-113-0.0	11/8/2012	150	9.0	X	X		
DRAFT: 1190-113-1.0	11/8/2012	88	5.0	X			
DRAFT: 1190-113-2.0	11/8/2012	33	1.4				
DRAFT: 1190-113-4.5	11/8/2012	60	3.2				
DRAFT: 1190-114-0.0	11/8/2012	42	1.8				
DRAFT: 1190-114-1.0	11/8/2012	11	0.51				
DRAFT: 1190-114-2.0	11/8/2012	7.5	0.3				
DRAFT: 1190-114-4.5	11/8/2012	17	0.86				
1190-115-0	11/6/2012	530	41	<0.26	X		
1190-115-1	11/6/2012	34	2.2				
1190-115-2	11/6/2012	6.5	0.54				
1190-115-4.5	11/6/2012	9.6	0.63				
DRAFT: 1190-116-0.0	11/7/2012	3,700	230	X	X	X	X
DRAFT: 1190-116-1.0	11/7/2012	250	19	X			
DRAFT: 1190-116-2.0	11/7/2012	31	1.4				
DRAFT: 1190-116-3.5	11/7/2012	110	6.7	X			
DRAFT: 1190-117-0.0	11/7/2012	3,200	160	X	X	X	
DRAFT: 1190-117-1.0	11/7/2012	250	11	X			
DRAFT: 1190-117-2.0	11/7/2012	740	30	X			
DRAFT: 1190-117-4.5	11/7/2012	180	13	X			
DRAFT: 1190-118-0.0	11/7/2012	1,500	110	X	X		
DRAFT: 1190-118-1.0	11/7/2012	250	11	X			
DRAFT: 1190-118-2.0	11/7/2012	430	39	X			
DRAFT: 1190-118-4.5	11/7/2012	110	7.5	X			
DRAFT: 1190-119-0.0	11/7/2012	950	63	X	X		
DRAFT: 1190-119-1.0	11/7/2012	31	1.6				
DRAFT: 1190-119-2.0	11/7/2012	18	0.48				
DRAFT: 1190-119-4.5	11/7/2012	12	0.9				

ADVANCED TECHNOLOGY LABORATORIES

November 21, 2012

ELAP No.: 1838
NELAP No.: 02107CA
CSDLAC No.: 10196
ORELAP No.: CA300003
TCEQ No.: T104704502

Mike Conkle
Geocon Consultants, Inc.
3303 N. San Fernando Blvd., Suite 100
Burbank, CA 91504
Tel: (818) 841-8388
Fax:(818) 841-1704

Re: ATL Work Order Number : 1203954

Client Reference : Los Angeles Route 2, S9475-06-22

Enclosed are the results for sample(s) received on November 08, 2012 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

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

Sincerely,

Eddie Rodriguez
Laboratory Director

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/21/2012

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
1190-108-0.0	1203954-01	Soil	11/07/12 14:36	11/08/12 15:11
1190-108-1.0	1203954-02	Soil	11/07/12 14:39	11/08/12 15:11
1190-108-2.0	1203954-03	Soil	11/07/12 14:42	11/08/12 15:11
1190-108-4.5	1203954-04	Soil	11/07/12 14:47	11/08/12 15:11
1190-109-0.0	1203954-05	Soil	11/08/12 8:52	11/08/12 15:11
1190-109-1.0	1203954-06	Soil	11/08/12 9:00	11/08/12 15:11
1190-109-2.0	1203954-07	Soil	11/08/12 9:15	11/08/12 15:11
1190-109-3.0	1203954-08	Soil	11/08/12 9:22	11/08/12 15:11
1190-110-0.0	1203954-09	Soil	11/08/12 9:56	11/08/12 15:11
1190-110-1.0	1203954-10	Soil	11/08/12 9:58	11/08/12 15:11
1190-110-2.0	1203954-11	Soil	11/08/12 10:03	11/08/12 15:11
1190-110-4.5	1203954-12	Soil	11/08/12 10:15	11/08/12 15:11
1190-111-0.0	1203954-13	Soil	11/08/12 10:39	11/08/12 15:11
1190-111-1.0	1203954-14	Soil	11/08/12 10:41	11/08/12 15:11
1190-111-2.0	1203954-15	Soil	11/08/12 10:45	11/08/12 15:11
1190-111-4.5	1203954-16	Soil	11/08/12 11:00	11/08/12 15:11
1190-112-0.0	1203954-17	Soil	11/08/12 12:10	11/08/12 15:11
1190-112-1.0	1203954-18	Soil	11/08/12 12:12	11/08/12 15:11
1190-112-2.0	1203954-19	Soil	11/08/12 12:15	11/08/12 15:11
1190-112-4.5	1203954-20	Soil	11/08/12 12:22	11/08/12 15:11
1190-113-0.0	1203954-21	Soil	11/08/12 11:17	11/08/12 15:11
1190-113-1.0	1203954-22	Soil	11/08/12 11:19	11/08/12 15:11
1190-113-2.0	1203954-23	Soil	11/08/12 11:22	11/08/12 15:11
1190-113-4.5	1203954-24	Soil	11/08/12 11:30	11/08/12 15:11
1190-114-0.0	1203954-25	Soil	11/08/12 11:35	11/08/12 15:11
1190-114-1.0	1203954-26	Soil	11/08/12 11:37	11/08/12 15:11
1190-114-2.0	1203954-27	Soil	11/08/12 11:38	11/08/12 15:11
1190-114-4.5	1203954-28	Soil	11/08/12 11:48	11/08/12 15:11
1190-EB-4	1203954-29	Water	11/08/12 12:30	11/08/12 15:11

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100		Report To :	Mike Conkle
Burbank , CA 91504		Reported :	11/21/2012

CASE NARRATIVE

Results were J-flagged. "J" is used to flag those results that are between the PQL (Practical Quantitation Limit) and the calculated MDL (Method Detection Limit). Results that are "J" flagged are estimated values since it becomes difficult to accurately quantitate the analyte near the MDL.

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/21/2012

Lead by ICP-AES EPA 6010B

Analyte: Lead **Analyst: PT**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203954-01	1190-108-0.0	**340**	mg/kg	1.0	0.18	1	B2K0218	11/10/2012	11/12/12 16:27	
1203954-02	1190-108-1.0	**200**	mg/kg	1.0	0.18	1	B2K0218	11/10/2012	11/12/12 16:27	
1203954-03	1190-108-2.0	**16**	mg/kg	1.0	0.18	1	B2K0218	11/10/2012	11/12/12 16:28	
1203954-04	1190-108-4.5	**17**	mg/kg	1.0	0.18	1	B2K0218	11/10/2012	11/12/12 16:31	
1203954-05	1190-109-0.0	**72**	mg/kg	1.0	0.18	1	B2K0218	11/10/2012	11/12/12 16:31	
1203954-06	1190-109-1.0	**100**	mg/kg	1.0	0.18	1	B2K0218	11/10/2012	11/12/12 16:32	
1203954-07	1190-109-2.0	**50**	mg/kg	1.0	0.18	1	B2K0218	11/10/2012	11/12/12 16:32	
1203954-08	1190-109-3.0	**48**	mg/kg	1.0	0.18	1	B2K0218	11/10/2012	11/12/12 16:33	
1203954-09	1190-110-0.0	**130**	mg/kg	1.0	0.18	1	B2K0218	11/10/2012	11/12/12 16:33	
1203954-10	1190-110-1.0	**110**	mg/kg	1.0	0.18	1	B2K0218	11/10/2012	11/12/12 16:34	
1203954-11	1190-110-2.0	**6.2**	mg/kg	1.0	0.18	1	B2K0218	11/10/2012	11/12/12 16:34	
1203954-12	1190-110-4.5	**47**	mg/kg	1.0	0.18	1	B2K0218	11/10/2012	11/12/12 16:35	
1203954-13	1190-111-0.0	**350**	mg/kg	1.0	0.18	1	B2K0218	11/10/2012	11/12/12 16:36	
1203954-14	1190-111-1.0	**220**	mg/kg	1.0	0.18	1	B2K0257	11/10/2012	11/12/12 16:40	
1203954-15	1190-111-2.0	**15**	mg/kg	1.0	0.18	1	B2K0257	11/10/2012	11/12/12 16:41	
1203954-16	1190-111-4.5	**41**	mg/kg	1.0	0.18	1	B2K0257	11/10/2012	11/12/12 16:41	
1203954-17	1190-112-0.0	**90**	mg/kg	1.0	0.18	1	B2K0257	11/10/2012	11/12/12 17:14	
1203954-18	1190-112-1.0	**79**	mg/kg	1.0	0.18	1	B2K0257	11/10/2012	11/12/12 17:15	
1203954-19	1190-112-2.0	**7.1**	mg/kg	1.0	0.18	1	B2K0257	11/10/2012	11/12/12 17:16	
1203954-20	1190-112-4.5	**5.5**	mg/kg	1.0	0.18	1	B2K0257	11/10/2012	11/12/12 17:16	
1203954-21	1190-113-0.0	**150**	mg/kg	1.0	0.18	1	B2K0257	11/10/2012	11/12/12 17:17	
1203954-22	1190-113-1.0	**88**	mg/kg	1.0	0.18	1	B2K0257	11/10/2012	11/12/12 17:17	
1203954-23	1190-113-2.0	**33**	mg/kg	1.0	0.18	1	B2K0257	11/10/2012	11/12/12 17:18	
1203954-24	1190-113-4.5	**60**	mg/kg	1.0	0.18	1	B2K0257	11/10/2012	11/12/12 17:19	
1203954-25	1190-114-0.0	**42**	mg/kg	1.0	0.18	1	B2K0257	11/10/2012	11/12/12 17:21	
1203954-26	1190-114-1.0	**11**	mg/kg	1.0	0.18	1	B2K0257	11/10/2012	11/12/12 17:22	
1203954-27	1190-114-2.0	**7.5**	mg/kg	1.0	0.18	1	B2K0257	11/10/2012	11/12/12 17:22	
1203954-28	1190-114-4.5	**17**	mg/kg	1.0	0.18	1	B2K0257	11/10/2012	11/12/12 17:23	

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100		Report To :	Mike Conkle
Burbank , CA 91504		Reported :	11/21/2012

Lead by ICP-AES EPA 6010B

Analyte: Lead **Analyst: PT**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203954-29	1190-EB-4	**ND**	mg/L	0.0050	0.0028	1	B2K0362	11/14/2012	11/14/12 16:55	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/21/2012

STLC Lead by AA (Direct Aspiration) by EPA 7420

Analyte: Lead **Analyst: SB**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203954-01	1190-108-0.0	**24**	mg/L	2.5	1.3	5	B2K0282	11/12/2012	11/12/12 15:35	
1203954-02	1190-108-1.0	**30**	mg/L	2.5	1.3	5	B2K0282	11/12/2012	11/12/12 15:36	
1203954-03	1190-108-2.0	**1.3**	mg/L	0.50	0.26	1	B2K0282	11/12/2012	11/12/12 15:37	
1203954-04	1190-108-4.5	**0.87**	mg/L	0.50	0.26	1	B2K0283	11/12/2012	11/12/12 15:41	
1203954-05	1190-109-0.0	**3.6**	mg/L	0.50	0.26	1	B2K0283	11/12/2012	11/12/12 15:41	
1203954-06	1190-109-1.0	**6.4**	mg/L	0.50	0.26	1	B2K0283	11/12/2012	11/12/12 15:41	
1203954-07	1190-109-2.0	**3.1**	mg/L	0.50	0.26	1	B2K0283	11/12/2012	11/12/12 15:42	
1203954-08	1190-109-3.0	**2.9**	mg/L	0.50	0.26	1	B2K0283	11/12/2012	11/12/12 15:42	
1203954-09	1190-110-0.0	**8.4**	mg/L	0.50	0.26	1	B2K0283	11/12/2012	11/12/12 15:42	
1203954-10	1190-110-1.0	**8.2**	mg/L	0.50	0.26	1	B2K0283	11/12/2012	11/12/12 15:43	
1203954-11	1190-110-2.0	**0.71**	mg/L	0.50	0.26	1	B2K0283	11/12/2012	11/12/12 15:43	
1203954-12	1190-110-4.5	**3.7**	mg/L	0.50	0.26	1	B2K0283	11/12/2012	11/12/12 15:44	
1203954-13	1190-111-0.0	**21**	mg/L	2.5	1.3	5	B2K0283	11/12/2012	11/12/12 15:46	
1203954-14	1190-111-1.0	**11**	mg/L	1.0	0.52	2	B2K0283	11/12/2012	11/12/12 15:49	
1203954-15	1190-111-2.0	**0.94**	mg/L	0.50	0.26	1	B2K0283	11/12/2012	11/12/12 15:49	
1203954-16	1190-111-4.5	**2.7**	mg/L	0.50	0.26	1	B2K0283	11/12/2012	11/12/12 15:50	
1203954-17	1190-112-0.0	**3.9**	mg/L	0.50	0.26	1	B2K0283	11/12/2012	11/12/12 15:50	
1203954-18	1190-112-1.0	**4.2**	mg/L	0.50	0.26	1	B2K0283	11/12/2012	11/12/12 15:51	
1203954-19	1190-112-2.0	**0.61**	mg/L	0.50	0.26	1	B2K0283	11/12/2012	11/12/12 15:51	
1203954-20	1190-112-4.5	**0.51**	mg/L	0.50	0.26	1	B2K0283	11/12/2012	11/13/12 15:48	
1203954-21	1190-113-0.0	**9.0**	mg/L	0.50	0.26	1	B2K0283	11/12/2012	11/13/12 15:48	
1203954-22	1190-113-1.0	**5.0**	mg/L	0.50	0.26	1	B2K0283	11/12/2012	11/13/12 15:49	
1203954-23	1190-113-2.0	**1.4**	mg/L	0.50	0.26	1	B2K0283	11/12/2012	11/13/12 15:49	
1203954-24	1190-113-4.5	**3.2**	mg/L	0.50	0.26	1	B2K0284	11/12/2012	11/12/12 14:24	
1203954-25	1190-114-0.0	**1.8**	mg/L	0.50	0.26	1	B2K0284	11/12/2012	11/12/12 14:24	
1203954-26	1190-114-1.0	**0.51**	mg/L	0.50	0.26	1	B2K0284	11/12/2012	11/12/12 14:25	
1203954-27	1190-114-2.0	**0.30**	mg/L	0.50	0.26	1	B2K0284	11/12/2012	11/12/12 14:25	J
1203954-28	1190-114-4.5	**0.86**	mg/L	0.50	0.26	1	B2K0284	11/12/2012	11/12/12 14:26	

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100		Report To :	Mike Conkle
Burbank , CA 91504		Reported :	11/21/2012

STLC-DI Lead by AA (Direct Aspiration) EPA 7420

Analyte: Lead **Analyst: VV**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203954-01	1190-108-0.0	**ND**	mg/L	0.50	0.26	1	B2K0561	11/21/2012	11/21/12 13:11	
1203954-02	1190-108-1.0	**ND**	mg/L	0.50	0.26	1	B2K0561	11/21/2012	11/21/12 13:11	
1203954-06	1190-109-1.0	**ND**	mg/L	0.50	0.26	1	B2K0561	11/21/2012	11/21/12 13:12	
1203954-09	1190-110-0.0	**ND**	mg/L	0.50	0.26	1	B2K0561	11/21/2012	11/21/12 13:12	
1203954-10	1190-110-1.0	**ND**	mg/L	0.50	0.26	1	B2K0561	11/21/2012	11/21/12 13:12	
1203954-13	1190-111-0.0	**0.44**	mg/L	0.50	0.26	1	B2K0561	11/21/2012	11/21/12 13:13	J
1203954-14	1190-111-1.0	**ND**	mg/L	0.50	0.26	1	B2K0561	11/21/2012	11/21/12 13:13	
1203954-21	1190-113-0.0	**ND**	mg/L	0.50	0.26	1	B2K0561	11/21/2012	11/21/12 13:14	
1203954-22	1190-113-1.0	**ND**	mg/L	0.50	0.26	1	B2K0561	11/21/2012	11/21/12 13:17	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/21/2012

QUALITY CONTROL SECTION

Lead by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0218 - EPA 3050 Modified									
Blank (B2K0218-BLK1)					Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	0.427783	1.0			NR				J
Blank (B2K0218-BLK2)					Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	0.308781	1.0			NR				J
LCS (B2K0218-BS1)					Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	50.5103	1.0	50.0000		101	80 - 120			
Duplicate (B2K0218-DUP1)		**Source: 1203954-13**			Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	317.408	1.0		350.645	NR		9.95	20	
Duplicate (B2K0218-DUP2)		**Source: 1203954-03**			Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	68.7810	1.0		16.1791	NR		124	20	R
Matrix Spike (B2K0218-MS1)		**Source: 1203954-13**			Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	508.880	1.0	250.000	350.645	63.3	46 - 116			
Matrix Spike (B2K0218-MS2)		**Source: 1203954-03**			Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	243.860	1.0	250.000	16.1791	91.1	46 - 116			
Matrix Spike Dup (B2K0218-MSD1)		**Source: 1203954-13**			Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	507.864	1.0	250.000	350.645	62.9	46 - 116	0.200	20	
Batch B2K0257 - EPA 3050 Modified									
Blank (B2K0257-BLK1)					Prepared: 11/10/2012 Analyzed: 11/12/2012				
Lead	0.565064	1.0			NR				J
Blank (B2K0257-BLK2)					Prepared: 11/10/2012 Analyzed: 11/12/2012				
Lead	0.566448	1.0			NR				J
LCS (B2K0257-BS1)					Prepared: 11/10/2012 Analyzed: 11/12/2012				
Lead	46.3578	1.0	50.0000		92.7	80 - 120			
Duplicate (B2K0257-DUP1)		**Source: 1203954-28**			Prepared: 11/10/2012 Analyzed: 11/12/2012				
Lead	17.0998	1.0		16.8846	NR		1.27	20	
Duplicate (B2K0257-DUP2)		**Source: 1203954-23**			Prepared: 11/10/2012 Analyzed: 11/12/2012				
Lead	26.7344	1.0		33.0174	NR		21.0	20	R
Matrix Spike (B2K0257-MS1)		**Source: 1203954-28**			Prepared: 11/10/2012 Analyzed: 11/12/2012				
Lead	241.016	1.0	250.000	16.8846	89.7	46 - 116			
Matrix Spike (B2K0257-MS2)		**Source: 1203954-23**			Prepared: 11/10/2012 Analyzed: 11/12/2012				
Lead	247.775	1.0	250.000	33.0174	85.9	46 - 116			

Certificate of Analysis

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

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0257 - EPA 3050 Modified (continued)									
Matrix Spike Dup (B2K0257-MSD1)		**Source: 1203954-28**			Prepared: 11/10/2012 Analyzed: 11/12/2012				
Lead	220.114	1.0	250.000	16.8846	81.3	46 - 116	9.07	20	
Batch B2K0362 - EPA 3010A									
Blank (B2K0362-BLK1)					Prepared: 11/14/2012 Analyzed: 11/14/2012				
Lead	ND	0.0050			NR				
LCS (B2K0362-BS1)					Prepared: 11/14/2012 Analyzed: 11/14/2012				
Lead	0.950572	0.0050	1.00000		95.1	80 - 120			
Duplicate (B2K0362-DUP1)		**Source: 1203940-21**			Prepared: 11/14/2012 Analyzed: 11/14/2012				
Lead	ND	0.0050		ND	NR			20	
Matrix Spike (B2K0362-MS1)		**Source: 1203940-21**			Prepared: 11/14/2012 Analyzed: 11/14/2012				
Lead	2.21654	0.0050	2.50000	ND	88.7	78 - 117			
Matrix Spike Dup (B2K0362-MSD1)		**Source: 1203940-21**			Prepared: 11/14/2012 Analyzed: 11/14/2012				
Lead	2.32832	0.0050	2.50000	ND	93.1	78 - 117	4.92	20	
Batch S2K0174 - B2K0216									
Instrument Blank (S2K0174-IBL1)					Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	ND	1.0			NR				
Batch S2K0212 - B2K0327									
Instrument Blank (S2K0212-IBL1)					Prepared: 11/14/2012 Analyzed: 11/14/2012				
Lead	ND	1.0			NR				

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/21/2012

STLC Lead by AA (Direct Aspiration) by EPA 7420 - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0282 - STLC Extraction									
Blank (B2K0282-BLK1)					Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	ND	0.50			NR				
Blank (B2K0282-BLK2)					Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	ND	0.50			NR				
LCS (B2K0282-BS1)					Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	5.64824	0.05	5.00000		113	80 - 120			
Duplicate (B2K0282-DUP1)		**Source: 1203922-09**			Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	111.240	10		111.936	NR		0.624	20	
Duplicate (B2K0282-DUP2)		**Source: 1203954-03**			Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	1.30009	0.50		1.32488	NR		1.89	20	
Matrix Spike (B2K0282-MS1)		**Source: 1203922-09**			Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	122.080	1.0	5.00000	111.936	203	80 - 120			M1
Matrix Spike (B2K0282-MS2)		**Source: 1203954-03**			Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	6.48245	0.05	5.00000	1.32488	103	80 - 120			
Matrix Spike Dup (B2K0282-MSD1)		**Source: 1203922-09**			Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	120.551	1.0	5.00000	111.936	172	80 - 120	1.26	20	M1
Batch B2K0283 - STLC Extraction									
Blank (B2K0283-BLK1)					Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	ND	0.50			NR				
Blank (B2K0283-BLK2)					Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	ND	0.50			NR				
LCS (B2K0283-BS1)					Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	5.75797	0.05	5.00000		115	80 - 120			
Duplicate (B2K0283-DUP1)		**Source: 1203954-13**			Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	22.1076	2.5		21.1809	NR		4.28	20	
Duplicate (B2K0283-DUP2)		**Source: 1203954-23**			Prepared: 11/12/2012 Analyzed: 11/13/2012				
Lead	1.45900	0.50		1.44128	NR		1.22	20	
Matrix Spike (B2K0283-MS1)		**Source: 1203954-13**			Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	26.3901	0.25	5.00000	21.1809	104	80 - 120			
Matrix Spike (B2K0283-MS2)		**Source: 1203954-23**			Prepared: 11/12/2012 Analyzed: 11/13/2012				
Lead	6.66265	0.05	5.00000	1.44128	104	80 - 120			
Matrix Spike Dup (B2K0283-MSD1)		**Source: 1203954-13**			Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	26.4250	0.25	5.00000	21.1809	105	80 - 120	0.132	20	
Batch B2K0284 - STLC Extraction									

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/21/2012

STLC Lead by AA (Direct Aspiration) by EPA 7420 - Quality Control (cont'd)

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Blank (B2K0284-BLK1)					Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	ND	0.50			NR				
LCS (B2K0284-BS1)					Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	4.80273	0.05	5.00000		96.1	80 - 120			
Duplicate (B2K0284-DUP1)		**Source: 1203954-28**			Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	0.768563	0.50		0.861950	NR		11.5	20	
Matrix Spike (B2K0284-MS1)		**Source: 1203954-28**			Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	5.88325	0.05	5.00000	0.861950	100	80 - 120			
Matrix Spike Dup (B2K0284-MSD1)		**Source: 1203954-28**			Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	5.90326	0.05	5.00000	0.861950	101	80 - 120	0.340	20	
Batch S2K0170 - B2K0214									
Instrument Blank (S2K0170-IBL1)					Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	ND	0.50			NR				
Batch S2K0189 - B2K0213									
Instrument Blank (S2K0189-IBL1)					Prepared: 11/13/2012 Analyzed: 11/13/2012				
Lead	ND	0.50			NR				

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/21/2012

STLC-DI Lead by AA (Direct Aspiration) EPA 7420 - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0561 - STLC DI Extraction									
Blank (B2K0561-BLK1)					Prepared: 11/21/2012 Analyzed: 11/21/2012				
Lead	ND	0.50			NR				
LCS (B2K0561-BS1)					Prepared: 11/21/2012 Analyzed: 11/21/2012				
Lead	4.95144	0.05	5.00000		99.0	80 - 120			
Duplicate (B2K0561-DUP1)		**Source: 1203954-22**			Prepared: 11/21/2012 Analyzed: 11/21/2012				
Lead	ND	0.50		ND	NR			20	
Matrix Spike (B2K0561-MS1)		**Source: 1203954-22**			Prepared: 11/21/2012 Analyzed: 11/21/2012				
Lead	4.96092	0.05	5.00000	ND	99.2	80 - 120			
Matrix Spike Dup (B2K0561-MSD1)		**Source: 1203954-22**			Prepared: 11/21/2012 Analyzed: 11/21/2012				
Lead	5.02432	0.05	5.00000	ND	100	80 - 120	1.27	20	
Batch S2K0329 - B2K0561									
Instrument Blank (S2K0329-IBL1)					Prepared: 11/21/2012 Analyzed: 11/21/2012				
Lead	ND	0.50			NR				

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100		Report To :	Mike Conkle
Burbank , CA 91504		Reported :	11/21/2012

Notes and Definitions

R	RPD value outside acceptance criteria. Calculation is based on raw values.
M1	Matrix spike recovery outside of acceptance limit. The analytical batch was validated by the laboratory control sample.
J	Analyte detected below the Practical Quantitation Limit but above or equal to the Method Detection Limit. Result is an estimated concentration.
ND	Analyte not detected at or above reporting limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA1	CA-NELAP (CDPH)
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

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

CHAIN OF CUSTODY RECORD

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

Client: Geocon
Attention: Mike Conkle
Address: 3303 North San Fernando Blvd Suite 100
City: Burbank State: CA Zip Code: 91504
Tel: 818-841-8388
Fax: 818-841-1704

Project Name: Los Angeles Route 2 Project #: S9475-06-22 Sampler: Mike Hecht (Signature)

Relinquished by: (Signature and Printed Name)	Mike Hecht	Date: 11/8/12	Time: 1511	Received by: (Signature and Printed Name)	[illegible]	Date: 11/8/12	Time: 1511
Relinquished by: (Signature and Printed Name)	[illegible]	Date: 11/8/12	Time: 1638	Received by: (Signature and Printed Name)	[illegible]	Date: 11/8/12	Time: 1638
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: Mike Conkle 11/8/12
Print Name Date
Mike Conkle
Signature

Send Report To:
Attn: Mike Conkle
Co: Geocon Consultants Inc.
Addr: 3303 North San Fernando Blvd Suite 100
City: Burbank State: CA Zip: 91504

Bill To:
Attn: Mike Conkle
Co: Geocon Consultants Inc.
Addr: 3303 North San Fernando Blvd Suite 100
City: Burbank State: CA Zip: 91504

Special Instructions/Comments:
CT Contract 07A2729
Run samples for total lead and STLC. STLC results greater than 5.0 mg/l will be analyze with the soluble lead test by WET using de-ionized water (DI-WET) as the extractant. Report MDLs and PQLs. Filter and preserve water samples at the Lab.

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: RTNE ☐ CT ☐ SWRCB ☐ Logcode _____ OTHER _____

ITEM	LAB USE ONLY: Lab No.	Sample Description: Sample ID / Location	Date	Time	Total Lead by EPA Method 6010	STLC by (WET) Method	Soluble Lead Test by (DI-WET) Meth	Title 22 metals	SVOC by 8270 SIM	SOIL	WATER	GROUND WATER	WASTEWATER	TAT	Container(s) #	Type	REMARKS
	12039 SY-1	1190 - 108 - 0.0	11/7/12	1436	x					x				E	1	G J	
	-2	1190 - 108 - 1.0	11/7/12	1439	x					x				E	1	G J	
	-3	1190 - 108 - 2.0	11/7/12	1442	x					x				E	1	G J	
	-4	1190 - 108 - 4.5	11/7/12	1447	x					x				E	1	G J	
	-5	1190 - 109 - 0.0	11/8/12	0852	x					x				E	1	G J	
	-6	1190 - 109 - 1.0		0900	x					x				E	1	G J	
	-7	1190 - 109 - 2.0		0915	x					x				E	1	G J	
	-8	1190 - 109 - 3.0		0922	x					x				E	1	G J	
	-9	1190 - 110 - 0.0		0956	x					x				E	1	G J	
	-10	1190 - 110 - 1.0		0958	x					x				E	1	G J	
	-11	1190 - 110 - 2.0		1003	x					x				E	1	G J	
	-12	1190 - 110 - 4.5		1015	x					x				E	1	G J	
	-13	1190 - 111 - 0.0		1039	x					x				E	1	G J	
	-14	1190 - 111 - 1.0		1041	x					x				E	1	G J	
	-15	1190 - 111 - 2.0		1045	x					x				E	1	G J	
	-16	1190 - 111 - 4.5		1100	x					x				E	1	G J	
	-17	1190 - 112 - 0.0		1210	x					x				E	1	G J	
	-18	1190 - 112 - 1.0		1212	x					x				E	1	G J	
	-19	1190 - 112 - 2.0		1215	x					x				E	1	G J	
	-20	1190 - 112 - 4.5	↓	1222	x					x				E	1	G J	

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

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

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

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

CHAIN OF CUSTODY RECORD

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

FOR LABORATORY USE ONLY

P.O. #: _____
Logged By: _____ Date: _____

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other: _____

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

Client: Geocon
Address: 3303 North San Fernando Blvd Suite 100
Tel: 818-841-8388
Attention: Mike Conkle
City: Burbank State: CA Zip Code: 91504
Fax: 818-841-1704
Project Name: Los Angeles Route 2
Project #: S9475-06-22
Sampler: (Signature)

Relinquished by: (Signature and Printed Name)	Mike Conkle	Date: 11/8/12	Time: 1511	Received by: (Signature and Printed Name)	ANGELA MANGRUM	Date: 11/8/12	Time: 1511
Relinquished by: (Signature and Printed Name)	ANGELA MANGRUM	Date: 11/8/12	Time: 1638	Received by: (Signature and Printed Name)	FEDEX	Date: 11/8/12	Time: 1638
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: Mike Conkle 11/8/12
Print Name Date
Mike Conkle
Signature

Send Report To:
Attn: Mike Conkle
Co: Geocon Consultants Inc.
Addr: 3303 North San Fernando Blvd Suite 100
City: Burbank State: CA Zip: 91504

Bill To:
Attn: Mike Conkle
Co: Geocon Consultants Inc.
Addr: 3303 North San Fernando Blvd Suite 100
City: Burbank State: CA Zip: 91504

Special Instructions/Comments:
CT Contract 07A2729
Run samples for total lead and STLC. STLC results greater than 5.0 mg/l will be analyze with the soluble lead test by WET using de-ionized water (DI-WET) as the extractant. Report MDLs and PQLs. Filter and preserve water samples at the Lab.

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: Total Lead by EPA Method 6010 | STLC by (WET) Method | Soluble Lead Test by (DI-WET) Meth | Title 22 metals | SVOC by 8270 SIM

SPECIFY APPROPRIATE MATRIX: SOIL | WATER | GROUND WATER | WASTEWATER

PRESERVATION: QA/QC RTNE ☐ CT ☐ SWRCB ☐ Logcode _____ OTHER _____

ITEM	LAB USE ONLY: Lab No.	Sample Description: Sample ID / Location	Date	Time	TAT	Container(s) #	Container(s) Type	REMARKS
	1203954-21	1190-113-0.0	11/8/12	1117	E	1	G J	
	-22	1190-113-1.0		1119	E	1	G J	
	-23	1190-113-2.0		1122	E	1	G J	
	-24	1190-113-4.5		1130	E	1	G J	
	-25	1190-114-0.0		1135	E	1	G J	
	-26	1190-114-1.0		1137	E	1	G J	
	-27	1190-114-2.0		1138	E	1	G J	
	-28	1190-114-4.5		1148	E	1	G J	
	-29	1190-EB-4	"	1230	E	1	P J	
					E	1	G J	
					E	1	G J	
					E	1	G J	
					E	1	G J	
					E	1	G J	
					E	1	G J	
					E	1	G J	
					E	1	G J	
					E	1	G J	
					E	1	G J	
					E	1	G J	
					E	1	G J	
					E	1	G J	
					E	1	G J	

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

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

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

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

ADVANCED TECHNOLOGY LABORATORIES

December 05, 2012

ELAP No.: 1838
NELAP No.: 02107CA
CSDLAC No.: 10196
ORELAP No.: CA300003
TCEQ No.: T104704502

Mike Conkle
Geocon Consultants, Inc.
3303 N. San Fernando Blvd., Suite 100
Burbank, CA 91504
Tel: (818) 841-8388
Fax:(818) 841-1704

Re: ATL Work Order Number : 1203954

Client Reference : Los Angeles Route 2, S9475-06-22

Enclosed are the results for sample(s) received on November 08, 2012 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

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

Sincerely,

Eddie Rodriguez
Laboratory Director

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100		Report To :	Mike Conkle
Burbank , CA 91504		Reported :	12/05/2012

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
1190-108-0.0	1203954-01	Soil	11/07/12 14:36	11/08/12 15:11
1190-108-1.0	1203954-02	Soil	11/07/12 14:39	11/08/12 15:11
1190-111-0.0	1203954-13	Soil	11/08/12 10:39	11/08/12 15:11
1190-111-1.0	1203954-14	Soil	11/08/12 10:41	11/08/12 15:11
1190-113-0.0	1203954-21	Soil	11/08/12 11:17	11/08/12 15:11

CASE NARRATIVE

Results were J-flagged. "J" is used to flag those results that are between the PQL (Practical Quantitation Limit) and the calculated MDL (Method Detection Limit). Results that are "J" flagged are estimated values since it becomes difficult to accurately quantitate the analyte near the MDL.

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 12/05/2012

TCLP Lead by AA (Direct Aspiration) EPA 7420

Analyte: Lead **Analyst: VV**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203954-01	1190-108-0.0	**0.52**	mg/L	0.50	0.26	1	B2K0692	11/30/2012	11/30/12 15:48	
1203954-02	1190-108-1.0	**0.49**	mg/L	0.50	0.26	1	B2K0692	11/30/2012	11/30/12 15:48	J
1203954-13	1190-111-0.0	**0.38**	mg/L	0.50	0.26	1	B2K0692	11/30/2012	11/30/12 15:50	J
1203954-14	1190-111-1.0	**0.33**	mg/L	0.50	0.26	1	B2K0692	11/30/2012	11/30/12 15:50	J
1203954-21	1190-113-0.0	**0.34**	mg/L	0.50	0.26	1	B2K0692	11/30/2012	11/30/12 15:53	J

Mercury by AA (Cold Vapor) EPA 7471

Analyte: Mercury **Analyst: VV**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203954-01	1190-108-0.0	**0.12**	mg/kg	0.10	0.008	1	B2K0676	11/29/2012	11/29/12 13:36	
1203954-13	1190-111-0.0	**0.12**	mg/kg	0.10	0.008	1	B2K0676	11/29/2012	11/29/12 13:42	

pH by EPA 9045C

Analyte: pH **Analyst: LA**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203954-01	1190-108-0.0	**7.0**	pH Units	0.10	0.10	1	B2K0680	11/29/2012	11/29/12 15:21	
1203954-02	1190-108-1.0	**7.2**	pH Units	0.10	0.10	1	B2K0680	11/29/2012	11/29/12 15:21	
1203954-13	1190-111-0.0	**6.7**	pH Units	0.10	0.10	1	B2K0680	11/29/2012	11/29/12 15:21	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 12/05/2012

Client Sample ID 1190-108-0.0
Lab ID: 1203954-01

Title 22 Metals by ICP-AES EPA 6010B — **Analyst: PT**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	**0.41**	2.0	0.35	1	B2K0605	11/26/2012	11/27/12 09:17	J
Arsenic	**2.8**	1.0	0.14	1	B2K0605	11/26/2012	11/27/12 09:17	
Barium	**170**	1.0	0.15	1	B2K0605	11/26/2012	11/27/12 09:17	
Beryllium	ND	1.0	0.06	1	B2K0605	11/26/2012	11/27/12 09:17	
Cadmium	**1.0**	1.0	0.03	1	B2K0605	11/26/2012	11/27/12 09:17	
Chromium	**12**	1.0	0.20	1	B2K0605	11/26/2012	11/27/12 09:17	
Cobalt	**5.2**	1.0	0.03	1	B2K0605	11/26/2012	11/27/12 09:17	
Copper	**29**	2.0	0.28	1	B2K0605	11/26/2012	11/27/12 09:17	
Molybdenum	**0.40**	1.0	0.05	1	B2K0605	11/26/2012	11/27/12 09:17	J
Nickel	**12**	1.0	0.19	1	B2K0605	11/26/2012	11/27/12 09:17	
Selenium	ND	1.0	0.38	1	B2K0605	11/26/2012	11/27/12 09:17	
Silver	ND	1.0	0.08	1	B2K0605	11/26/2012	11/27/12 09:17	
Thallium	ND	1.0	0.30	1	B2K0605	11/26/2012	11/27/12 09:17	
Vanadium	**17**	1.0	0.10	1	B2K0605	11/26/2012	11/27/12 09:17	
Zinc	**290**	1.0	0.74	1	B2K0605	11/26/2012	11/27/12 09:17	

Client Sample ID 1190-111-0.0
Lab ID: 1203954-13

Title 22 Metals by ICP-AES EPA 6010B — **Analyst: PT**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	0.35	1	B2K0605	11/26/2012	11/27/12 09:19	
Arsenic	**2.7**	1.0	0.14	1	B2K0605	11/26/2012	11/27/12 09:19	
Barium	**110**	1.0	0.15	1	B2K0605	11/26/2012	11/27/12 09:19	
Beryllium	ND	1.0	0.06	1	B2K0605	11/26/2012	11/27/12 09:19	
Cadmium	**1.2**	1.0	0.03	1	B2K0605	11/26/2012	11/27/12 09:19	
Chromium	**12**	1.0	0.20	1	B2K0605	11/26/2012	11/27/12 09:19	
Cobalt	**5.6**	1.0	0.03	1	B2K0605	11/26/2012	11/27/12 09:19	
Copper	**29**	2.0	0.28	1	B2K0605	11/26/2012	11/27/12 09:19	
Molybdenum	**0.92**	1.0	0.05	1	B2K0605	11/26/2012	11/27/12 09:19	J
Nickel	**15**	1.0	0.19	1	B2K0605	11/26/2012	11/27/12 09:19	
Selenium	ND	1.0	0.38	1	B2K0605	11/26/2012	11/27/12 09:19	
Silver	ND	1.0	0.08	1	B2K0605	11/26/2012	11/27/12 09:19	
Thallium	ND	1.0	0.30	1	B2K0605	11/26/2012	11/27/12 09:19	
Vanadium	**21**	1.0	0.10	1	B2K0605	11/26/2012	11/27/12 09:19	
Zinc	**240**	1.0	0.74	1	B2K0605	11/26/2012	11/27/12 09:19	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 12/05/2012

QUALITY CONTROL SECTION

Title 22 Metals by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0605 - EPA 3050B									
Blank (B2K0605-BLK1)					Prepared: 11/26/2012 Analyzed: 11/27/2012				
Antimony	ND	2.0			NR				
Arsenic	ND	1.0			NR				
Barium	0.325204	1.0			NR				J
Beryllium	ND	1.0			NR				
Cadmium	ND	1.0			NR				
Chromium	0.258350	1.0			NR				J
Cobalt	ND	1.0			NR				
Copper	ND	2.0			NR				
Molybdenum	ND	1.0			NR				
Nickel	ND	1.0			NR				
Selenium	ND	1.0			NR				
Silver	ND	1.0			NR				
Thallium	ND	1.0			NR				
Vanadium	ND	1.0			NR				
Zinc	ND	1.0			NR				
LCS (B2K0605-BS1)					Prepared: 11/26/2012 Analyzed: 11/27/2012				
Antimony	44.1885	2.0	50.0000		88.4	80 - 120			
Arsenic	44.4662	1.0	50.0000		88.9	80 - 120			
Barium	46.3774	1.0	50.0000		92.8	80 - 120			
Beryllium	46.1350	1.0	50.0000		92.3	80 - 120			
Cadmium	46.3020	1.0	50.0000		92.6	80 - 120			
Chromium	48.0556	1.0	50.0000		96.1	80 - 120			
Cobalt	47.7002	1.0	50.0000		95.4	80 - 120			
Copper	47.2455	2.0	50.0000		94.5	80 - 120			
Molybdenum	48.4604	1.0	50.0000		96.9	80 - 120			
Nickel	46.8758	1.0	50.0000		93.8	80 - 120			
Selenium	40.6497	1.0	50.0000		81.3	80 - 120			
Silver	44.6569	1.0	50.0000		89.3	80 - 120			
Thallium	48.8054	1.0	50.0000		97.6	80 - 120			
Vanadium	46.0809	1.0	50.0000		92.2	80 - 120			
Zinc	48.4848	1.0	50.0000		97.0	80 - 120			
Duplicate (B2K0605-DUP1)		**Source: 1203892-05**			Prepared: 11/26/2012 Analyzed: 11/27/2012				
Antimony	0.397804	2.0		0.442755	NR		10.7	20	J
Arsenic	2.61041	1.0		2.75090	NR		5.24	20	
Barium	139.858	1.0		125.968	NR		10.5	20	
Beryllium	ND	1.0		ND	NR			20	
Cadmium	0.881814	1.0		0.876010	NR		0.660	20	J
Chromium	13.8612	1.0		14.4266	NR		4.00	20	
Cobalt	5.22795	1.0		5.45003	NR		4.16	20	
Copper	29.2441	2.0		30.1842	NR		3.16	20	
Molybdenum	1.32078	1.0		1.51793	NR		13.9	20	

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3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 12/05/2012

Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0605 - EPA 3050B (continued)									
Duplicate (B2K0605-DUP1) - Continued		**Source: 1203892-05**			Prepared: 11/26/2012 Analyzed: 11/27/2012				
Nickel	12.8927	1.0		13.5417	NR		4.91	20	
Selenium	ND	1.0		ND	NR			20	
Silver	ND	1.0		ND	NR			20	
Thallium	ND	1.0		ND	NR			20	
Vanadium	21.2902	1.0		21.4223	NR		0.619	20	
Zinc	159.945	1.0		156.375	NR		2.26	20	
Matrix Spike (B2K0605-MS1)		**Source: 1203892-05**			Prepared: 11/26/2012 Analyzed: 11/27/2012				
Antimony	59.3561	2.0	125.000	0.442755	47.1	44 - 105			
Arsenic	94.5318	1.0	125.000	2.75090	73.4	57 - 103			
Barium	225.465	1.0	125.000	125.968	79.6	36 - 134			
Beryllium	92.0519	1.0	125.000	ND	73.6	64 - 106			
Cadmium	88.7390	1.0	125.000	0.876010	70.3	58 - 102			
Chromium	109.936	1.0	125.000	14.4266	76.4	55 - 105			
Cobalt	97.7604	1.0	125.000	5.45003	73.8	59 - 105			
Copper	130.496	2.0	125.000	30.1842	80.2	64 - 117			
Molybdenum	93.8405	1.0	125.000	1.51793	73.9	59 - 108			
Nickel	104.796	1.0	125.000	13.5417	73.0	52 - 109			
Selenium	87.9875	1.0	125.000	ND	70.4	56 - 100			
Silver	83.0114	1.0	125.000	ND	66.4	65 - 107			
Thallium	84.2978	1.0	125.000	ND	67.4	47 - 100			
Vanadium	115.567	1.0	125.000	21.4223	75.3	64 - 110			
Zinc	253.727	1.0	125.000	156.375	77.9	37 - 123			
Matrix Spike Dup (B2K0605-MSD1)		**Source: 1203892-05**			Prepared: 11/26/2012 Analyzed: 11/27/2012				
Antimony	59.7259	2.0	125.000	0.442755	47.4	44 - 105	0.621	20	
Arsenic	92.3206	1.0	125.000	2.75090	71.7	57 - 103	2.37	20	
Barium	217.269	1.0	125.000	125.968	73.0	36 - 134	3.70	20	
Beryllium	90.5090	1.0	125.000	ND	72.4	64 - 106	1.69	20	
Cadmium	89.2368	1.0	125.000	0.876010	70.7	58 - 102	0.559	20	
Chromium	108.494	1.0	125.000	14.4266	75.3	55 - 105	1.32	20	
Cobalt	97.3074	1.0	125.000	5.45003	73.5	59 - 105	0.464	20	
Copper	127.732	2.0	125.000	30.1842	78.0	64 - 117	2.14	20	
Molybdenum	91.8146	1.0	125.000	1.51793	72.2	59 - 108	2.18	20	
Nickel	103.911	1.0	125.000	13.5417	72.3	52 - 109	0.848	20	
Selenium	86.7395	1.0	125.000	ND	69.4	56 - 100	1.43	20	
Silver	80.7485	1.0	125.000	ND	64.6	65 - 107	2.76	20	M1
Thallium	83.3012	1.0	125.000	ND	66.6	47 - 100	1.19	20	
Vanadium	112.780	1.0	125.000	21.4223	73.1	64 - 110	2.44	20	
Zinc	240.506	1.0	125.000	156.375	67.3	37 - 123	5.35	20	
Batch S2K0360 - B2K0603									
Instrument Blank (S2K0360-IBL1)					Prepared: 11/27/2012 Analyzed: 11/27/2012				
Antimony	ND	2.0			NR				
Arsenic	ND	1.0			NR				
Barium	ND	1.0			NR				

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 12/05/2012

Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch S2K0360 - B2K0603 (continued)									
Instrument Blank (S2K0360-IBL1) - Continued					Prepared: 11/27/2012 Analyzed: 11/27/2012				
Beryllium	ND	1.0			NR				
Cadmium	ND	1.0			NR				
Chromium	ND	1.0			NR				
Cobalt	ND	1.0			NR				
Copper	ND	2.0			NR				
Lead	ND	1.0			NR				
Molybdenum	ND	1.0			NR				
Nickel	ND	1.0			NR				
Selenium	ND	1.0			NR				
Silver	ND	1.0			NR				
Thallium	ND	1.0			NR				
Vanadium	ND	1.0			NR				
Zinc	ND	1.0			NR				

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3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 12/05/2012

TCLP Lead by AA (Direct Aspiration) EPA 7420 - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0692 - EPA 3010A_SOIL									
Blank (B2K0692-BLK1)					Prepared: 11/30/2012 Analyzed: 11/30/2012				
Lead	ND	0.50			NR				
Blank (B2K0692-BLK2)					Prepared: 11/30/2012 Analyzed: 11/30/2012				
Lead	ND	0.50			NR				
LCS (B2K0692-BS1)					Prepared: 11/30/2012 Analyzed: 11/30/2012				
Lead	1.02989	0.50	1.00000		103	80 - 120			
Duplicate (B2K0692-DUP1)		**Source: 1203954-02**			Prepared: 11/30/2012 Analyzed: 11/30/2012				
Lead	0.450165	0.50		0.487183	NR		7.90	20	J
Matrix Spike (B2K0692-MS1)		**Source: 1203954-02**			Prepared: 11/30/2012 Analyzed: 11/30/2012				
Lead	3.08856	0.50	2.50000	0.487183	104	80 - 120			
Matrix Spike Dup (B2K0692-MSD1)		**Source: 1203954-02**			Prepared: 11/30/2012 Analyzed: 11/30/2012				
Lead	3.19982	0.50	2.50000	0.487183	109	80 - 120	3.54	20	
Batch S2K0426 - B2K0692									
Instrument Blank (S2K0426-IBL1)					Prepared: 11/30/2012 Analyzed: 11/30/2012				
Lead	ND	0.50			NR				

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Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 12/05/2012

Mercury by AA (Cold Vapor) EPA 7471 - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0676 - EPA 7471									
Blank (B2K0676-BLK1)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Mercury	ND	0.10			NR				
LCS (B2K0676-BS1)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Mercury	0.860874	0.10	0.833333		103	80 - 120			
Duplicate (B2K0676-DUP1)		**Source: 1203892-05**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Mercury	0.164644	0.10		0.165772	NR		0.683	20	
Matrix Spike (B2K0676-MS1)		**Source: 1203892-05**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Mercury	0.880898	0.10	0.833333	0.165772	85.8	70 - 130			
Matrix Spike (B2K0676-MS2)		**Source: 1203892-05**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Mercury	0.007162		5.00000E-3	0.001989	103	70 - 130			
Matrix Spike Dup (B2K0676-MSD1)		**Source: 1203892-05**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Mercury	0.878486	0.10	0.833333	0.165772	85.5	70 - 130	0.274	20	
Batch S2K0406 - B2K0676									
Instrument Blank (S2K0406-IBL1)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Mercury	ND	0.10			NR				

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Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 12/05/2012

pH by EPA 9045C - Quality Control

Analyte	Result (pH Units)	PQL (pH Units)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0680 - Prep_WC_1_S									
Duplicate (B2K0680-DUP1)		**Source: 1203924-22**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
pH	6.80000	0.10		6.98000	NR		2.61	20	

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100		Report To :	Mike Conkle
Burbank , CA 91504		Reported :	12/05/2012

Notes and Definitions

M1	Matrix spike recovery outside of acceptance limit. The analytical batch was validated by the laboratory control sample.
J	Analyte detected below the Practical Quantitation Limit but above or equal to the Method Detection Limit. Result is an estimated concentration.
ND	Analyte not detected at or above reporting limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA1	CA-NELAP (CDPH)
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

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

Diane Galvan

From: Mike Conkle [conkle@geoconinc.com]
Sent: Wednesday, November 21, 2012 2:39 PM
To: Diane Galvan
Subject: FW: geocon project number S9475-06-22 - additional analysis
Attachments: S9475-06-22 ATL Add Analysis.xlsx

Hi Diane,
We would like to run the test indicated with an "X" on the attached table. These samples are for Geocon project number S9475-06-22. ATL work order nos. 1203892, 1203893, 1203922, and 1203954.

Let me know if you have questions.

Michael P. Conkle, PG | *Senior Geologist*
Geocon
3303 N. San Fernando Blvd. Suite 100, Burbank, CA 91504
Tel 818.841.8388 Fax 818.841.1704 Cell 213.503.7841
http://www.geoconinc.com

SAMPLE ID	SAMPLE DATE	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	WET-DI LEAD (mg/l)	TCLP LEAD (mg/l)	pH (pH units)	METALS
1190-101-0.0	11/6/2012	52	4.1				
1190-101-1.0	11/6/2012	42	2.8				
1190-101-2.0	11/6/2012	13	0.96				
1190-101-3.0	11/6/2012	9.7	0.55				
1190-102-0.0	11/6/2012	380	24	<0.26	X	X	X
1190-102-1.0	11/6/2012	44	2.5				
1190-102-2.0	11/6/2012	29	1.8				
1190-102-4.0	11/6/2012	170	9.1	<0.26			
1190-103-0	11/6/2012	150	16	<0.26			
1190-103-1	11/6/2012	4.3	0.30 J				
1190-103-2	11/6/2012	14	1.2				
1190-103-4.5	11/6/2012	8.7	0.74				
1190-104-0.0	11/6/2012	350	24	<0.26	X		
1190-104-1.0	11/6/2012	380	27	<0.26	X		
1190-104-2.0	11/6/2012	130	11	<0.26			
1190-104-4.0	11/6/2012	200	14	<0.26			
1190-105-0.0	11/6/2012	570	47	<0.26	X	X	X
1190-105-1.0	11/6/2012	280	27	<0.26			
1190-105-2.0	11/6/2012	150	9.1	<0.26			
1190-105-3.5	11/6/2012	400	20	<0.26	X	X	
1190-106-0.0	11/6/2012	87	8.9	<0.26			
1190-106-1.0	11/6/2012	200	19	<0.26			
1190-106-2.0	11/6/2012	150	13	<0.26			
1190-106-3.5	11/6/2012	99	7.0	<0.26			
1190-107-0.0	11/6/2012	18	1.0				
1190-107-1.0	11/6/2012	7.0	0.44 J				
1190-107-2.0	11/6/2012	15	0.55				
1190-107-4.5	11/6/2012	22	0.98				
DRAFT: 1190-108-0.0	11/7/2012	340	24	X	X	X	X
DRAFT: 1190-108-1.0	11/7/2012	200	30	X	X	X	
DRAFT: 1190-108-2.0	11/7/2012	16	1.3				
DRAFT: 1190-108-4.5	11/7/2012	17	0.87				
DRAFT: 1190-109-0.0	11/8/2012	72	3.6				
DRAFT: 1190-109-1.0	11/8/2012	100	6.4	X			
DRAFT: 1190-109-2.0	11/8/2012	50	3.1				
DRAFT: 1190-109-3.0	11/8/2012	48	2.9				
DRAFT: 1190-110-0.0	11/8/2012	130	8.4	X			
DRAFT: 1190-110-1.0	11/8/2012	110	8.2	X			
DRAFT: 1190-110-2.0	11/8/2012	6.2	0.71				
DRAFT: 1190-110-4.5	11/8/2012	47	3.7				

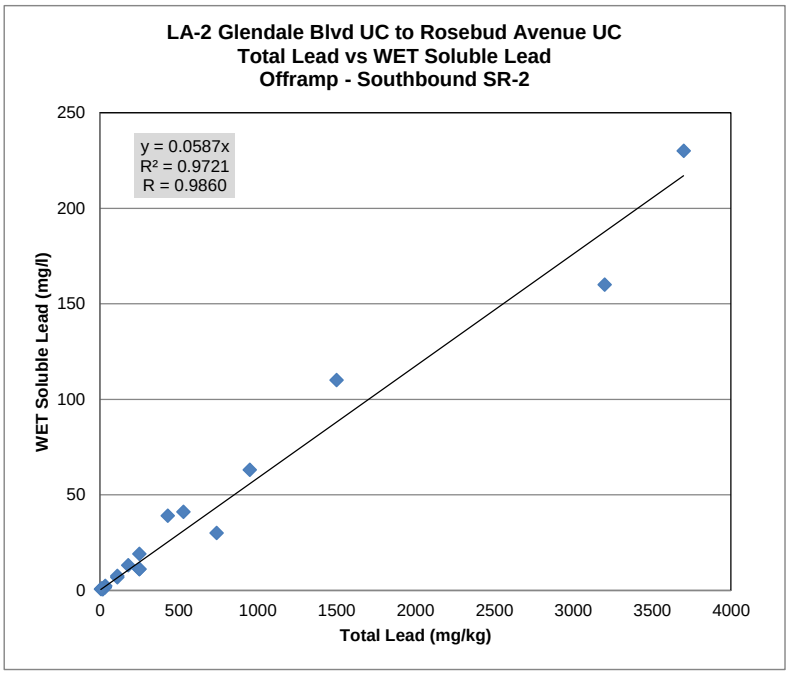
DRAFT: 1190-111-0.0	11/8/2012	350	21	X	X	X	X
DRAFT: 1190-111-1.0	11/8/2012	220	11	X	X		
DRAFT: 1190-111-2.0	11/8/2012	15	0.94				
DRAFT: 1190-111-4.5	11/8/2012	41	2.7				
DRAFT: 1190-112-0.0	11/8/2012	90	3.9				
DRAFT: 1190-112-1.0	11/8/2012	79	4.2				
DRAFT: 1190-112-2.0	11/8/2012	7.1	0.61				
DRAFT: 1190-112-4.5	11/8/2012	5.5	0.51				
DRAFT: 1190-113-0.0	11/8/2012	150	9.0	X	X		
DRAFT: 1190-113-1.0	11/8/2012	88	5.0	X			
DRAFT: 1190-113-2.0	11/8/2012	33	1.4				
DRAFT: 1190-113-4.5	11/8/2012	60	3.2				
DRAFT: 1190-114-0.0	11/8/2012	42	1.8				
DRAFT: 1190-114-1.0	11/8/2012	11	0.51				
DRAFT: 1190-114-2.0	11/8/2012	7.5	0.3				
DRAFT: 1190-114-4.5	11/8/2012	17	0.86				
1190-115-0	11/6/2012	530	41	<0.26	X		
1190-115-1	11/6/2012	34	2.2				
1190-115-2	11/6/2012	6.5	0.54				
1190-115-4.5	11/6/2012	9.6	0.63				
DRAFT: 1190-116-0.0	11/7/2012	3,700	230	X	X	X	X
DRAFT: 1190-116-1.0	11/7/2012	250	19	X			
DRAFT: 1190-116-2.0	11/7/2012	31	1.4				
DRAFT: 1190-116-3.5	11/7/2012	110	6.7	X			
DRAFT: 1190-117-0.0	11/7/2012	3,200	160	X	X	X	
DRAFT: 1190-117-1.0	11/7/2012	250	11	X			
DRAFT: 1190-117-2.0	11/7/2012	740	30	X			
DRAFT: 1190-117-4.5	11/7/2012	180	13	X			
DRAFT: 1190-118-0.0	11/7/2012	1,500	110	X	X		
DRAFT: 1190-118-1.0	11/7/2012	250	11	X			
DRAFT: 1190-118-2.0	11/7/2012	430	39	X			
DRAFT: 1190-118-4.5	11/7/2012	110	7.5	X			
DRAFT: 1190-119-0.0	11/7/2012	950	63	X	X		
DRAFT: 1190-119-1.0	11/7/2012	31	1.6				
DRAFT: 1190-119-2.0	11/7/2012	18	0.48				
DRAFT: 1190-119-4.5	11/7/2012	12	0.9				

APPENDIX D

State Route 2 Glendale Blvd UC to Rosebud Avenue UC
S9475-06-22

Offramp - Southbound SR-2

Sample ID	Total Lead	WET Lead
1190-115-0	530	41
1190-115-1	34	2.2
1190-115-2	6.5	0.54
1190-115-4.5	9.6	0.63
1190-116-0.0	3,700	230
1190-116-1.0	250	19
1190-116-2.0	31	1.4
1190-116-3.5	110	6.7
1190-117-0.0	3,200	160
1190-117-1.0	250	11
1190-117-2.0	740	30
1190-117-4.5	180	13
1190-118-0.0	1,500	110
1190-118-1.0	250	11
1190-118-2.0	430	39
1190-118-4.5	110	7.5
1190-119-0.0	950	63
1190-119-1.0	31	1.6
1190-119-2.0	18	0.48
1190-119-4.5	12	0.9



Project Name:	**Los Angeles Route 2 (LA-2) Glendale Blvd UC to Rosebud Avenue UC**
Geocon Project No.:	**S9475-06-22**
Location:	**Offramp - Southbound SR-2**

Lead - 0.0 to 0.5 ft	
Number of Valid Observations	5
Number of Distinct Observations	5
Minimum	530
Maximum	3700
Mean	1976
Geometric Mean	1550
Median	1500
SD	1400
Variance	1960130
Std. Error of Mean	626.1
Coefficient of Variation	0.709
Skewness	0.417
Mean of log data	7.346
SD of log data	0.818
90% Standard Bootstrap UCL	**2677.0**
95% Standard Bootstrap UCL	**2906.0**

Lead - 1.0 to 1.5 ft	
Number of Valid Observations	5
Number of Distinct Observations	3
Minimum	31
Maximum	250
Mean	163
Geometric Mean	110.5
Median	250
SD	119.1
Variance	14193
Std. Error of Mean	53.28
Coefficient of Variation	0.731
Skewness	-0.609
Mean of log data	4.705
SD of log data	1.119
90% Standard Bootstrap UCL	**N/A**
95% Standard Bootstrap UCL	**N/A**

Insufficient number of distinct values to calculate UCLs.

Lead - 2.0 to 2.5 ft	
Number of Valid Observations	5
Number of Distinct Observations	5
Minimum	6.5
Maximum	740
Mean	245.1
Geometric Mean	64.93
Median	31
SD	329.2
Variance	108364
Std. Error of Mean	147.2
Coefficient of Variation	1.343
Skewness	1.08
Mean of log data	4.173
SD of log data	2.061
90% Standard Bootstrap UCL	**408.4**
95% Standard Bootstrap UCL	**465.7**

Lead - 4.5 to 5.0 ft	
Number of Valid Observations	4
Number of Distinct Observations	4
Minimum	9.6
Maximum	180
Mean	77.9
Geometric Mean	
Median	
SD	
Variance	
Std. Error of Mean	
Coefficient of Variation	
Skewness	
Mean of log data	
SD of log data	
90% Standard Bootstrap UCL	**N/A**
95% Standard Bootstrap UCL	**N/A**

Insufficient number of data to calculate UCLs.

SUMMARY OF STATISTICAL ANALYSIS

EA 07-205521

ROUTE 2 GLENDALE BOULEVARD UC TO ROSEBUD AVENUE UC

LOS ANGELES COUNTY, CALIFORNIA

OFFRAMP - SOUTHBOUND SR-2

Borings 1190-115 through 1190-119

	90% UCL		95% UCL	
Sample Interval (feet)	Total Lead (mg/kg)	Soluble (WET) Lead * (mg/l)	Total Lead (mg/kg)	Soluble (WET) Lead * (mg/l)
0.0 to 0.5	2,677	157.1	2,906	170.6
1.0 to 1.5	250.0	14.7	250.0	14.7
2.0 to 2.5	408.4	24.0	465.7	27.3
4.5 to 5.0	180.0	10.6	180.0	10.6

Excavation Scenarios

	90% UCL		95% UCL	
Excavation Depth	Total Lead (mg/kg)	Soluble (WET) Lead * (mg/l)	Total Lead (mg/kg)	Soluble (WET) Lead * (mg/l)
0.0 to 0.5 foot	2677.0	157.1	2906.0	170.6
Underlying Soil (0.5 to 5.0 feet)	599.9	35.2	657.2	38.6
0.0 to 1.5 feet	1868.0	109.7	2020.7	118.6
Underlying Soil (1.5 to 5.0 feet)	353.1	20.7	394.1	23.1
0.0 to 2.5 feet	1252.5	73.5	1355.5	79.6
Underlying Soil (2.5 to 5.0 feet)	362.7	21.3	408.6	24.0
0.0 to 5.0 feet	807.6	47.4	882.1	51.8

Notes:

UCL = Upper Confidence Level

90% UCL applicable for waste classification and onsite reuse

95% UCL applicable for risk assessment and offsite disposal

mg/kg = milligrams per kilogram

mg/l = milligrams per liter

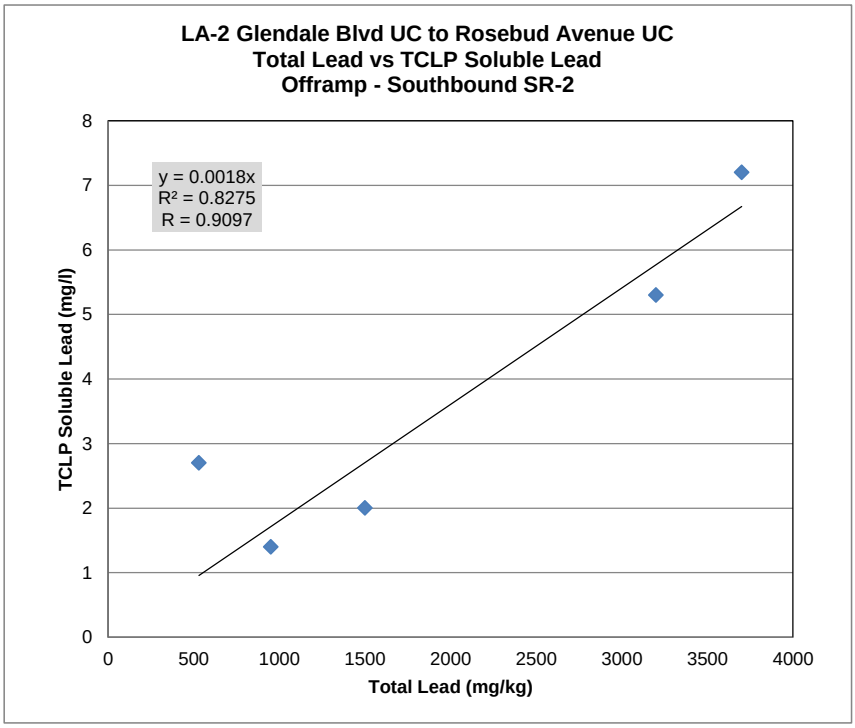
* = Soluble (WET) lead concentrations were predicted using slope of the regression line, where y = predicted soluble (WET) lead and x = total lead

Regression Line Slope: $y = 0.0587\ x$

State Route 2 Glendale Blvd UC to Rosebud Avenue UC
S9475-06-22

Offramp - Southbound SR-2

Sample ID	Total Lead	TCLP Lead
1190-115-0	530	2.7
1190-116-0.0	3,700	7.2
1190-117-0.0	3,200	5.3
1190-118-0.0	1,500	2.0
1190-119-0.0	950	1.4



SUMMARY OF STATISTICAL ANALYSIS

EA 07-205521

ROUTE 2 GLENDALE BOULEVARD UC TO ROSEBUD AVENUE UC

LOS ANGELES COUNTY, CALIFORNIA

OFFRAMP - SOUTHBOUND SR-2

Borings 1190-115 through 1190-119

	90% UCL		95% UCL	
Sample Interval (feet)	Total Lead (mg/kg)	TCLP Lead * (mg/l)	Total Lead (mg/kg)	TCLP Lead * (mg/l)
0.0 to 0.5	2,677	4.8	2,906	5.2
1.0 to 1.5	250.0	0.5	250.0	0.5
2.0 to 2.5	408.4	0.7	465.7	0.8
4.5 to 5.0	180.0	0.3	180.0	0.3

Excavation Scenarios

	90% UCL		95% UCL	
Excavation Depth	Total Lead (mg/kg)	TCLP Lead * (mg/l)	Total Lead (mg/kg)	TCLP Lead * (mg/l)
0.0 to 0.5 foot	2677.0	4.8	2906.0	5.2
Underlying Soil (0.5 to 5.0 feet)	599.9	1.1	657.2	1.2
0.0 to 1.5 feet	1868.0	3.4	2020.7	3.6
Underlying Soil (1.5 to 5.0 feet)	353.1	0.6	394.1	0.7
0.0 to 2.5 feet	1252.5	2.3	1355.5	2.4
Underlying Soil (2.5 to 5.0 feet)	362.7	0.7	408.6	0.7
0.0 to 5.0 feet	807.6	1.5	882.1	1.6

Notes:

UCL = Upper Confidence Level

90% UCL applicable for waste classification and onsite reuse

95% UCL applicable for risk assessment and offsite disposal

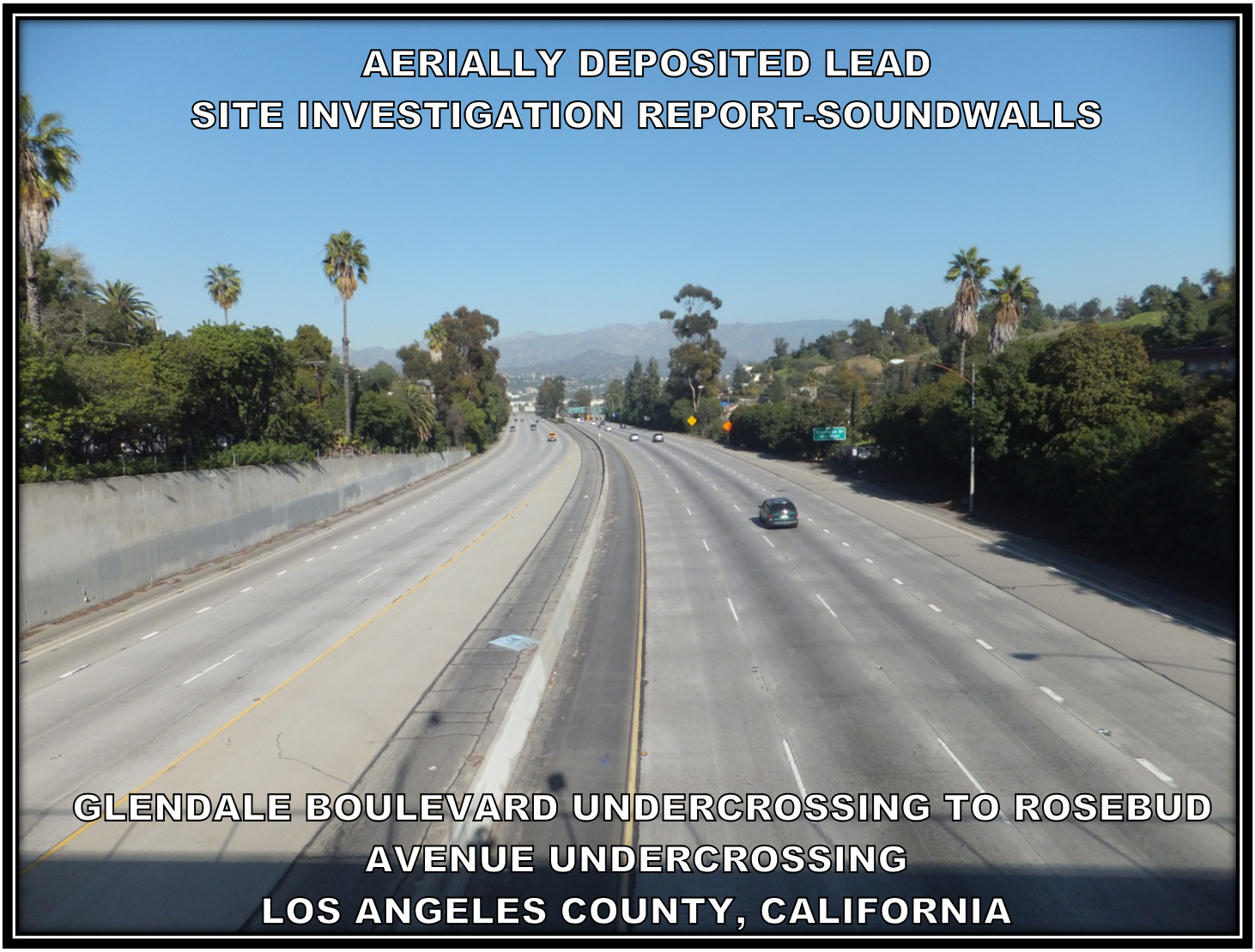
mg/kg = milligrams per kilogram

mg/l = milligrams per liter

* = TCLP lead concentrations were predicted using slope of the regression line,
where y = predicted soluble (WET) lead and x = total lead

Regression Line Slope: $y = 0.0018\ x$

AERIALLY DEPOSITED LEAD
SITE INVESTIGATION REPORT-SOUNDWALLS



GLENDALE BOULEVARD UNDERCROSSING TO ROSEBUD AVENUE UNDERCROSSING
LOS ANGELES COUNTY, CALIFORNIA

PREPARED FOR:
CALIFORNIA DEPARTMENT OF TRANSPORTATION
DISTRICT 7
100 SOUTH MAIN STREET, 12-268
LOS ANGELES, CALIFORNIA

PREPARED BY:
GEOCON CONSULTANTS, INC.
3303 N. SAN FERNANDO BLVD., SUITE 100
BURBANK, CALIFORNIA

CALTRANS CONTRACT 07A2729
TASK ORDER NO. 22
EA NO. 07-205521

GEOCON PROJECT NO. S9475-06-22

DECEMBER 19, 2012

Project No. S9475-06-22
December 19, 2012

Mr. Ali Nili
California Department of Transportation, District 7
Office of Environmental Engineering & Corridor Studies
100 South Main Street, Suite 1200, 12-268
Los Angeles, California 90012

Subject: AERIALLY DEPOSITED LEAD SITE INVESTIGATION - SOUNDWALLS
GLENDALE BOULEVARD UC TO ROSEBUD AVENUE UC
LA-2 POST MILE 14.1/14.8
CITY OF LOS ANGELES, CALIFORNIA
CONTRACT NO. 07A2729, TASK ORDER NO. 22
EA NO. 07-205521

Dear Mr. Nili:

In accordance with Caltrans Contract No. 07A2729 and Task Order No. 22 dated October 25, 2012, Geocon Consultants, Inc. has performed an aerially deposited lead site investigation along U.S. Route 2 from the Glendale Boulevard undercrossing (UC) to Rosebud Avenue UC in the City of Los Angeles, California. The accompanying report summarizes the services performed, including the advancement of hand-auger borings, soil sampling, global positioning system data acquisition, laboratory analyses, and data evaluation.

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 call us if you have questions.

Sincerely,

GEOCON CONSULTANTS, INC.

Gemma Reblando
Project Geologist

Michael P. Conkle, PG
Contract Manager

PROFESSIONAL GEOLOGIST
MICHAEL P. CONKLE
No. 7624
STATE OF CALIFORNIA

(5/1CD) Addressee

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A. DTSC Variance
B. California Human Health Screening Levels for Soil
C. Laboratory Reports and Chain-of-custody Documentation
D. Lead Statistics and Regression Analysis Results

EXECUTIVE SUMMARY

Geocon Consultants, Inc. performed an aerially deposited lead (ADL) site investigation for soundwalls along U.S. Route 2 from the Glendale Boulevard undercrossing (UC) to Rosebud Avenue UC in the City of Los Angeles, California. The objective of the investigation was to evaluate soil at the project site for the potential presence of ADL and soil pH. The California Department of Transportation (Caltrans) will use the information from the investigation to determine soil reuse and disposal options and identify health and safety concerns during construction activities.

Lead

Soil samples collected from the surface and depths up to 5 feet were analyzed for total lead and soluble lead using the Waste Extraction Test (WET) method with citric acid as the extractant. Selected samples were further analyzed for soluble lead using a modified WET method with de-ionized water (DI-WET) as the extractant, soluble lead using the Toxicity Characteristic Leaching Procedure (TCLP), and/or pH.

Laboratory analytical results and statistical analysis using non-parametric bootstrap techniques to calculate the 90% and 95% upper confidence limits (UCLs) were used to evaluate soil reuse and disposal options. The reuse of excavated soil has been evaluated, as applicable, based on the Department of Toxic Substances Control (DTSC) requirements in the Statewide Variance.

Onsite reuse and offsite disposal of excavated soil were based upon comparison of the total lead 90% and 95% UCLs to the California Code of Regulations (CCR) Title 22 total threshold limit concentration (TTLC) of 1,000 milligrams per kilogram (mg/kg) and predicted WET results to the CCR Title 22 soluble threshold limit concentration (STLC) of 5.0 milligrams per liter (mg/l). Soil reuse and disposal options for the northbound and southbound soundwalls are summarized below.

Based on the TCLP soluble lead results, soil generated at the Site is not considered a RCRA hazardous waste.

Caltrans should notify the contractors performing the construction activities that elevated concentrations of lead are present in onsite soil and that appropriate health and safety measures should be taken to minimize the exposure of construction workers to lead.

Northbound Soundwalls (Borings 1190-101 through 1190-107)

Based upon the predicted WET lead concentrations, soil excavated to a depth of 5.0 feet or shallower would be classified as a hazardous waste since the 90% UCL-predicted WET lead concentrations are greater than the STLC for lead of 5.0 mg/l. Based on the DI-WET soluble lead and pH results, the top 5.0 feet or shallower of soil may be reused onsite in accordance with the DTSC Variance (as Caltrans Type

Y-1) by placing the lead-impacted soil under at least one foot of non-hazardous soil or a pavement structure maintained by Caltrans.

Southbound Soundwalls (Borings 1190-108 through 1190-114)

Based upon the predicted WET lead concentrations, if soil from the surface to 5.0 feet or shallower is excavated and managed as a whole the soil would be classified as a hazardous waste since the 90% UCL-predicted WET lead concentrations are greater than the STLC for lead of 5.0 mg/l. Based on the DI-WET soluble lead and pH results, the top 5.0 feet of soil may be reused onsite in accordance with the DTSC Variance (as Caltrans Type Y-1) by placing the lead-impacted soil under at least one foot of non-hazardous soil or a pavement structure maintained by Caltrans.

Alternatively, if soil from the surface to 1.0 foot is removed and managed separately, the upper 1.0 foot of soil would be classified as Caltrans Type Y-1 for onsite reuse in accordance with the DTSC Variance by placing the lead-impacted soil under at least one foot of non-hazardous soil or a pavement structure maintained by Caltrans.

Underlying soil from depths of 1.0 to 5.0 feet where excavated as a whole could be reused or disposed of as non-hazardous soil (Caltrans Type X) with respect to lead content.

Title 22 Metals

The four samples with the highest reported total lead concentrations were analyzed for CCR Title 22 metals. With the exception of lead, Title 22 metals were not reported at or above their respective TTLC or ten times their respective STLCs. The concentrations of metals reported in the soil samples were below their respective residential and/or industrial California Human Health Screening Levels except for arsenic and lead. The reported arsenic concentrations are consistent with published background levels in Los Angeles County.

pH

Soil pH was reported to range between 5.3 and 7.5.

Worker Protection

Per Caltrans' requirements, contractor(s) should prepare a project-specific Health and Safety Plan (HSP) to prevent or minimize worker exposure to lead-impacted. The HSP should include a Lead Compliance Plan, and outline protocols for environmental and personnel monitoring, requirements for personal protective equipment and other appropriate health and safety protocols and procedures for the handling of lead-impacted soil.

Groundwater

One boring was advanced to a depth of 16-feet with a direct-push drilling rig to evaluate the potential presence of groundwater. Groundwater was not encountered in the boring.

AERIALLY DEPOSITED LEAD SITE INVESTIGATION REPORT - SOUNDWALLS

1. INTRODUCTION

Geocon Consultants, Inc. performed an aerially deposited lead (ADL) site investigation along U.S. State Route 2 (SR-2) from the Glendale Boulevard undercrossing (UC) to Rosebud Avenue UC in the City of Los Angeles, California. The project location is shown on the Vicinity Map, Figure 1. The site investigation was conducted under California Department of Transportation (Caltrans) Contract No. 07A2729, Task Order (TO) No. 22, and Expense Authorization 205521, dated October 25, 2012.

1.1 Project Description

Caltrans proposes to construct four soundwalls along northbound and southbound SR-2. The proposed improvements will involve soil excavation and other earthwork activities within the project site. It is our understanding that the soil excavated for construction will be reused onsite and any excess soil will be removed from the project site for disposal.

1.2 Investigation Objective

The objective of the investigation was to evaluate concentrations of ADL in soils that will potentially be disturbed during excavation for the proposed project improvements. Caltrans will use the information obtained from the investigation to determine soil reuse or disposal options and identify health and safety concerns during proposed construction activities.

2. BACKGROUND

2.1 Hazardous Waste Classification Criteria

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

For waste containing metals, the waste is classified as "California hazardous" when: (1) the representative total metal content exceeds or equals the respective Total Threshold Limit Concentration (TTLC); or (2) the representative soluble metal content exceeds or equals 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 typically performed. A material is classified as "RCRA hazardous" when the representative soluble metal content exceeds or equals 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 toxicity. Wastes may also be classified as hazardous based on other criteria such as ignitability, corrosivity, and reactivity. For the purposes of ADL investigations, toxicity and corrosivity (e.g., chemical concentrations and soil pH values, respectively) are the primary factors considered for waste classification. Waste that is classified as either "California hazardous" or "RCRA hazardous" requires management as a hazardous waste and disposal at an appropriately permitted disposal facility.

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 re-compacted 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.

2.2 DTSC Variance

The DTSC issued a statewide Variance effective July 1, 2009, regarding the reuse of ADL-impacted soils within Caltrans right-of-way. Under the Variance, soil that is classified as a non-RCRA hazardous waste, based primarily on ADL content, may be suitable for reuse within Caltrans right-of-way. ADL soil that is classified as a RCRA hazardous waste is not eligible for reuse under the Variance and must be disposed of as a RCRA hazardous waste (Caltrans Type Z-3).

ADL soil reused under the Variance must always be at least 5.0 feet above the highest groundwater elevation and, depending on lead concentrations, must be covered with at least one foot of non-hazardous soil or a pavement structure. The ADL soil may not be placed in areas where it might contact groundwater or surface water (such as streams and rivers), and must be buried in locations that are protected from erosion that may result from storm water run-on and run-off.

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

Caltrans Type Y-1

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

Caltrans Type Y-2

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

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

ADL soil exhibiting a total lead concentration greater than 1,411 mg/kg and less than or equal to 3,397 mg/kg, a DI-WET soluble lead concentration less than or equal to 150 mg/l, and a pH value greater than 5 may be reused within the same Caltrans corridor and must be covered and protected from infiltration by a pavement structure.

Caltrans Type Z-2

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

Caltrans Type Z-3

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

2.3 California Human Health Screening Levels

The California Environmental Protection Agency (Cal/EPA) has prepared technical reports entitled *Use of California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties* (Cal/EPA, January 2005) and *Revised California Human Health Screening Levels for Lead* (Cal/EPA, September 2009), which present CHHSLs for soil, shallow soil gas, and indoor air to assist in evaluating sites impacted by releases of hazardous chemicals.

The CHHSLs are concentrations of 44 hazardous chemicals that Cal/EPA considers to be below thresholds of concern for risks to human health. The CHHSLs were developed by the Office of Environmental Health Hazard Assessment (OEHHA) on behalf of Cal/EPA. The thresholds of concern used to develop the CHHSLs are an excess lifetime cancer risk of one in a million and a hazard quotient or 1.0 for non-cancer effects. Under most circumstances, the presence of a chemical at concentrations below its respective CHHSL can be assumed to not pose a significant risk. The presence of a chemical at concentrations above a CHHSL does not indicate that adverse impacts to human health are occurring or will occur, but suggests that further evaluation is warranted (Cal/EPA, January 2005).

The following CHHSLs were used for comparison: Table 1 of the *California Human Health Screening Levels for Soil and Comparison to Other Potential Environmental Concerns* (Cal/EPA, January 2005), Revised California Human Health Screening Levels for Beryllium (Cal/EPA, March 2009), and Revised California Human Health Screening Levels for Lead (Cal/EPA, September 2009). The respective CHHSLs are listed at the end of Table 3 for comparative purposes. Copies of the referenced CHHSLs are in Appendix B.

3. SCOPE OF SERVICES

We performed the scope of services summarized below as requested by Caltrans.

3.1 Pre-field Activities

- Prepared a *Health and Safety Plan* (HSP) dated November 5, 2012, to provide guidelines on the use of personal protective equipment and the health and safety procedures to be implemented by Geocon personnel during field activities. The HSP specified the safety procedures for field work, summarized chemical hazard information, and identified site safety officers, emergency contacts, and the locations of emergency medical care facilities.

- Prepared a *Workplan* dated November 16, 2012, which described the requested scope of services and quality assurance/quality control (QA/QC) sampling and laboratory procedures.

- Retained the services of Advanced Technology Laboratories (ATL), a Caltrans-approved and California-certified analytical laboratory, to perform the chemical analyses of soil and equipment blank samples.

- Provided a minimum of 48-hours' notice to the subscribing utilities via Underground Service Alert (Ticket Number A23070662) prior to job site mobilization.

3.2 Soil Sampling

The soil investigation was performed on November 6 through 8, 2012. The investigation consisted of collecting 56 soil samples from 14 hand-auger borings (1190-101 through 1190-114). Soil samples were collected from each of the hand-auger borings located on northbound LA-2 at the following depth intervals: surface to 0.5 foot, 1.0 to 1.5 feet, 2.0 to 2.5 feet, and/or 4.5 to 5.0 feet. Refusal was encountered in several borings at depths between 3.5 and 4.5 feet; thus, soil samples were collected from depth intervals of 3.0 to 3.5 feet, 3.5 to 4.0 feet, and/or 4.0 to 4.5 feet. As specified in the TO, the borings locations were advanced at approximately 300-foot intervals, within the footprint of the proposed construction. The approximate boring locations are shown on Figures 2 through 4.

3.3 GPS Coordinates

The borings were located utilizing a global positioning system (GPS) receiver. Data was recorded in the field and downloaded in the office using surveying TerraSync™ or similar software, in State Plane 83 coordinates. Boring latitude and longitude coordinates in decimal degrees are provided in Table 1.

3.4 Laboratory Analyses

Laboratory analyses were performed by ATL. Copies of the laboratory report and chain-of-custody (COC) documentation are in Appendix C. The laboratory reports in Appendix C include results for soil samples that were collected for a separate Caltrans project and are discussed in a separate report. Based on the Caltrans TO and direction from Caltrans, the samples were analyzed for the following:

- Fifty-six soil samples were analyzed for both total lead by EPA Test Method 6010B and WET soluble lead using EPA Test Method 7420 with citrate acid as the extractant.
- Twenty-four soil samples with WET lead results greater than or equal to 5.0 mg/l were analyzed for soluble lead using the WET with de-ionized water as the extractant (DI-WET) by EPA Test Method 7420.
- Ten soil samples were analyzed for TCLP lead using EPA Test Method 7420.
- Four soil samples were analyzed for California Code of Regulations (CCR) Title 22 metals following EPA Test Methods 6010B (metals) and 7471 (mercury).
- Six soil samples were analyzed for pH using EPA Test Method 9045C.

Four equipment blank (EB) water samples were analyzed for total lead using EPA Test Method 6010B.

3.5 Report Preparation

This report was prepared to summarize the objectives, procedures, and results of the investigation activities requested by Caltrans.

4. INVESTIGATIVE METHODS

4.1 Soil Sampling

Soil samples were collected from the 14 borings using hand-auger sampling equipment. Samples that were analyzed for metals were collected from designated sample intervals, placed into new re-sealable plastic bags and homogenized in the field within the sample bag. Homogenized soil within the bag was then transferred into new 4-ounce laboratory-provided glass soil jars, capped, labeled with the sample date/time and a unique soil sample number, and placed in a chilled ice chest pending shipment to the analytical laboratory.

Caltrans assigned a unique ID number to this project (1190). This ID number was included in the database, figures, and in the boring soil sample names. Soil sample identification numbers were assigned (1190-101) based on the TO boring and sample naming convention. Soil sample numbers were designated by the boring number and the top of the 6-inch depth interval from which the sample was collected. For example, the soil sample designated 1190-101-0.0 was obtained from approximately 0 to 0.5 foot.

Quality Assurance/Quality Control (QA/QC) procedures conducted during field activities included sampling equipment decontamination prior to each boring, and use of new re-sealable plastic sample bags, laboratory supplied sample containers, and sample COC documentation. Soil sampling equipment was cleaned between each sample by washing the equipment with an Alconox™ solution followed by a double rinse with de-ionized water. Sampling activities were conducted under supervision of Geocon's field manager.

The hand-auger borings were backfilled with surface soil from the immediate vicinity of the boring locations. Decontamination water was discharged to the ground surface away from areas potentially associated with surface water bodies or storm drain inlets.

4.2 Groundwater Sampling

As requested in the TO, boring 1190-103 was advanced to a depth of 16-feet with a direct-push drilling rig to evaluate the potential presence of groundwater. Groundwater was not encountered in the boring.

4.3 Equipment Blank Sampling

Four equipment blank samples were collected to verify proper cleaning of the sampling equipment. The equipment blank samples were obtained by passing distilled water over the decontaminated sampling equipment into unpreserved laboratory-provided containers.

4.4 Deviations from Workplan

Geocon performed the scope of work as described in the Workplan dated November 16, 2012 with the following exceptions:

- Refusal was encountered in several borings at depths between 3.5 and 4.5 feet; thus, soil samples were collected from depth intervals of 3.0 to 3.5 feet, 3.5 to 4.0 feet, and/or 4.0 to 4.5 feet.
- Groundwater was not encountered in the one boring advanced to evaluate the presence of groundwater. Therefore, a groundwater sample was not collected.

5. FIELD OBSERVATIONS AND INVESTIGATIVE RESULTS

5.1 Soil Conditions

The soil conditions encountered in the hand-auger borings generally consisted of dark brown, slightly moist to moist, medium dense silty sand and gray-brown, moist, dense, fine to coarse sand with some gravel. Groundwater was not encountered in the soil borings.

5.2 Analytical Results

Soil analytical results are summarized in Tables 1 and 2. Results were J-Flagged between the Practical Quantitation Limit (PQL) and the calculated Method Detection Limit (MDL). Results that are J-Flagged are estimated values since it becomes difficult to accurately quantitate the analyte near the MDL. Copies of the laboratory report and COC documentation are in Appendix C. Analytical results are summarized below:

- **Total lead** was reported for the 56 soil samples at concentrations ranging from 5.5 to 570 mg/kg.
- **WET lead** was reported for the 56 samples analyzed at concentrations ranging from 0.30 J to 47 mg/l.
- **WET-DI lead** was only reported for one of the 24 samples analyzed at an estimated concentration of 0.44 J mg/l.
- **TCLP lead** was reported for each of the ten samples analyzed at concentrations ranging from 0.33 to 2.4 mg/l.

- **Title 22 metals** beryllium, selenium, silver and thallium were not detected at concentrations above their respective MDLs in the four samples analyzed; antimony, cadmium and molybdenum had "J" flagged concentrations. Concentrations of the Title 22 metals, with the exception of lead, were less than ten times their respective STLCs and therefore additional testing using the WET method was not required.

- **pH** was reported to range between 5.3 and 7.5 for the six samples analyzed.

- Total lead was reported for one of the four equipment blank samples (1190-EB-3) at 0.0031 J mg/l. The equipment blank results are in Table 1.

5.3 Data Validation

Geocon and ATL use QA/QC measures to minimize and control errors associated with field and laboratory methods. Field QA/QC measures consist of cleaning sampling equipment between each use with a detergent solution followed by tap and distilled/purified water rinses. Based on the equipment blank sample analytical results, it appears that the decontamination procedures were sufficient to minimize the potential for cross-contamination resulting from inadequate equipment decontamination.

Laboratory QA/QC measures include the use of matrix spikes, duplicates, and method blanks, in addition to calculation of percent recovery and relative percentage difference (RPD). A review of the laboratory QA/QC results indicates satisfactory data reporting, and the data are of sufficient quality for the purposes of this report.

6. DATA EVALUATION

6.1 Lead

The lead data for the project site were treated as two separate sample populations for statistical evaluation based on location of the following sampling groups:

Data Population	Soil Samples Collected from Borings	No. of Borings
NB Soundwalls	1190-101 through 1190-107	7
SB Soundwalls	1190-108 through 1190-114	7

Statistical methods were applied to the total lead data to evaluate: 1) the upper confidence limits (UCLs) of the arithmetic means of the total lead concentrations for each sampling depth; and 2) if an acceptable correlation between total and soluble lead concentrations exists that would allow the prediction of soluble lead concentrations based on calculated UCLs.

6.1.1 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 were used to calculate the UCLs. The bootstrap results are in Appendix D. The calculated UCLs and statistical results are summarized in the following tables:

NB Soundwalls
(Borings 1190-101 through 1190-107)

SAMPLE INTERVAL (feet)	90% TOTAL LEAD UCL (mg/kg)	95% TOTAL LEAD UCL (mg/kg)	TOTAL LEAD MEAN (mg/kg)	MINIMUM VALUE (mg/kg)	MAXIMUM VALUE (mg/kg)
0.0 to 0.5	321.8	348.0	229.6	18	570
1.0 to 1.5	204.0	223.7	136.8	4.3	380
2.0 to 2.5	101.1	110.5	71.6	13	150
3.0 to 5.0*	194.9	211.1	129.9	8.7	400

* Insufficient samples were collected from a depth interval of 4.5 to 5.0 feet; thus samples collected between depths of 3.0 and 4.5 feet where refusal was encountered were included to calculate UCLs.

SB Soundwalls
(Borings 1190-108 through 1190-114)

SAMPLE INTERVAL (feet)	90% TOTAL LEAD UCL (mg/kg)	95% TOTAL LEAD UCL (mg/kg)	TOTAL LEAD MEAN (mg/kg)	MINIMUM VALUE (mg/kg)	MAXIMUM VALUE (mg/kg)
0.0 to 0.5	224.5	239.3	167.7	42	350
1.0 to 1.5	147.2	156.2	115.4	11	220
2.0 to 2.5	26.6	28.8	19.3	6.2	50
4.5 to 5.0	41.3	44.0	31.3	5.5	60

6.1.2 Correlation of Total and Soluble Lead

Total and corresponding WET soluble lead concentrations are bivariate data with a linear structure. This linear structure should allow for the prediction of WET soluble lead concentrations based on the UCLs calculated above in Section 6.1.1.

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

The *correlation coefficients* for the NB Soundwalls and SB Soundwalls (*x, y*) data points (i.e., soil samples analyzed for both total lead [*x*] and WET soluble lead [*y*]) were 0.9646 and 0.8931, respectively. A *correlation coefficient* greater than or equal to 0.8 is an acceptable indicator that a correlation exists. Consequently, an acceptable *correlation coefficient* was achieved for the lead data.

For the *correlation coefficient* that indicates a linear relationship between total and WET soluble lead concentrations, it is possible to compute the line of dependence or a best-fit line between the two variables. A least squares method was used to find the equation of a best-fit line (regression line) by forcing the y-intercept equal to zero since that is a known point. The equations of the regression lines were determined to be $y = 0.0733(x)$ for NB Soundwalls and $y = 0.0701(x)$ for SB Soundwalls, where *x* represents total lead concentrations and *y* represents predicted WET soluble lead concentrations. These equations were used to estimate the expected WET soluble lead concentrations for the UCLs calculated in Section 6.1.1. Regression analysis results and scatter plots depicting the (*x, y*) data points along with the regression lines are in Appendix D. The 90% and 95% UCL-predicted WET soluble lead concentrations for various excavation depths are presented in Section 7.0. The 90% and 95% UCL-predicted WET soluble lead concentrations for each sampling interval are in Appendix D.

7. FINDINGS AND CONCLUSIONS

7.1 ADL Soil Waste Classification/Disposal

Hazardous waste classification based on the 90% UCL is considered sufficient to satisfy a good faith effort as discussed in SW-846. Risk assessment characterization is typically based on the 95% UCL in accordance with the Risk Assessment Guidance for Superfund (RAGS) Volume 1 Documentation for Exposure Assessment. Per Caltrans, 90% UCLs are to be used to evaluate onsite reuse, and 95% UCLs are to be used to evaluate offsite reuse or disposal. Excavation scenarios were evaluated based on the calculated total lead UCLs for each sample interval and weighted averages for various excavation depths. Weighted averages are calculated by using the respective total lead UCLs based on various excavation scenarios. For depth intervals where no sample was collected, the calculated total lead UCL for the sampling interval above is used as representative value. In addition, the reuse of excavated soil has been evaluated, as applicable, based on the DTSC requirements in the Statewide Variance.

Based on the TCLP soluble lead results, soil generated at the project site will not require disposal as a RCRA hazardous waste.

7.1.1 NB Soundwalls (Borings 1190-101 through 1190-107)

The table below summarizes the excavation scenarios, the predicted WET soluble lead concentrations and the waste classification for excavated soil within this area as represented by borings 1190-101 through 1190-107 based on the calculated total lead UCLs and the relationship between total and WET soluble lead.

Excavation Depth	90% UCL		95% UCL		SOIL TYPE	
	Total Lead (mg/kg)	Predicted WET (mg/kg)	Total Lead (mg/kg)	Predicted WET (mg/kg)	Invoke Variance	Surplus Soil
0 to 0.5 foot	321.8	23.6	348.0	25.5	Type Y-1	Type Z-2
0.5 to 5.0 feet	*190.2*	*13.9*	*206.8*	*15.2*	*Type Y-1*	*Type Z-2*
0 to 1.5 feet	282.5	20.7	306.6	22.5	Type Y-1	Type Z-2
1.5 to 5.0 feet	*169.4*	*12.4*	*184.2*	*13.5*	*Type Y-1*	*Type Z-2*
0 to 2.5 feet	230.5	16.9	250.8	18.4	Type Y-1	Type Z-2
2.5 to 5.0 feet	*176.1*	*12.9*	*191.0*	*14.0*	*Type Y-1*	*Type Z-2*
0 to 5.0 feet	203.3	14.9	220.9	16.2	Type Y-1	Type Z-2

Based upon the predicted WET lead concentrations, soil excavated to a depth of 5.0 feet or shallower would be classified as a hazardous waste since the 90% UCL-predicted WET lead concentrations are greater than the STLC for lead of 5.0 mg/l. The top 5.0 feet of excavated soil is not considered a RCRA hazardous waste based on the TCLP lead results. Based on the DI-WET soluble lead and pH results, the top 5.0 feet or shallower of soil may be reused onsite in accordance with the DTSC Variance (as Caltrans

Type Y-1) by placing the lead-impacted soil under at least one foot of non-hazardous soil or a pavement structure maintained by Caltrans.

If excavated soil from the top 5.0 feet or shallower will not be reused onsite, then the excavated soil should be either (1) managed and disposed of as a California hazardous waste or (2) stockpiled and resampled to confirm waste classification in accordance with specific disposal facility acceptance criteria, if applicable.

7.1.2 SB Soundwalls (Borings 1190-108 through 1190-114)

The table below summarizes the excavation scenarios, the predicted WET soluble lead concentrations and the waste classification for excavated soil within this area as represented by borings 1190-108 through 1190-114 based on the calculated total lead UCLs and the relationship between total and WET soluble lead.

Excavation Depth	90% UCL		95% UCL		SOIL TYPE	
	Total Lead (mg/kg)	Predicted WET (mg/kg)	Total Lead (mg/kg)	Predicted WET (mg/kg)	Invoke Variance	Surplus Soil
0 to 0.5 foot	224.5	15.7	239.3	16.8	Type Y-1	Type Z-2
0.5 to 5.0 feet	*77.0*	*5.4*	*82.2*	*5.8*	*Type Y-1*	*Type Z-2*
0 to 1.0 foot	224.5	15.7	239.3	16.8	Type Y-1	Type Z-2
1.0 to 5.0 feet	*58.6*	*4.1*	*62.6*	*4.4*	*Type X*	*Type X*
0 to 1.5 feet	198.7	13.9	211.6	14.8	Type Y-1	Type Z-2
1.5 to 5.0 feet	*45.9*	*3.2*	*49.2*	*3.4*	*Type X*	*Type X*
0 to 2.5 feet	154.0	10.8	164.0	11.5	Type Y-1	Type Z-2
2.5 to 5.0 feet	*29.5*	*2.1*	*31.8*	*2.2*	*Type X*	*Type X*
0 to 5.0 feet	91.8	6.4	97.9	6.9	Type Y-1	Type Z-2

Based upon the predicted WET lead concentrations, if soil from the surface to 5.0 feet or shallower is excavated and managed as a whole the soil would be classified as a hazardous waste since the 90% UCL-predicted WET lead concentrations are greater than the STLC for lead of 5.0 mg/l. Based on the DI-WET soluble lead and pH results, the top 5.0 feet of soil may be reused onsite in accordance with the DTSC Variance (as Caltrans Type Y-1) by placing the lead-impacted soil under at least one foot of non-hazardous soil or a pavement structure maintained by Caltrans.

Alternatively, if soil from the surface to 1.0 foot is removed and managed separately, the upper 1.0 foot of soil would be classified as Caltrans Type Y-1 for onsite reuse in accordance with the DTSC Variance by placing the lead-impacted soil under at least one foot of non-hazardous soil or a pavement structure maintained by Caltrans. If excavated soil from the top 1.0 foot will not be reused onsite, then the excavated soil should be either (1) managed and disposed of as a California hazardous waste (as Caltrans Type Z-2) or (2) stockpiled and resampled to confirm waste classification in accordance with specific disposal facility acceptance criteria, if applicable.

Underlying soil from depths of 1.0 to 5.0 feet where excavated as a whole could be reused or disposed of as non-hazardous soil (Caltrans Type X) with respect to lead content.

7.2 Title 22 Metals

Four soil samples were analyzed for Title 22 metals. With the exception of lead, the reported concentrations of Title 22 metals were less than their respective TTLCs and/or ten times their respective STLCs.

The Title 22 metals concentrations for the soil samples collected from the borings were compared with the CHHSLs and the published background levels typically present in California soils as presented in *Background Concentrations of Trace and Major Elements in California Soils* (Kearney Foundation of Soil Science, Division of Agriculture and Natural Resources, University of California, March 1996). Arsenic and lead were the only metals reported at concentrations greater than the residential and/or industrial CHHSLs and/or published background levels. Arsenic was detected in the soil samples collected from the borings at concentrations ranging from 2.2 to 2.8 mg/kg, greater than the CHHSL for residential land use of 0.07 mg/kg and commercial/industrial land use of 0.24 mg/kg. Arsenic is a naturally occurring element; therefore, the reported concentrations were compared to regional background concentrations. The March 2008 Department of Toxic Substances Control (DTSC) publication *Determination of a Southern California Regional Background Arsenic Concentration in Soil* establishes a regional background for arsenic within Southern California including Los Angeles County using naturally occurring and anthropogenic concentrations of arsenic. The report finds that the upper-bound background concentration for arsenic within Los Angeles County is 12 mg/kg. The reported arsenic concentrations are less than 12 mg/kg; therefore, the arsenic concentrations reported for the soil samples are considered to be consistent with background concentrations of arsenic in Los Angeles County.

7.3 pH

Soil pH was reported to range between 5.3 and 7.5.

7.4 Worker Protection

Per Caltrans' requirements, contractor(s) should prepare a project-specific Health and Safety Plan (HSP) to prevent or minimize worker exposure to lead-impacted soil. The HSP should include a Lead Compliance Plan outlining protocols for environmental and personnel monitoring, requirements for personal protective equipment, and other appropriate health and safety protocols and procedures for the handling of lead-impacted soil.

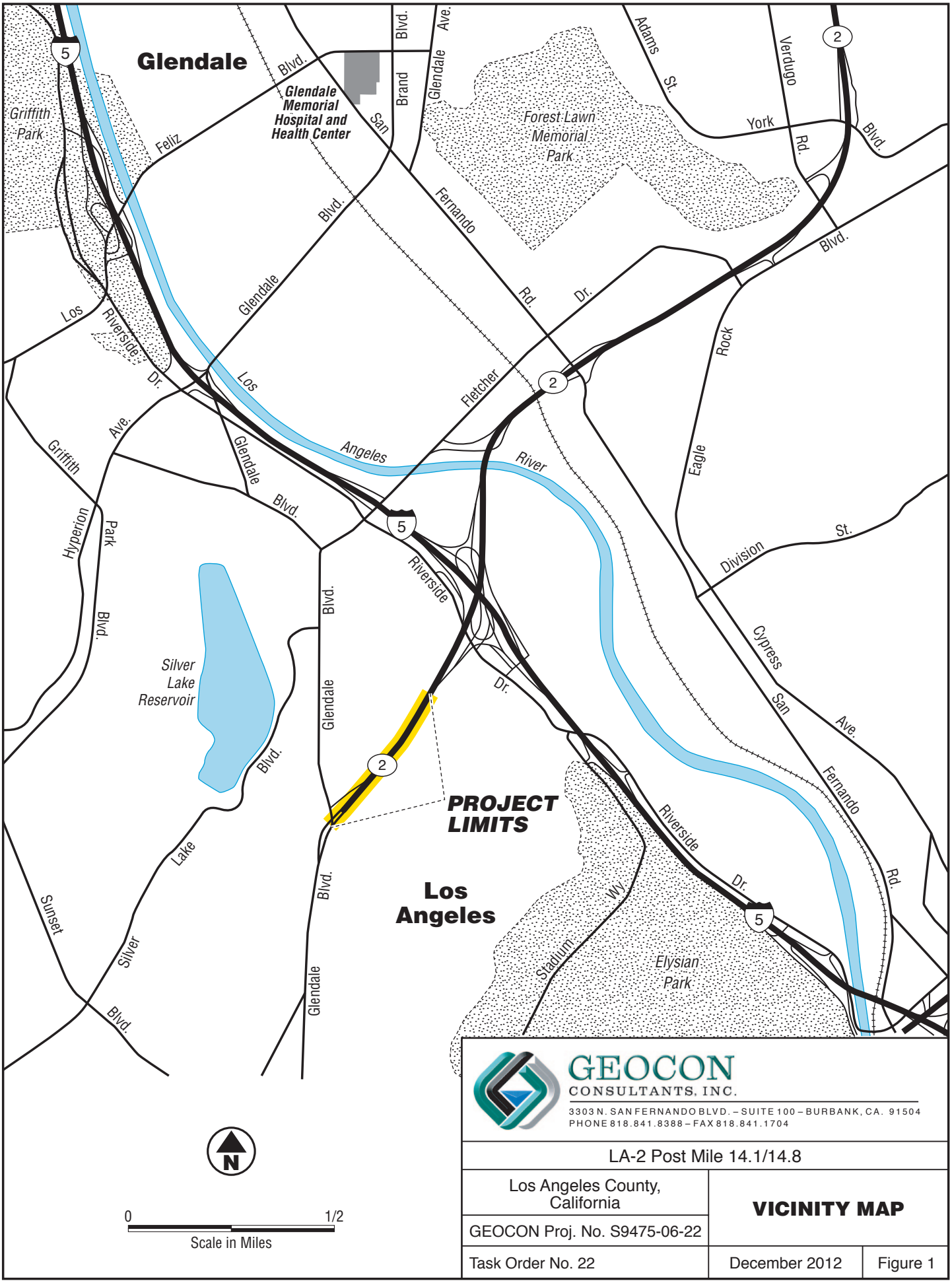
8. REPORT LIMITATIONS

This report has been prepared exclusively for Caltrans. The information obtained is only relevant as of the date of the latest site visit and will require an update to reflect additional information obtained.

The conclusions and recommendations presented herein are based on a limited number of samples collected from in-place soil location according to Caltrans-prescribed protocol. The purpose of these sampling and characterization activities was to reasonably predict the character of soil to be disturbed for planned construction activities within the described limits of the Caltrans right-of-way.

The Client should recognize that this report is not a comprehensive site characterization and should not be construed as such. The appropriate regulatory agency may require additional investigations. The findings and conclusions as presented in this report are predicated on the results of the limited soil sampling and laboratory analyses 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 only be deemed conclusive with respect to the information obtained. No guarantee or warranty of the results of the report is implied within the intent of this report or any subsequent reports, correspondence, or consultation, either express or implied. Geocon strived to perform the services summarized herein in accordance with the local standard of care in the geographic region at the time the services were rendered.



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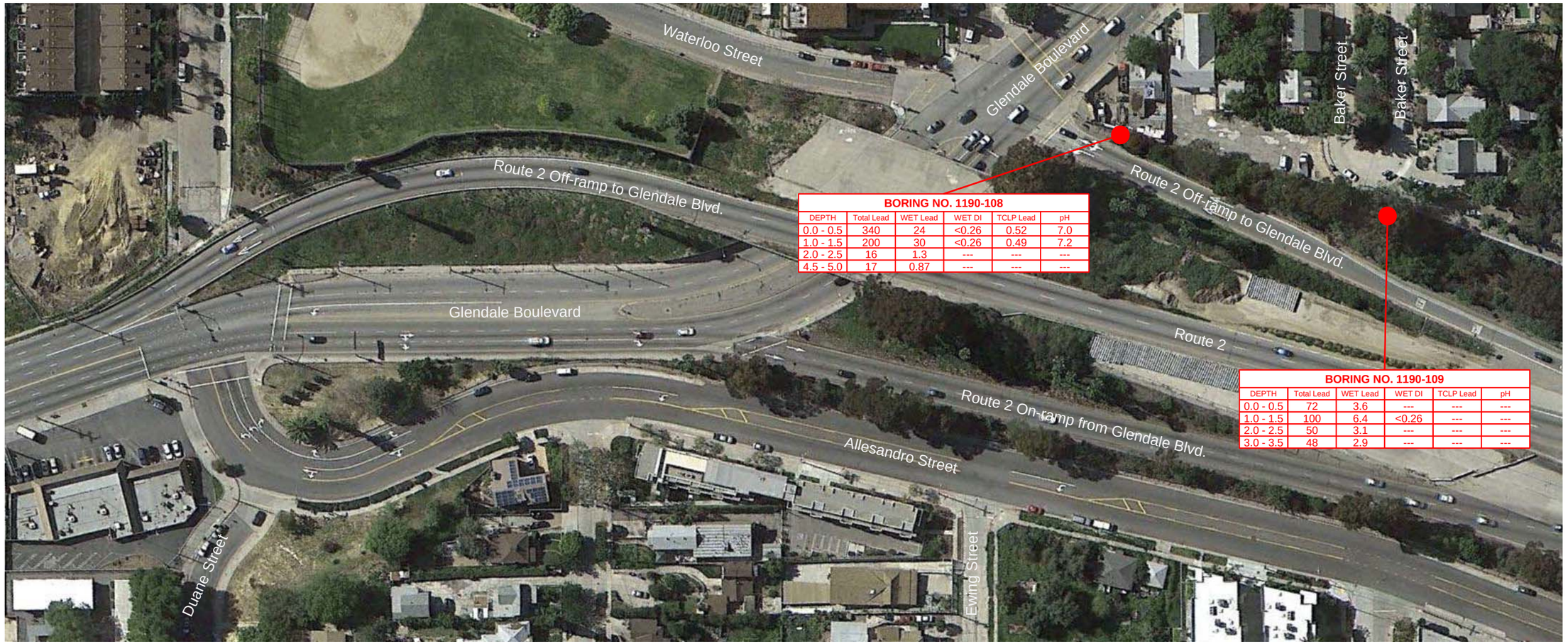
LA-2 Post Mile 14.1/14.8

Los Angeles County, California

VICINITY MAP

GEOCON Proj. No. S9475-06-22

Task Order No. 22 | December 2012 | Figure 1



BORING NO. 1190-108

DEPTH	Total Lead	WET Lead	WET DI	TCLP Lead	pH
0.0 - 0.5	340	24	<0.26	0.52	7.0
1.0 - 1.5	200	30	<0.26	0.49	7.2
2.0 - 2.5	16	1.3	---	---	---
4.5 - 5.0	17	0.87	---	---	---

BORING NO. 1190-109

DEPTH	Total Lead	WET Lead	WET DI	TCLP Lead	pH
0.0 - 0.5	72	3.6	---	---	---
1.0 - 1.5	100	6.4	<0.26	---	---
2.0 - 2.5	50	3.1	---	---	---
3.0 - 3.5	48	2.9	---	---	---

LEGEND

- ● -Approximate boring location
- TOTAL Lead -Total Lead results in mg/kg
- WET Lead -WET Lead results in mg/l
- WET DI -WET DI Lead results in mg/l
- TCLP Lead -TCLP Lead results in mg/l
- DEPTH -Depth in feet
- <0.5 -Not detected at or above laboratory detection limits specified
- J -Estimated Value: Results qualified as an estimated value due to analytical bias in precision of accuracy

0 100' 200'

BASE MAP: Google Earth Maps, 2010
REFERENCE AREA: Caltrans, Layout Plan, L-1

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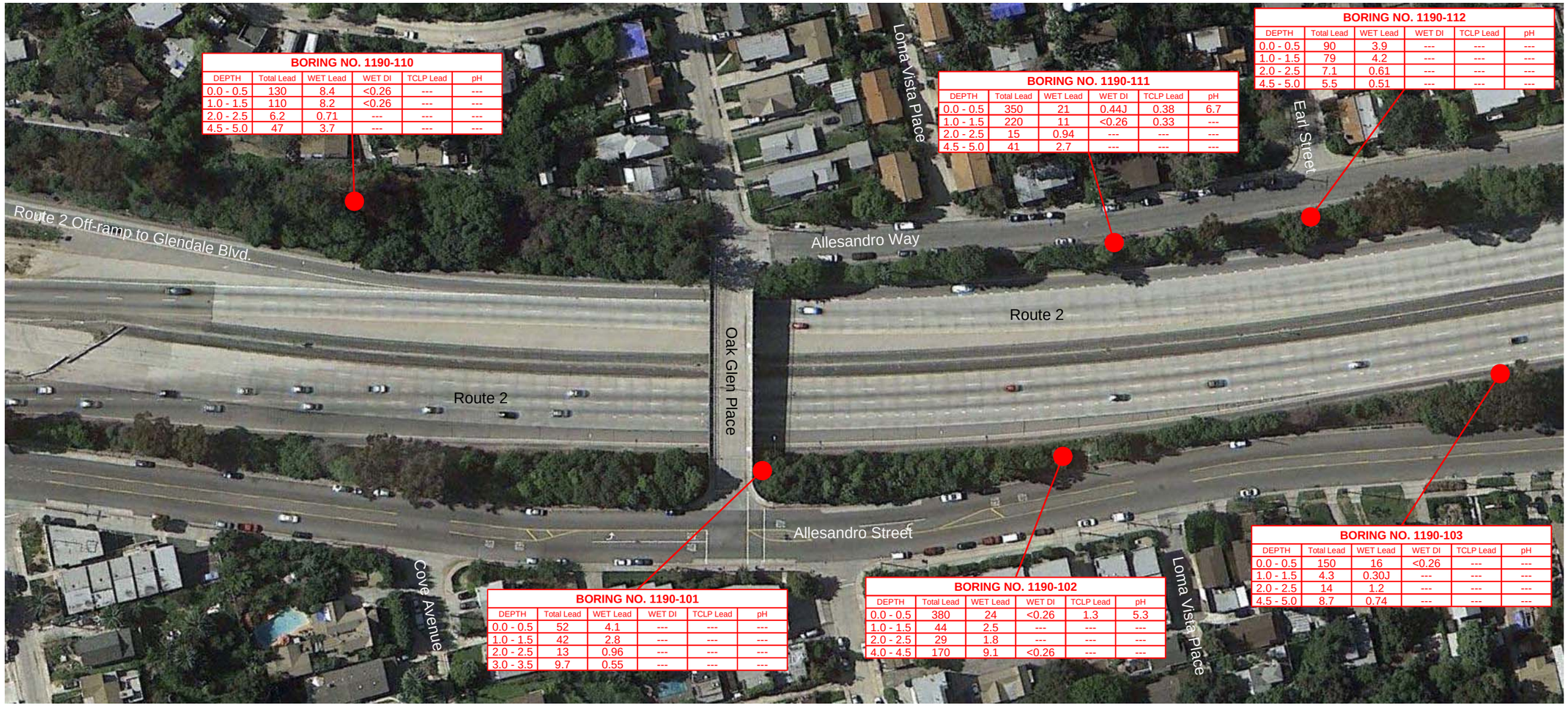
SITE PLAN - SOUNDWALL

CALTRANS
ROUTE 2 - ADL INVESTIGATION
POST MILE 14.1/14.8
LOS ANGELES, CALIFORNIA

DECEMBER 2012 | PROJECT NO. S9475-06-22 | FIG. 2



BORING NO. 1190-110

DEPTH	Total Lead	WET Lead	WET DI	TCLP Lead	pH
0.0 - 0.5	130	8.4	<0.26	---	---
1.0 - 1.5	110	8.2	<0.26	---	---
2.0 - 2.5	6.2	0.71	---	---	---
4.5 - 5.0	47	3.7	---	---	---

BORING NO. 1190-111

DEPTH	Total Lead	WET Lead	WET DI	TCLP Lead	pH
0.0 - 0.5	350	21	0.44J	0.38	6.7
1.0 - 1.5	220	11	<0.26	0.33	---
2.0 - 2.5	15	0.94	---	---	---
4.5 - 5.0	41	2.7	---	---	---

BORING NO. 1190-112

DEPTH	Total Lead	WET Lead	WET DI	TCLP Lead	pH
0.0 - 0.5	90	3.9	---	---	---
1.0 - 1.5	79	4.2	---	---	---
2.0 - 2.5	7.1	0.61	---	---	---
4.5 - 5.0	5.5	0.51	---	---	---

BORING NO. 1190-101

DEPTH	Total Lead	WET Lead	WET DI	TCLP Lead	pH
0.0 - 0.5	52	4.1	---	---	---
1.0 - 1.5	42	2.8	---	---	---
2.0 - 2.5	13	0.96	---	---	---
3.0 - 3.5	9.7	0.55	---	---	---

BORING NO. 1190-102

DEPTH	Total Lead	WET Lead	WET DI	TCLP Lead	pH
0.0 - 0.5	380	24	<0.26	1.3	5.3
1.0 - 1.5	44	2.5	---	---	---
2.0 - 2.5	29	1.8	---	---	---
4.0 - 4.5	170	9.1	<0.26	---	---

BORING NO. 1190-103

DEPTH	Total Lead	WET Lead	WET DI	TCLP Lead	pH
0.0 - 0.5	150	16	<0.26	---	---
1.0 - 1.5	4.3	0.30J	---	---	---
2.0 - 2.5	14	1.2	---	---	---
4.5 - 5.0	8.7	0.74	---	---	---

LEGEND

- ● -Approximate boring location
- TOTAL Lead -Total Lead results in mg/kg
- WET Lead -WET Lead results in mg/l
- WET DI -WET DI Lead results in mg/l
- TCLP Lead -TCLP Lead results in mg/l
- DEPTH -Depth in feet
- <0.5 -Not detected at or above laboratory detection limits specified
- J -Estimated Value: Results qualified as an estimated value due to analytical bias in precision of accuracy

0 100' 200'

BASE MAP: Google Earth Maps, 2010
REFERENCE AREA: Caltrans, Layout Plan, L-2

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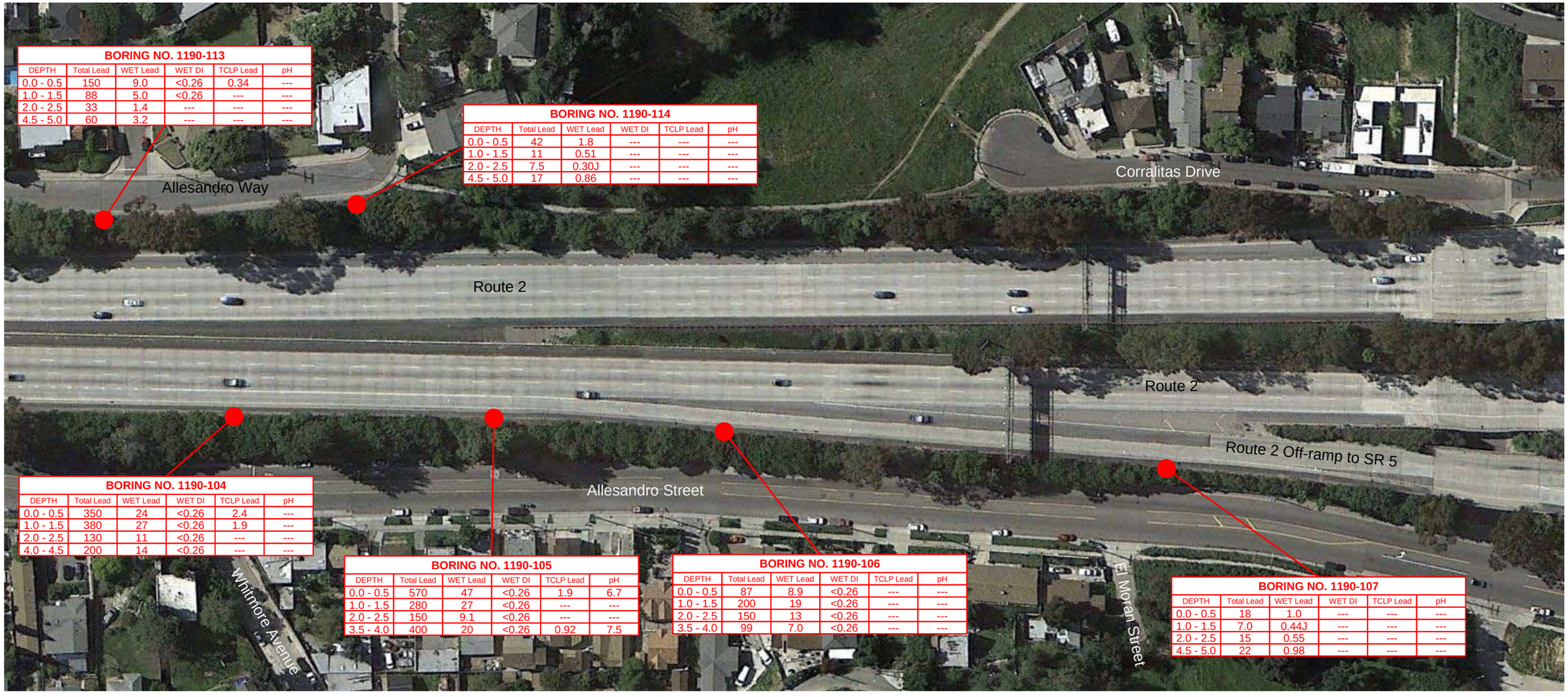
DECEMBER 2012 | PROJECT NO. S9475-06-22 | FIG. 3



BORING NO. 1190-113

DEPTH	Total Lead	WET Lead	WET DI	TCLP Lead	pH
0.0 - 0.5	150	9.0	<0.26	0.34	---
1.0 - 1.5	88	5.0	<0.26	---	---
2.0 - 2.5	33	1.4	---	---	---
4.5 - 5.0	60	3.2	---	---	---

BORING NO. 1190-114

DEPTH	Total Lead	WET Lead	WET DI	TCLP Lead	pH
0.0 - 0.5	42	1.8	---	---	---
1.0 - 1.5	11	0.51	---	---	---
2.0 - 2.5	7.5	0.30J	---	---	---
4.5 - 5.0	17	0.86	---	---	---

BORING NO. 1190-104

DEPTH	Total Lead	WET Lead	WET DI	TCLP Lead	pH
0.0 - 0.5	350	24	<0.26	2.4	---
1.0 - 1.5	380	27	<0.26	1.9	---
2.0 - 2.5	130	11	<0.26	---	---
4.0 - 4.5	200	14	<0.26	---	---

BORING NO. 1190-105

DEPTH	Total Lead	WET Lead	WET DI	TCLP Lead	pH
0.0 - 0.5	570	47	<0.26	1.9	6.7
1.0 - 1.5	280	27	<0.26	---	---
2.0 - 2.5	150	9.1	<0.26	---	---
3.5 - 4.0	400	20	<0.26	0.92	7.5

BORING NO. 1190-106

DEPTH	Total Lead	WET Lead	WET DI	TCLP Lead	pH
0.0 - 0.5	87	8.9	<0.26	---	---
1.0 - 1.5	200	19	<0.26	---	---
2.0 - 2.5	150	13	<0.26	---	---
3.5 - 4.0	99	7.0	<0.26	---	---

BORING NO. 1190-107

DEPTH	Total Lead	WET Lead	WET DI	TCLP Lead	pH
0.0 - 0.5	18	1.0	---	---	---
1.0 - 1.5	7.0	0.44J	---	---	---
2.0 - 2.5	15	0.55	---	---	---
4.5 - 5.0	22	0.98	---	---	---

LEGEND

- ● -Approximate boring location
- TOTAL Lead -Total Lead results in mg/kg
- WET Lead -WET Lead results in mg/l
- WET DI -WET DI Lead results in mg/l
- TCLP Lead -TCLP Lead results in mg/l
- DEPTH -Depth in feet
- <0.5 -Not detected at or above laboratory detection limits specified
- J -Estimated Value: Results qualified as an estimated value due to analytical bias in precision of accuracy

0 100' 200'

BASE MAP: Google Earth Maps, 2010
REFERENCE AREA: Caltrans, Layout Plan, L-3

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SITE PLAN - SOUNDWALL

CALTRANS
ROUTE 2 - ADL INVESTIGATION
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LOS ANGELES, CALIFORNIA

DECEMBER 2012	PROJECT NO. S9475-06-22	FIG. 4

TABLE 1

BORING COORDINATES AND SUMMARY OF SOIL ANALYTICAL RESULTS - LEAD AND pH

LOS ANGELES ROUTE 2 FROM GLENDALE BOULEVARD UNDERCROSSING TO ROSEBUD AVENUE UNDERCROSSING - SOUNDWALLS

CITY OF LOS ANGELES, CALIFORNIA

SAMPLE ID	LATITUDE	LONGITUDE	SAMPLE DATE	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	WET-DI LEAD (mg/l)	TCLP LEAD (mg/l)	pH (pH units)
NB - SOUNDWALL 560								
1190-101-0.0	34.09378637	-118.2553466	11/6/2012	52	4.1	---	---	---
1190-101-1.0			11/6/2012	42	2.8	---	---	---
1190-101-2.0			11/6/2012	13	0.96	---	---	---
1190-101-3.0			11/6/2012	9.7	0.55	---	---	---
1190-102-0.0	34.09437302	-118.2547641	11/6/2012	380	24	<0.26	1.3	5.3
1190-102-1.0			11/6/2012	44	2.5	---	---	---
1190-102-2.0			11/6/2012	29	1.8	---	---	---
1190-102-4.0			11/6/2012	170	9.1	<0.26	---	---
NB - SOUNDWALL 570								
1190-103-0	34.09536217	-118.2540787	11/6/2012	150	16	<0.26	---	---
1190-103-1			11/6/2012	4.3	0.30 J	---	---	---
1190-103-2			11/6/2012	14	1.2	---	---	---
1190-103-4.5			11/6/2012	8.7	0.74	---	---	---
1190-104-0.0	34.09584575	-118.2537387	11/6/2012	350	24	<0.26	2.4	---
1190-104-1.0			11/6/2012	380	27	<0.26	1.9	---
1190-104-2.0			11/6/2012	130	11	<0.26	---	---
1190-104-4.0			11/6/2012	200	14	<0.26	---	---
1190-105-0.0	34.09643488	-118.2533001	11/6/2012	570	47	<0.26	1.9	6.7
1190-105-1.0			11/6/2012	280	27	<0.26	---	---
1190-105-2.0			11/6/2012	150	9.1	<0.26	---	---
1190-105-3.5			11/6/2012	400	20	<0.26	0.92	7.5
1190-106-0.0	34.09675565	-118.2530728	11/6/2012	87	8.9	<0.26	---	---
1190-106-1.0			11/6/2012	200	19	<0.26	---	---
1190-106-2.0			11/6/2012	150	13	<0.26	---	---
1190-106-3.5			11/6/2012	99	7.0	<0.26	---	---
1190-107-0.0	34.0978849	-118.2521039	11/6/2012	18	1.0	---	---	---
1190-107-1.0			11/6/2012	7.0	0.44 J	---	---	---
1190-107-2.0			11/6/2012	15	0.55	---	---	---
1190-107-4.5			11/6/2012	22	0.98	---	---	---
SB - SOUNDWALL 555								
1190-108-0.0	34.0922623	-118.258366	11/7/2012	340	24	<0.26	0.52	7.0
1190-108-1.0			11/7/2012	200	30	<0.26	0.49	7.2
1190-108-2.0			11/7/2012	16	1.3	---	---	---
1190-108-4.5			11/7/2012	17	0.87	---	---	---
1190-109-0.0	34.09271468	-118.2577711	11/8/2012	72	3.6	---	---	---
1190-109-1.0			11/8/2012	100	6.4	<0.26	---	---
1190-109-2.0			11/8/2012	50	3.1	---	---	---
1190-109-3.0			11/8/2012	48	2.9	---	---	---
1190-110-0.0	34.0933928	-118.2567246	11/8/2012	130	8.4	<0.26	---	---
1190-110-1.0			11/8/2012	110	8.2	<0.26	---	---
1190-110-2.0			11/8/2012	6.2	0.71	---	---	---
1190-110-4.5			11/8/2012	47	3.7	---	---	---
SB - SOUNDWALL 565								
1190-111-0.0	34.0943393	-118.2550433	11/8/2012	350	21	0.44 J	0.38	6.7
1190-111-1.0			11/8/2012	220	11	<0.26	0.33	---
1190-111-2.0			11/8/2012	15	0.94	---	---	---
1190-111-4.5			11/8/2012	41	2.7	---	---	---
1190-112-0.0	34.09522168	-118.2548444	11/8/2012	90	3.9	---	---	---
1190-112-1.0			11/8/2012	79	4.2	---	---	---
1190-112-2.0			11/8/2012	7.1	0.61	---	---	---

TABLE 1

BORING COORDINATES AND SUMMARY OF SOIL ANALYTICAL RESULTS - LEAD AND pH

LOS ANGELES ROUTE 2 FROM GLENDALE BOULEVARD UNDERCROSSING TO ROSEBUD AVENUE UNDERCROSSING - SOUNDWALLS

CITY OF LOS ANGELES, CALIFORNIA

SAMPLE ID	LATITUDE	LONGITUDE	SAMPLE DATE	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	WET-DI LEAD (mg/l)	TCLP LEAD (mg/l)	pH (pH units)
1190-112-4.5			11/8/2012	5.5	0.51	---	---	---
1190-113-0.0	34.0958614	-118.2544492	11/8/2012	150	9.0	<0.26	0.34	---
1190-113-1.0			11/8/2012	88	5.0	<0.26	---	---
1190-113-2.0			11/8/2012	33	1.4	---	---	---
1190-113-4.5			11/8/2012	60	3.2	---	---	---
1190-114-0.0	34.0964073	-118.2540935	11/8/2012	42	1.8	---	---	---
1190-114-1.0			11/8/2012	11	0.51	---	---	---
1190-114-2.0			11/8/2012	7.5	0.30 J	---	---	---
1190-114-4.5			11/8/2012	17	0.86	---	---	---
EQUIPMENT BLANKS								
							---	---
1190-EB-1			11/6/2012	<0.0028	---	---	---	---
1190-EB-2			11/6/2012	<0.0028	---	---	---	---
1190-EB-3			11/7/2012	0.0031 J	---	---	---	---
1190-EB-4			11/8/2012	<0.0028	---	---	---	---

Notes:

WET = Waste Extraction Test

WET-DI = Waste Extraction Test using de-ionized water as the extractant

TCLP = Toxicity Characteristic Leaching Procedure

< = Not detected above the laboratory reporting limit specified

--- = Not analyzed

J = Analyte detected below the Practical Quantitation Limit but above or equal to the Method Detection Limit. Result is an estimated concentration.

mg/kg = milligrams per kilogram

mg/l = milligrams per liter

TABLE 2

SUMMARY OF SOIL ANALYTICAL RESULTS - TITLE 22 METALS

LOS ANGELES ROUTE 2 FROM GLENDALE BOULEVARD UNDERCROSSING TO ROSEBUD AVENUE UNDERCROSSING - SOUNDWALLS

CITY OF LOS ANGELES, CALIFORNIA

ANALYTE	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	Mercury
SAMPLE ID	Results in milligrams per kilogram																
1190-102-0.0	0.44 J	2.8	130	<0.06	0.88 J	14	5.5	30	380	1.5	14	<0.38	<0.08	<0.30	21	160	0.17
1190-105-0.0	<0.35	2.2	130	<0.06	0.78 J	11	4.9	20	570	0.70 J	14	<0.38	<0.08	<0.30	19	140	0.14
1190-108-0.0	0.41 J	2.8	170	<0.06	1.0	12	5.2	29	340	0.40 J	12	<0.38	<0.08	<0.30	17	290	0.12
1190-111-0.0	<0.35	2.7	110	<0.06	1.2	12	5.6	29	350	0.92 J	15	<0.38	<0.08	<0.30	21	240	0.12
TTLC	500	500	10,000	75	100	2,500	8,000	2,500	1,000	3,500	2,000	100	500	700	2,400	5,000	20
10 X STLC	150	50	1,000	7.5	10	50	800	250	50	3,500	200	10	50	70	240	2,500	2.0
CHHSLs																	
Industrial	380	0.24	63,000	190	7.5	100,000	3,200	38,000	320	4,800	16,000	4,800	4,800	63	6,700	100,000	180
Residential	30	0.07	5,200	16	1.7	100,000	660	3,000	80	380	1,600	380	380	5.0	530	23,000	18
Background Concentrations [1]																	
Minimum	0.15	0.6	133	0.25	0.05	23	2.7	9.1	12.4	0.1	9.0	0.015	0.10	0.17	39	88	0.10
Maximum	1.95	12	1,400	2.70	1.70	1,579	46.9	96.4	97.1	9.6	509	0.430	8.30	1.10	288	236	0.90
Mean	0.60	3.5	509	1.28	0.36	122	14.9	28.7	23.9	1.3	57	0.058	0.80	0.56	112	149	0.26

Notes:

< = Less than the laboratory reporting limit specified

J = Analyte detected below the Practical Quantitation Limit but above or equal to the Method Detection Limit. Result is an estimated concentration.

TTLC = Total Threshold Limit Concentration

STLC = Soluble Threshold Limit Concentration

CHHSLs = California Environmental Protection Agency, California Human Health Screening Levels for industrial and residential land use

TTLC, STLC, and CHHSLs shown for chromium are for chromium III

[1] *Background Concentrations of Trace and Major Elements in California Soils (Kearney Foundation of Soil Science, Division of Agricultural and Natural Resources, University of California, March 1996)*

Maximum arsenic background concentration source - Determination of a Southern California Regional Background Arsenic Concentration in Soil, DTSC March 2008

APPENDIX A

California Environmental Protection Agency
Department of Toxic Substances Control

VARIANCE

Applicant Names:

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

Variance No. V09HQSCD006

Effective Date: July 1, 2009

Expiration Date: July 1, 2014

Modification History:

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

Beverly Rikala
Team Leader, Operating Facilities Team
Department of Toxic Substances Control

Date: 6/30/09

1. INTRODUCTION.

a) Pursuant to Health and Safety Code, section 25143, the California Department of Toxic Substances Control (DTSC) grants this variance to the applicant below for waste considered to be hazardous solely because of its lead concentrations and as further specified herein.

b) DTSC hereby grants this variance only from the requirements specified herein and only in accordance with all terms and conditions specified herein.

2. IDENTIFYING INFORMATION.

APPLICANT/OWNER/OPERATOR

State of California
Department of Transportation, (Caltrans)
All Districts

3. TYPE OF VARIANCE.

Generation, Manifest, Transportation, Storage and Disposal.

4. ISSUANCE AND EXPIRATION DATES.

DATE ISSUED: July 1, 2009 EXPIRATION DATE: July 1, 2014

5. APPLICABLE STATUTES AND REGULATIONS. The hazardous waste that is the subject of this variance is fully regulated under Health and Safety Code, section 25100, et seq. and California Code of Regulations, title 22, division 4.5 except as specifically identified in Section 8 of this variance.

6. DEFINITION. For purposes of this variance, "lead-contaminated soil(s)" shall mean soil that meets the criteria for hazardous waste but contains less than 3397 mg/kg total lead and is hazardous primarily because of aerially-deposited lead contamination associated with exhaust emissions from the operation of motor vehicles.

7. FINDINGS/DETERMINATIONS. DTSC has determined that the variance applicant meets the requirements set forth in Health and Safety Code, section 25143 for a variance from specific regulatory requirements as outlined in Section 8 of this variance. The specific determinations and findings made by DTSC are as follows:

a) Caltrans intends to excavate, stockpile, transport, bury and cover large volumes of soil associated with highway construction projects. In the more urbanized highway corridors around the State this soil is contaminated with lead, primarily due to historic emissions from automobile exhausts. In situ sampling and laboratory testing has shown that some of the soil contains concentrations of lead in excess of State regulatory thresholds, and thus any generated waste from disturbance of the soil

would be regulated as hazardous waste. Such soil contains a Total Threshold Limit Concentration (TTLC) of 1000 milligrams per kilogram (mg/kg) or more lead and/or it meets or exceeds the Soluble Threshold Limit Concentration (STLC) for lead of 5 milligrams per liter (mg/l). A Human Health Risk Assessment prepared for this variance concludes that soil contaminated with elevated concentrations of lead can be managed in a way that presents no significant risk to human health.

b) The lead-contaminated soil will be placed only in Caltrans' right-of-way. Depending on concentration levels, the wastes will be covered with a minimum thickness of one (1) foot of non-hazardous soil or asphalt/concrete cover and will always be at least five (5) feet above the highest groundwater elevation. Caltrans will assure that proper health and safety procedures will be followed for workers, including any persons engaged in maintenance work in areas where the waste has been buried and covered.

c) DTSC finds and requires that the lead-contaminated soil excavated, stockpiled, transported, buried and covered pursuant to this variance is a non-RCRA hazardous waste, and that the waste management activity is insignificant as a potential hazard to human health and safety and the environment, when managed in accordance with the conditions, limitations and other requirements specified in this variance.

8. PROVISIONS WAIVED.

Provided Caltrans meets the terms and conditions of this variance, DTSC waives the hazardous waste management requirements of Health and Safety Code, Chapter 6.5 and California Code of Regulations, title 22 for the lead-contaminated soil that Caltrans reuses in projects that would require Caltrans to obtain a permit for a disposal facility and any other generator requirements that concern the transportation, manifesting, storage and land disposal of hazardous waste.

9. SPECIFIC CONDITIONS, LIMITATIONS AND OTHER REQUIREMENTS.

In order for the provisions discussed in section 8 to be waived, lead-contaminated soil must not exceed the contaminant concentrations discussed below and Caltrans management practices must meet all the following conditions:

a) Caltrans implementation of this variance shall comply with all applicable state laws and regulations for water quality control, water quality control plans, waste discharge requirements (including storm water permits), and others issued by the State Water Resources Control Board (SWRCB) and/or a California Regional Water Quality Control Board (RWQCB). Caltrans shall provide written notification to the appropriate RWQCB at least 30 days prior to advertisement for bids of projects that involve invocation of this variance, or as otherwise negotiated with the SWRCB or appropriate RWQCB.

b) The waivers in this variance shall only be applied to lead-contaminated soil that is not a RCRA hazardous waste and is hazardous primarily because of aerially-

deposited lead contamination associated with exhaust emissions from the operation of motor vehicles. The variance is not applicable to any other hazardous waste.

c) Soil containing 1.5 mg/l extractable lead or less (based on a modified waste extraction test using deionized water as the extractant) and 1411 mg/kg or less total lead may be used as fill provided that the lead-contaminated soil is placed a minimum of five (5) feet above the maximum historic water table elevation and covered with at least one (1) foot of nonhazardous soil that will be maintained by Caltrans to prevent future erosion.

d) Soil containing 150 mg/L extractable lead or less (based on a modified waste extraction test using deionized water as the extractant) and 3397 mg/kg or less total lead may be used as fill provided that the lead-contaminated soils are placed a minimum of five (5) feet above the maximum historic water table elevation and protected from infiltration by a pavement structure which will be maintained by Caltrans.

e) Lead-contaminated soil with a pH less than 5.5 but greater than 5.0 shall only be used as fill material under the paved portion of the roadway. Lead-contaminated soil with a pH at or less than 5.0 shall be managed as a hazardous waste.

f) For each project that has the potential to generate waste by disturbing lead-contaminated soil (as defined in 6), Caltrans shall conduct sampling and analysis to adequately characterize the soils containing aerially deposited lead in the areas of planned excavation along the project route. Such sampling and analysis shall include the Toxicity Characteristic Leaching Procedure (TCLP) as prescribed by the United States Environmental Protection Agency to determine whether concentrations of contaminants in soil exceed federal criteria for classification as a hazardous waste.

g) Lead-contaminated soil managed pursuant to this variance shall not be moved outside the designated corridor boundaries (see paragraph t) below. All lead-contaminated soil not buried and covered within the same Caltrans corridor where it originated is not eligible for management under this variance and shall be managed as a hazardous waste.

h) Lead-contaminated soil managed pursuant to this variance shall not be placed in areas where it would become in contact with groundwater or surface water (such as streams and rivers).

i) Lead-contaminated soil managed pursuant to this variance shall be buried and covered only in locations that are protected from erosion that may result from storm water run-on and run-off.

j) The lead-contaminated soil shall be buried and covered in a manner that will prevent accidental or deliberate breach of the asphalt, concrete, and/or cover soil.

k) The presence of lead-contaminated soil shall be incorporated into the projects' as-built drawings. The as-built drawings shall be annotated with the location, representative analytical data, and volume of lead-contaminated soil. The as-built drawings shall also state the depth of the cover. These as-built drawings shall be retained by Caltrans.

l) Caltrans shall ensure that no other hazardous wastes, other than the lead-contaminated hazardous waste soil, are placed in the burial areas.

m) Lead-contaminated soil shall not be buried within ten (10) feet of culverts or locations subject to frequent worker exposure.

n) Excavated lead-contaminated soil not placed into the designated area (fill area, roadbed area) by the end of the working day shall be stockpiled and covered with sheets of polyethylene or at least one foot of non-hazardous soil. The lead-contaminated soil, while stockpiled or under transport, shall be protected from contacting surface water and from being dislodged or transported by wind or storm water. The stockpile covers shall be inspected at least once a week and within 24 hours after rainstorms. If the lead-contaminated soil is stockpiled for more than 4 days from the time of excavation, Caltrans shall restrict public access to the stockpile by using barriers that meet the safety requirements of the construction zone. The lead-contaminated soil shall be stockpiled for no more than 90 days from the time the soil is first excavated. If the contaminated soil is stockpiled beyond the 90 day limit Caltrans shall:

1. notify DTSC in writing of the 90 day exceedance and expected date of removal;
2. perform weekly inspections of the stockpiled material to ensure that there is adequate protection from run-on, runoff, public access, and wind dispersion; and
3. notify DTSC on weekly basis of the stockpile status until the stockpile is removed.

The lead-contaminated soil shall be stockpiled for no more than 180 days from the time the soil is first excavated.

o) Caltrans shall ensure that all stockpiling of lead-contaminated soil remains within the project area of the specified corridor. Stockpiling of lead-contaminated soil within the specified corridor, but outside the project area, is prohibited.

p) Caltrans shall conduct confirmatory sampling of any stockpile area in areas not known or expected to contain lead-contaminated soil after removal of the lead-contaminated soil to ensure that contamination has not been left behind or has not migrated from the stockpiled material to the surrounding soils.

q) Caltrans shall stockpile lead-contaminated soil only on high ground (i.e. no sump areas or low points) so that stockpiled soil will not come in contact with surface

water run-on or run-off.

r) Caltrans shall not stockpile lead-contaminated soil in environmentally and ecologically sensitive areas.

s) Caltrans shall ensure that storm/rain run-off that has come into contact with stockpiled lead-contaminated soil will not flow to storm drains, inlets, or waters of the State.

t) Caltrans may dispose of the lead-contaminated soil only within the operating right-of-way of an existing highway, as defined in Streets and Highways Code, section 23. Caltrans may move lead-contaminated soil from one Caltrans project to another Caltrans project only if the lead-contaminated soil remains within the same designated corridor.

Caltrans shall record any movement of lead-contaminated soil by using a bill of lading. The bill of lading must contain: 1) the US DOT description including shipping name, hazard class and ID number; 2) handling codes; 3) quantity of material; 4) volume of material; 5) date of shipment; 6) origin and destination of shipment; and 7) any specific handling instructions. The bill of lading shall be referenced in and kept on file with the project's as-built drawings. The lead-contaminated soil must be kept covered during transportation.

u) For each specific corridor where this variance is to be implemented, all of the following information shall be submitted in writing to DTSC at least five (5) days before construction of any project begins:

1. plan drawing designating the boundaries of the corridor where lead-contaminated soils will be excavated, stockpiled, buried and covered;

2. a list of the Caltrans projects that the corridor encompasses;

3. a list of Caltrans contractors that will be conducting any phase of work on any project affected by this variance;

4. duration of corridor construction;

5. location where sampling and analytical data used to make lead concentration level determinations are kept (e.g. a particular Caltrans project file);

6. name and phone number (including area code) of project resident engineer and project manager;

7. location where Caltrans and contractor health and safety plan and records are kept;

8. location of project special provisions (including page or section number) for soil excavation, transportation, stockpile, burial and placement of cover material;

9. location of project drawings (including drawing page number) for soil excavation, burial and placement of cover in plan and cross section (for example, "The project plans are located at the resident engineer's office located at 5th and Main Streets, City of Fresno, See pages xxxxx of contract xxxx");

10. updated information if a Caltrans project within the corridor is added, changed or deleted; and

11. type of environmental document prepared for each project, date of adoption, document title, Clearing House number and where the document is available for review. A copy of the Caltrans Categorical Exemption, Categorical Exclusion Form, or if filed, the Notice of Exemption for any project shall be submitted to the DTSC Headquarters Project Manager.

v) Changes in location of lead-contaminated soil placement, quantities or protection measures (field changes) shall be noted in the resident engineer's project log within five (5) days of the field change.

w) Caltrans shall ensure that field changes are in compliance with the requirements of this variance.

x) Operational procedures described in the California Environmental Quality Act (CEQA) Special Initial Study shall be followed by Caltrans for activities conducted under this variance.

y) Caltrans shall implement appropriate health and safety procedures to protect its employees and the public, and to prevent or minimize exposure to potentially hazardous wastes. A project-specific health and safety plan must be prepared and implemented. The monitoring and exposure standards shall be based on construction standards for exposure to lead in California Code of Regulations, title 8, section 1532.1.

z) Caltrans shall provide a district Coordinator for this variance. This Coordinator will be the primary point of contact for information flowing to, or received from, DTSC regarding any matter or submission under this variance. Caltrans shall promptly notify DTSC of the name of Coordinator and any change in the Coordinator.

aa) Caltrans shall conduct regular inspections, consistent with Caltrans' Maintenance Division's current Pavement Inspection and Slope Inspection programs, of the locations where lead-contaminated soil has been buried and/or covered pursuant to this variance. If site inspection reveals deterioration of cover so that conditions in the variance are not met, Caltrans shall repair or replace the cover.

bb) Caltrans shall develop and implement a record keeping mechanisms to record and retain permanent records of all locations where lead-contaminated soil has been buried per this variance. The records shall be made available to DTSC.

cc) If areas subject to the terms of this variance are sold, relinquished or abandoned (including roadways), all future property owners shall be notified in writing in advance by Caltrans of the requirements of this variance, and Caltrans shall provide the owner with a copy of the variance. A copy of such a notice shall be sent to DTSC and contain the corridor location and project. Caltrans shall also disclose to DTSC and the new owner the location of areas where lead-contaminated soil has been buried. Future property owners shall be subject to the same requirements as Caltrans.

dd) For the purposes of informing the public about instances where the variance is implemented, Caltrans shall:

1. maintain current fact sheets at all Caltrans resident engineer offices and the Caltrans District office. Caltrans shall make the fact sheets available to anyone expressing an interest in variance-related work.

2. maintain a binder(s) containing copies of all reports submitted to DTSC at the District office. Caltrans shall ensure that the binders are readily accessible to the public.

3. carry out the following actions when it identifies additional projects:

(A) notify the public via a display advertisement in a newspaper of general circulation in that area.

(B) update and distribute the fact sheet to the mailing list and repository locations.

ee) Lead-contaminated soil may be buried only in areas where access is limited or where lead-contaminated soil is covered and contained by a pavement structure.

ff) Dust containing lead-contaminated soil must be controlled. Water or dust palliative may be applied to control dust. If visible dust migration occurs, all excavation, stockpiling and truck loading and burying must be stopped. The granting of this variance confers no relief on Caltrans from compliance with the laws, regulations and requirements enforced by any local air district or the California Air Resources Board.

gg) Sampling and analysis is required to show the lead-contaminated soil meets the variance criteria. All sampling and analysis must be conducted in accordance with the appropriate methods specified in U.S. EPA SW-846.

hh) DTSC retains the right to require Caltrans or any future owner to remove, and properly dispose of, lead-contaminated soil in the event DTSC determines it is necessary for protection of public health, safety or the environment.

ii) DTSC finds that some projects involving lead-contaminated soil are joint projects between Caltrans and other government entities. In these joint projects, Caltrans may not be the lead agency implementing the project although Caltrans is still involved if the project occurs on its right-of-way.

Caltrans may invoke this variance for joint projects where Caltrans and local government entity are involved provided that 1) the project is within the Caltrans Right-of-Way; 2) Caltrans reviews/ oversees all phases of the project including design, contracting, environmental assessment, construction, operation, and maintenance; and 3) Caltrans oversees the project to verify all variance conditions are complied with. Caltrans will be fully responsible for the variance notification and implementation in these joint projects.

jj) All correspondence shall be directed to the following office:

Hazardous Waste Permitting
Department of Toxic Substances Control
8800 Cal Center Drive
Sacramento, CA 95826

Attn: Caltrans Lead Variance Notification Unit

10. DISCLAIMER.

a) The issuance of this variance does not relieve Caltrans of the responsibility for compliance with Health and Safety Code, chapter 6.5, or the regulations adopted thereunder, and any other laws and regulations other than those specifically identified in Section 8 of this variance. Caltrans is subject to all terms and conditions herein. The granting of this variance confers no relief from compliance with any federal, State or local requirements other than those specifically provided herein.

b) The issuance of this variance does not release Caltrans from any liability associated with the handling of hazardous waste, except as specifically provided herein and subject to all terms and conditions of this variance.

11. VARIANCE MODIFICATION OR REVOCATION. This variance is subject to review at the discretion of DTSC and may be modified or revoked by DTSC upon change of ownership and at any other time pursuant to Health and Safety Code, section 25143.

12. CEQA DETERMINATION. DTSC adopted a Negative Declaration on June 30, 2009.

Approved:

6/30/09
Date

Beverly Rikala
Operating Facilities Team
Department of Toxic Substances Control

APPENDIX B

Table 1. California Human Health Screening Levels for Soil And Comparison To Other Potential Environmental Concerns

Chemical	[1]Soil Human Health Screening Levels (mg/kg of dry soil)		[2]Other Potential Environmental Concerns Posed By Contaminated Soil			
	Residential Land Use	Commercial/ Industrial Land Use Only	[3]Leaching	[4]Ecotoxicity	[5]Nuisance/ Aesthetic Concerns	[6]Other
Organic Acidic Chemicals						
2,4-D	6.9E+02	7.7E+03	X	X	o	
2,4,5-T	5.5E+02	6.1E+03	X	X	o	
Pentachlorophenol	4.4E+00	1.3E+01	X	X	o	
Organic Neutral Chemicals						
Aldrin	3.3E-02	1.3E-01	o	X	o	
Benzo(a)pyrene	3.8E-02	1.3E-01	o	X	o	TPH
Chlordane	4.3E-01	1.7E+00	o	X	o	
DDD	2.3E+00	9.0E+00	o	X	o	
DDE	1.6E+00	6.3E+00	o	X	o	
DDT	1.6E+00	6.3E+00	o	X	o	
Dieldrin	3.5E-02	1.3E-01	X	X	o	
1,4 Dioxane	1.8E+01	6.4E+01	X	o	o	
Dioxin (2,3,7,8-TCDD)	4.6E-06	1.9E-05	o	o	o	
Endrin	2.1E+01	2.3E+02	X	X	o	
Heptachlor	1.3E-01	5.2E-01	X	X	o	
Lindane	5.0E-01	2.0E+00	X	X	o	
Kepone	3.5E-02	1.3E-01	X	o	o	
Methoxychlor	3.4E+02	3.8E+03	o	X	o	
Mirex	3.1E-02	1.2E-01	X	X	o	
PCBs	8.9E-02	3.0E-01	o	X	o	
Toxaphene	4.6E-01	1.8E+00	X	X	o	

Table 1. California Human Health Screening Levels for Soil And Comparison To Other Potential Environmental Concerns

Chemical	[1]Soil Human Health Screening Levels (mg/kg of dry soil)		[2]Other Potential Environmental Concerns Posed By Contaminated Soil			
	Residential Land Use	Commercial/ Industrial Land Use Only	[3]Leaching	[4]Ecotoxicity	[5]Nuisance/ Aesthetic Concerns	[6]Other
Inorganic Chemicals						
Antimony and compounds	3.0E+01	3.8E+02	site specific	o	o	
Arsenic	7.0E-02	2.4E-01	site specific	X	o	Ambient background
Barium and compounds	5.2E+03	6.3E+04	site specific	X	o	Construction workers
Beryllium and compounds	1.5E+02	1.7E+03	site specific	X	o	
Beryllium oxide[7]	9.1E-02	4.1E-01	o	o	o	Construction workers
Beryllium sulfate[7]	2.1E-04	9.5E-04	o	o	o	
Cadmium and compounds	1.7E+00	7.5E+00	site specific	X	o	Ambient background
Chromium III	1.0E+05	1.0E+05	site specific	X	X	
Chromium VI	1.7E+01	3.7E+01	site specific	X	o	Construction workers
Cobalt	6.6E+02	3.2E+03	site specific	X	o	Construction workers
Copper and compounds	3.0E+03	3.8E+04	site specific	X	X	
Fluoride	4.6E+03	5.7E+04	site specific	o	o	
Lead and lead compounds	1.5E+02	3.5E+03[9]	site specific	X	o	Uptake in fruits and vegetables
Lead acetate[7]	2.3E+00	1.0E+01	X	o	o	
Mercury and compounds	1.8E+01	1.8E+02	site specific	X	o	
Molybdenum	3.8E+02	4.8E+03	site specific	X	X	
Nickel and compounds	1.6E+03	1.6E+04	site specific	X	X	Construction workers
Nickel subsulfide[7]	3.8E-01	1.1E+04	site specific	o	o	
Perchlorate[8]	pp[8]	pp[8]	X	o	o	
Selenium	3.8E+02	4.8E+03	site specific	X	X	
Silver and compounds	3.8E+02	4.8E+03	site specific	X	X	
Thallium and compounds	5.0E+00	6.3E+01	site specific	o	o	Ambient background
Vanadium and compounds	5.3E+02	6.7E+03	site specific	X	X	

Table 1. California Human Health Screening Levels for Soil And Comparison To Other Potential Environmental Concerns

Chemical	[1]Soil Human Health Screening Levels (mg/kg of dry soil)		[2]Other Potential Environmental Concerns Posed By Contaminated Soil			
	Residential Land Use	Commercial/ Industrial Land Use Only	[3]Leaching	[4]Ecotoxicity	[5]Nuisance/ Aesthetic Concerns	[6]Other
Zinc	2.3E+04	1.0E+05	site specific	X	X	

Notes:

1. Direct-exposure screening levels address human exposure to chemicals in soil via incidental ingestion, dermal absorption and inhalation of vapors and particulates emitted to outdoor air (refer to Appendix 1). Assumes impacted soil is situated at or near the ground surface or could be at some time in the future. Volatile chemicals not included at this time (refer to Section 2.5).
   "Residential Land Use" screening levels generally considered appropriate for other sensitive uses (e.g., day-care centers, hospitals, etc.).
   Commercial/industrial properties should be evaluated using both residential and commercial/industrial CHHSLs. A deed restriction that prohibits use of the property for sensitive purposes may be required at sites that are evaluated and/or remediated under a commercial/industrial land use scenario only.
   Carcinogens: CHHSLs based on target cancer risk of 10^{-6}. Cal/EPA cancer slope factors used when available.
   Noncarcinogens: CHHSLs based on target hazard quotient of 1.0.
   Calculation of cumulative risk may be required at sites where multiple contaminants with similar health effects are present (see Section 2.8).
   Residential and C/I soil CHHSLs for arsenic below background for most sites in California (0.07 mg/kg and 0.24 mg/kg, respectively - see Appendix 1). Use identified or anticipated background as screening level (see Section 2.7).
2. Environmental concerns in addition to direct exposure that may need to be considered in evaluation of contaminated soil. Based on a comparison of soil CHHSLs to soil screening levels for noted concerns compiled by the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB 2003). The need to address other environmental concerns must be evaluated separately in coordination with the lead regulatory agency (See Sections 1.4, 2.2 and Chapter 4).
   "X": Noted concern may outweigh direct-exposure risks at many sites and drive decisions for cleanup actions.
   "o": Potential concern but generally will be addressed if cleanup of contaminated soils to meet direct-exposure CHHSLs is carried out.
   "site specific": Potential concern, but evaluation as to whether this factor is a potential concern must be done on a site specific basis.
3. Leaching of chemicals from soil and subsequent impacts to groundwater. Soil ESLs consider of impacts to drinking water resources, re-emission of volatile chemicals from groundwater into overlying buildings and discharges of contaminated groundwater to surface water. Leaching of metals from soil should be evaluated on a site-specific basis, depending on the potential mobility of the metal species present. Laboratory-based leaching studies are generally preferred over model-derived screening levels.
4. Toxicity to terrestrial flora and fauna. Need to consider ecotoxicity concerns generally determined on a site-by-site basis.
5. Nuisance and gross contamination concerns address odors and aesthetic concerns as well as general resource degradation and presence of potentially mobile free product.
6. Other pertinent environmental concerns and considerations as determined on a site-specific basis.
   Health risk to construction workers may outweigh risk to residents or commercial/industrial workers for chemicals that are carcinogenic due to increased exposure to airborne dust particles and incidental ingestion of soil. Uptake of chemicals in edible fruits and vegetables from soil may need to be considered in some cases for noted chemicals.
7. These metal salts are significantly (greater than 10-fold) more toxic than the values for the metals in general. If it is known that this chemical was used at the site, the screening number for this chemical should be used instead of the screening number for the metal and its compounds.
8. Calculation of a screening number for the chemical has been postponed (pp) until the toxicity criterion currently being developed by OEHHA is published as a final document.
9. This screening number is above the Total Threshold Limit Concentration for lead of 1000 mg/kg, as defined in Title 22, California Code of Regulations. It is also above the US EPA Region IX PRG of 800 mg/kg.

REVISED CALIFORNIA HUMAN HEALTH SCREENING LEVELS FOR BERYLLIUM

March 2009

Integrated Risk Assessment Branch
Office of Environmental Health Hazard Assessment
California Environmental Protection Agency

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Revised California Human Health Screening Levels for Beryllium

March 2009

Prepared by
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Revised California Human Health Screening Levels for Beryllium

Preface

In 2005, the California Office of Environmental Health Hazard Assessment (OEHHA) released a final document on the development of a list of soil screening numbers based on "protection of public health and safety" as required by Health and Safety Code Section 57008 (OEHHA, 2005). The screening numbers have no regulatory authority and are published solely as reference values that may be used by citizen groups, community organizations, property owners, developers, and local government officials to determine sites that would likely need no further action if a full risk assessment were conducted. How these soil screening levels should be applied is explained in "Use of California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties," (Cal/EPA, 2005).

Beryllium CHHSLs

For a CHHSL to be calculated, a chemical must have a toxicity criterion. A toxicity criterion mathematically relates a measure of exposure to a chemical to its toxic effect. For non-carcinogens it is generally the highest dose of the chemical not expected to cause a toxic effect. For a carcinogen it is the relationship between the risk of getting cancer caused by the chemical and the daily exposure to the chemical. In the OEHHA (2005) document, separate CHHSLs were developed for beryllium oxide, beryllium sulfate and all other forms of beryllium called "beryllium and compounds" because the three forms had different toxicity criteria. In 2005 the OEHHA Toxicity Criteria Database showed that all three were carcinogenic when inhaled. However, beryllium oxide and sulfate were considered carcinogenic when ingested, while "beryllium and compounds" was not. Residents and workers ingest far more soil at a site than the tiny amount that is inhaled after the soil is disturbed and becomes airborne dust. Therefore, the oral exposure generally drives the risk. This is why the CHHSLs for beryllium oxide and sulfate (considered carcinogenic when ingested) are so low compared to the CHHSL for beryllium and compounds (not considered carcinogenic when ingested)..

Beryllium Toxicity Criteria

The Toxicity Criteria Database is a Web site (www.oehha.ca.gov/risk/ChemicalDB/index.asp) that compiles the decisions of OEHHA's ongoing evaluation of chemical toxicity. (The Integrated Risk Information System (IRIS) is the equivalent for the United States Environmental Protection Agency (USEPA) Web site). Toxicity criteria are based on a scientific study in which animals or humans have been exposed to several dose levels of the chemical and the incidence of adverse health effects has been measured. These scientific studies must meet certain criteria to be used.

Federal and California legislation in the mid 1980s required rapid criteria development of chemical toxicity at both levels of government. Some of these criteria were rescinded on reevaluation. The Beryllium Health Assessment document published in 1987 (USEPA, 1987) was the basis for oral cancer criteria for some forms of beryllium for both USEPA and

California. Shortly after the publication of the Beryllium Health Assessment document, both USEPA and OEHHA listed both oral and inhalation toxicity criteria for various forms of beryllium. USEPA reevaluated the 1987 Health Assessment document and scientific basis for calling beryllium oxide and beryllium sulfate carcinogenic by the oral route. The USEPA withdrew its oral potency factor on the April 3, 1998.

The USEPA toxicity criteria database (IRIS) has the following statement for beryllium and beryllium compounds, "The basis for not using the Schroeder and Mitchener rat study (1975a) is that the incidences of gross or malignant tumors in the control and beryllium-exposed groups were not significantly different." The Schroeder and Mitchener rat study (1975) was the previous basis for considering beryllium carcinogenic by the oral route. USEPA also stated, "The oral database is considered inadequate for the assessment of carcinogenicity." (IRIS, 1998). As a result, the IRIS Web site only lists a non-cancer Reference Dose (RfD) for oral exposure to beryllium.

Following the USEPA reevaluation, OEHHA reviewed the oral carcinogenicity for beryllium to determine a drinking water health goal (Public Health Goal; PHG). In the PHG document (OEHHA, 2003), OEHHA concurred with the USEPA decision and based the drinking water health goal for all beryllium compounds on a non-cancer effect. OEHHA states, "In this case the chemical is a known human carcinogen, based on exposures by the inhalation route, but oral cancer potency cannot be determined." (OEHHA, 2003).

The OEHHA PHG for beryllium is based on the same non-cancer scientific study used to determine the USEPA RfD , however, it is 10 times lower. This is because, after OEHHA identifies an appropriate study upon which to base the PHG, a No Observable Effect Level (NOAEL) is determined. OEHHA and USEPA identified the same NOAEL. The second step is to divide the NOAEL by an Uncertainty Factor (UF) that accounts for the uncertainty in extrapolating the NOAEL in animals to one for humans which was the same for OEHHA and USEPA. When OEHHA suspects that a chemical could cause cancer but lacks a credible study on which to base a cancer potency, the UF is increased 10-fold on the non-cancer criterion which was the case for beryllium. Therefore, the beryllium PHG is based on a toxicity criterion of 0.0002 mg/kg-d. The USEPA RfD, on which the 2005 beryllium and beryllium compounds is based, is 0.002 mg/kg-d.

Calculation of New Beryllium CHHSLs

Calculations are shown below for new CHHSL values for beryllium oxide, beryllium sulfate and "beryllium and compounds" and they will replace the values from the 2005 document. This is done in order to make the CHHSLs consistent with the most recent OEHHA toxicity evaluation. Two changes are required for consistency. First, the less health protective USEPA toxicity criterion of 0.002 mg/kg-d used to compute the 2005 beryllium and beryllium compounds CHHSL will be replaced with the toxicity criterion used to compute the OEHHA PHG. Second, none of the toxicity criteria used will be based on an oral cancer potency value.

Cancer Calculations

The OEHHA inhalation cancer slope factor for beryllium sulfate is 3000 $(mg/kg\text{-}d)^{-1}$. For all other beryllium compounds including beryllium oxide, the inhalation slope factor is 8.4 $(mg/kg\text{-}d)^{-1}$. The equations used to compute a CHHSL when an inhalation slope, but not an oral slope factor, is available is:

Residential CHHSL based on inhalation of cancer-causing dust

$$CHHSL_{res} = \frac{TR \times AT \times PEF}{CSF_i \times EF_r \times \left(\left(\frac{IR_a \times (ED_r - ED_c)}{BW_a} \right) + \left(\frac{IR_c \times ED_c}{BW_c} \right) \right)}$$

Where:

TR is the target risk - 10^{-6} (one in a million)
AT is 70 year lifetime in days called an averaging time 25550 days
PEF is the particulate emission factor - 1.316×10^9 m^3 air/kg soil
CSFi is the cancer slope factor for inhalation - 3000 $(mg/kg\text{-}d)^{-1}$ beryllium sulfate and 8.4 $(mg/kg\text{-}d)^{-1}$ for all other forms of beryllium including beryllium oxide.
IRa is the inhalation rate of an adult - 20 m^3/d
IRc is the inhalation rate of a child - 10 m^3/d
EFr is the exposure frequency for a resident - 350 days per year
EDr is the total exposure duration of a resident - 30 years
EDc is the exposure duration of a resident as a child - 6 years
BWa is the body weight of an adult – 70 kg
BWc is the body weight of an adult – 15 kg

Solving this residential equation modeling inhaled dust with these parameters for beryllium sulfate gives a CHHSL of 2.9 mg/kg. For all other forms of beryllium including beryllium oxide the CHHSL based on inhaled dust is 1043 mg/kg. CHSSLs are rounded to two significant figures yielding 2.9 and 1000 mg/kg, respectively.

Commercial/Industrial CHHSL based on inhalation of cancer-causing dust

$$CHHSL_{ind} = \frac{TR \times AT \times PEF}{\frac{CSF_i \times IR_w \times EF_w \times ED_w}{BW_w}}$$

Where:

TR is the target risk - 10^{-6} (one in a million)
AT is 70 year lifetime in days called an averaging time - 25550 days
PEF is the particulate emission factor - 1.316×10^9 m^3 air/kg soil

CSFi is the cancer slope factor for inhalation - 3000 $(mg/kg\text{-}d)^{-1}$ beryllium sulfate and 8.4 $(mg/kg\text{-}d)^{-1}$ for all other forms of beryllium including beryllium oxide.
IRw is the inhalation rate of an worker - 20 m^3/d
EFw is the exposure frequency for a worker - 250 days per year
EDw is the total exposure duration of a worker - 25 years
BWw is the body weight of a worker - 70 kg

Solving this industrial equation modeling inhaled dust with these parameters for beryllium sulfate gives a CHHSL of 6.3 mg/kg. For all other forms of beryllium including beryllium oxide the CHHSL based on inhaled dust is 2242 mg/kg. CHSSLs are rounded to two significant figures yielding 6.3 and 2200 mg/kg, respectively.

Non Cancer Calculations

The OEHHA PHG drinking water criterion is based on a RfD that is 10-fold less than the one published by the USEPA. This value is 0.002 mg/kg-d. This value is used in the calculations below.

Residential CHHSL based on noncancer health effects to a child

$$CHHSL_{res} = \frac{THQ \times BW_c \times 365}{EF_r \times \left(\left(\frac{IRS_c}{RfD_{oral} \times 10^6} \right) + \left(\frac{AF_c \times SA_c \times ABS}{RfD_{oral} \times 10^6} \right) + \left(\frac{IRA_c}{RfD_{inh} \times PEF} \right) \right)}$$

Where:

THQ is the target hazard quotient – 1.0
PEF is the particulate emission factor - 1.316×10^9 m^3 air/kg soil
RfDoral is the OEHHA reference dose for oral exposure - 0.0002 mg/kg-d
RfDinh is the USEPA reference dose for inhalation exposure - 0.00000571 mg/kg-d
IRc is the inhalation rate of a child - 10 m^3/d
IRSc is the soil ingestion rate of a child 200 mg/d
EFr is the exposure frequency for a resident - 350 days per year
EDc is the exposure duration of a resident as a child - 6 years
BWc is the body weight of a child - 15 kg
AFc is the soil to skin adherence factor for a child- 0.2 mg/cm^2
SAc is the surface area of skin to which soil can stick for a child – 2800 cm^2/d
ABS is the percent of chemical that can be absorbed through the skin -1%

Solving this residential equation modeling ingestion, inhalation and dermal contact with these parameters gives a CHHSL of 16 mg/kg.

Commercial/Industrial CHHSL based on noncancer health effects to a worker

$$CHHSL_{ind} = \frac{THQ \times BW_w \times 365}{EF_w \times \left(\left(\frac{IRS_w}{RfD_{oral} \times 10^6} \right) + \left(\frac{AF_w \times SA_w \times ABS}{RfD_{oral} \times 10^6} \right) + \left(\frac{IRA_w}{RfD_{inh} \times PEF} \right) \right)}$$

Where:

THQ is the target hazard quotient - 1.0
PEF is the particulate emission factor - 1.316 x 10^9 m^3 air/kg soil
RfDoral is the OEHHA reference dose for oral exposure - 0.0002 mg/kg-d
RfDinh is the USEPA reference dose for inhalation exposure - 0.00000571 mg/kg-d
IRw is the inhalation rate of a worker - 20 m^3/d
IRSw is the soil ingestion rate of a worker 100 mg/d
EFw is the exposure frequency for a worker - 250 days per year
EDw is the exposure duration of a resident as a worker - 25 years
BWw is the body weight of an adult - 70 kg
AFw is the soil to skin adherence factor for a worker- 0.2 mg/cm^2
SAw is the surface area of skin to which soil can stick for a worker - 3300 cm^2/d
ABS is the percent of chemical that can be absorbed through the skin -1%

Solving this industrial equation modeling ingestion, inhalation and dermal contact with these parameters gives a CHHSL of 190 mg/kg.

Conclusion

Summary of 2005 CHHSLs for Beryllium (mg/kg soil)

Scenario	Residential		Commercial/Industrial	
Effect	Cancer	Non-cancer	Cancer	Non-cancer
Beryllium and Compounds	1000	**150**	2200	**1700**
Beryllium Oxide	**0.091**[a]	150	**0.41**	1700
Beryllium Sulfate	**0.00021**	150	**0.00095**	1700

[a] The values in bold are the 2005 CHHSLs for each compound and scenario.

Summary of Recalculated CHHSLs for Beryllium (mg/kg soil)

Scenario	Residential		Commercial/Industrial	
Effect	Cancer	Non-cancer	Cancer	Non-cancer
Beryllium and Compounds	1000	16	2200	190
Beryllium Oxide	1000	16	2200	190
Beryllium Sulfate	2.9	16	6.3	190

Because the inadvertent ingestion of soil drives these calculations, eliminating the oral cancer potencies for beryllium oxide and beryllium sulfate dramatically increases the CHHSLs based on carcinogenicity from those published previously. Likewise, decreasing the oral RfD by a factor of 10 reduced the new CHHSLs based on non-cancer effects for beryllium and beryllium compounds 10-fold.

Summary of Updated 2008 CHHSLs for Beryllium (mg/kg soil)

Scenario	Residential	Commercial/Industrial
Beryllium Sulfate	2.9	6.3
All Other Beryllium Compounds	16	190

The residential CHHSL for beryllium sulfate is 2.9 mg/kg and the industrial CHHSL is 6.3 mg/kg. For all other forms of beryllium (including beryllium oxide), the non-cancer residential value of 16 is lower than the cancer residential value of 1000. Therefore, the residential CHHSL is 16 mg/kg. For all other forms of beryllium (including beryllium oxide), the non-cancer commercial/industrial value of 190 is lower than the cancer commercial/industrial value of 2200 mg/kg. Therefore, the commercial/industrial CHHSL is 190 mg/kg.

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Appendix

Reponses to Comments Received on the September 2008 Review Draft Report

Dr. Jean Rabovsky representing herself.

Dr. Rabovsky points out that the document is unclear. The table showing the candidate CHSSLs did not include values for non-cancer endpoints for beryllium sulfate or beryllium oxide. She was concerned that the Office of Environmental Health Hazard Assessment (OEHHA) did not consider non-cancer endpoints. The revised tables have all values to avoid confusion.

Mr. Lawrence Szuhay representing Brush Wellman, Inc.

Mr. Szuhay had two comments:

1. In 2003, OEHHA should not have adopted the Public Health Goal (PHG) with the additional 10-fold safety factor. He believes that this is "improper and unnecessarily conservative."
2. OEHHA should not compute a CHHSL for beryllium based on a cancer endpoint for inhalation.

Mr. Szuhay provided extensive written material in support of his two comments. Unfortunately, the two comments do not pertain to the action taken. OEHHA did not reevaluate the basis of either the beryllium PHG or the inhalation slope factor for any forms of beryllium as part of the CHHSL development process. Both the PHG and inhalation slope factors underwent a public comment period culminating in the adoption of the existing criteria in earlier actions by OEHHA that were not part of the CHHSL development process.

OEHHA eliminated oral cancer potency values for beryllium oxide and beryllium sulfate based on the findings of the 2003 beryllium PHG. In addition, OEHHA choose to use the reference dose developed for the PHG in 2003 instead of the U.S. Environmental Protection Agency's Integrated Risk Information System (IRIS) criterion.

REVISED CALIFORNIA HUMAN HEALTH SCREENING LEVELS FOR LEAD

September 2009

Integrated Risk Assessment Branch
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Revised California Human Health Screening Levels for Lead

September 2009

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Revised California Human Health Screening Level for Lead

Introduction

The California Office of Environmental Health Hazard Assessment (OEHHA) has recently developed a 1 µg/dL benchmark for source-specific incremental change in blood lead levels for protection of school children and fetuses (OEHHA, 2007). The publication of this value required a review of the residential Soil Screening Level for lead (CHHSL), which currently stands at 150 mg/kg and the commercial/industrial CHHSL, which currently stands at 3500 mg/kg (OEHHA, 2005 revision). Application of this Soil Screening Level is explained in "Use of California Human Health Screening Levels in Evaluation of Contaminated Properties" (Cal/EPA, 2005).

Methods

The essence of this task was to estimate a concentration in soil that would lead to an incremental increase in blood lead (Pb_B) of up to 1 µg/dL, in people exposed to that soil. For the residential CHHSL for lead we evaluated the exposure to a child resident. For the commercial/industrial CHHSL we evaluated the exposure to a pregnant adult worker.

Residential Child Scenario

The Department of Toxic Substances Control's Leadspread model (DTSC, 2007) was used to estimate blood lead concentrations in children. The Leadspread model considers exposure to lead in soil by three pathways: ingestion, re-suspension and inhalation, and dermal contact. The Leadspread model was queried for the soil lead concentrations that would give rise to a 90th percentile estimate of increase in blood lead of 1 µg/dL using the "goal seek" function in Excel™. Model inputs and outputs for the Child Scenario are shown in Table 1.

Table 1: Leadspread Input Values

FACTOR	LEVEL	UNITS
Lead in Soil/Dust	77	µg/g
Soil ingestion	100	mg/day
Ingestion constant	0.16	(µg/dl)/(µg/day)
Oral bioavailability	0.44	unitless
Skin area	2900	cm^2
Soil adherence	200	$\mu g/cm^2$
Dermal uptake constant	0.0001	(µg/dl)/(µg/day)
Respirable dust	1.5	ug/m^3
Breathing rate	6.8	m^3/day
Inhalation constant	0.192	(µg/dl)/(µg/day)
Exposure days per week	7	days/wk
Geometric Standard Deviation[1]	1.6	µg/dL
Background lead in air[2]	0	$\mu g/m^3$
Lead in water[2]	0	µg/L
Home-grown produce[3]	0	percent
Resulting 90th percentile increase in blood lead	1	µg/dL

[1] Based on blood lead levels in geographically limited populations of children (EPA, 2007)

[2] Because this soil screening level is based on a change in blood lead due to the exposure under evaluation, no background exposures are included.

[3] As explained in (OEHHA, 2005) the food pathway is not used in calculating soil screening levels. These screening levels may not be appropriate for sites to be used for gardening or farming.

Occupational Adult Scenario

U.S. EPA's Adult Lead Model (ALM) (EPA, 2005) was used to estimate the blood lead concentration in a fetus of an adult worker exposed to lead-contaminated soil. The model was queried directly for the soil lead concentrations that would give rise to the 90th percentile estimate of change in blood lead of 1 µg/dL using the "goal seek" function in Excel™. Model inputs and outputs are shown in Table 2. Inputs that were changed from default values are in bold.

Table 2: ALM Input and Output Values for the Occupational Scenario

FACTOR	UNITS	VALUE
Fetal/maternal Pb_B ratio	--	0.9
Biokinetic Slope Factor	µg/dL per µg/day	0.4
Geometric standard deviation Pb_B (GSD)	--	**1.8**[2]
Baseline Pb_B	µg/dL	**0.0**[3]
Soil ingestion rate (including soil-derived indoor dust)	g/day	0.050
Absorption fraction	--	0.12
Exposure frequency	days/yr	**250**[4]
Averaging time	days/yr	365
Pb_B of adult worker, geometric mean	µg/dL	0.6[1]
90th percentile Pb_B among fetuses of adult workers	µg/dL	1.0
Target Pb_B level of concern	µg/dL	**1.0**
Probability that fetal Pb_B > Pb_Bt, assuming lognormal distribution	percent	10 %
Soil lead concentration	µg/g or ppm	320[1]

[1] Calculated value
[2] The default GSD in ALM (2.1) was changed to 1.8. EPA (2001) recommended a value of 1.8 for relatively homogeneous populations. The default GSD in ALM reflects variability in the population as a whole. This variability has many components, including variability in exposure concentration. The latter source of variability is reduced or eliminated in a population exposed to soil containing 320 ppm.
[3] No baseline Pb_B is assumed, since the target change in blood lead is an incremental change due to the soil in question.
[4] The value of 250 days per year is consistent with other CHHSLs.

Results

The Soil Screening Levels resulting from the analyses described above are shown in Table 3.

Table 3: Comparison of 2005 CHHSLs to Revised CHHSLs

Residential CHHSL* (mg/kg)		Commercial/Industrial CHHSL[1] (mg/kg)	
2005	Revised	2005	Revised
150	80	3500	320

[1] Rounded to nearest multiple of 10.

Discussion

The previous CHHSLs for lead were calculated as the maximum soil concentration which, combined with an assumed background lead exposure from food, air, and water, would result in a total blood lead not to exceed 10 µg/dl. The proposed CHHSLs are calculated differently: they are calculated as the level in soil that could result in up to a 1 µg/dl increase in blood lead, irrespective of background exposures. Background exposures are not typically considered in other CHHSLs or other screening levels.

The proposed CHHSLs for lead consider two sources of uncertainty: the relationship between blood lead level and cognitive ability, and the relationship between lead levels in the environment and blood lead levels. The first source of uncertainty involves the fitting of a model to the blood lead and IQ data in the meta-analysis of Lanphear et al. (2005) that was used to determine the relationship between blood lead and IQ. To be conservative OEHHA (2007) used a 97.5% upper confidence limit on the slope of the IQ versus Pb_B curve.

The other source of uncertainty is the relationship between environmental lead levels and blood lead levels. Both Leadspread and the ALM account for this by predicting a distribution of blood lead values for any given set of environmental inputs. The percentiles of the Pb_B versus soil Pb curve reflect physiological and behavioral variability in individual responses to similar environmental concentrations. Although the previous CHHSL for lead was based on the 99th percentile of that distribution, the revised CHHSL is based on the 90th percentile of the distribution. The reason for this change is that the benchmark change in blood lead concentration is a health-protective estimate, based on risk to children, whereas the previous target blood lead level was based on a "level of concern" that did not incorporate recent scientific information and focused on individual - rather than population - risks.

The overall approach to accommodating the two sources of uncertainty can be summarized as follows: the CHHSLs represent concentrations in soil that have no more than a 2.5% probability of decreasing IQ by more than 1 point in a 90th percentile child or fetus.

References

OEHHA, 2007, Development of Health Criteria for Schools Site Risk Assessment Pursuant to Health and Safety Code Section 901(g): Proposed Child-Specific Benchmark Change in Blood Lead Concentration for School Site Risk Assessment. available at: http://www.oehha.ca.gov/public_info/public/kids/index.html

California Department of Toxic Substances Control, 2007, DTSC Lead Risk Assessment Spreadsheet; available at: http://www.dtsc.ca.gov/AssessingRisk/leadspread.cfm

California Environmental Protection Agency, 2005, Use of California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties, available at: http://calepa.ca.gov/Brownfields/SB32.htm

OEHHA, 2005 revision, Human-Exposure-Based Screening Numbers Developed to Aid Estimation of Cleanup Costs for Contaminated Soilhttp://www.oehha.ca.gov/risk/Sb32soils05.html

EPA, 2005. U.S. EPA Technical Review Workgroup for Lead, Adult Lead Committee Version date 05/19/05. available at: http://www.epa.gov/superfund/lead/products.htm#alm

DTSC, 1994. California Department of Toxic Substances Control, California Environmental Protection Agency. Preliminary Endangerment Assessment Guidance Manual,

Lanphear, BP, Hornung R, Khoury J, Yolton K, Baghurst P, et al., 2005. Low-level environmental lead exposure and children's intellectual function: an international pooled analysis. Environ. Health Perspect. 113:894-899.

EPA 2001, Review of Adult Lead Models: Evaluation of Models for Assessing Human Health Risks Associated with Lead Exposures at Non-Residential Areas of Superfund and Other Hazardous Waste Sites U.S. EPA, Office of Solid Waste and Emergency Response OSWER #9285.7-46 (Table 1.1).

EPA, 2007, Lead: Human Exposure and Health Risk Assessments for Selected Case Studies, Volume I. Human Exposure and Health Risk Assessments - Full-scale, EPA-452/R-07-014a October 2007

Appendix

Response to comments

OEHHA received two comments on the draft CHHSL for lead. Both commentors suggested that the lead CHHSL should be applied only to anthropogenic lead, i.e. that background lead should not be included.

OEHHA response: In its response to comment #48 to the original 2005 CHHSL document, OEHHA stated "The health-based screening number for arsenic is intended for arsenic contamination resulting from human activity." This could also be applied to lead and other elements. However, the final determination of background levels and how they will be accounted for in any site-specific decision is ultimately up to those making the site-specific decision.

APPENDIX C

November 20, 2012

Mike Conkle
Geocon Consultants, Inc.
3303 N. San Fernando Blvd., Suite 100
Burbank, CA 91504
Tel: (818) 841-8388
Fax:(818) 841-1704

ELAP No.: 1838
NELAP No.: 02107CA
CSDLAC No.: 10196
ORELAP No.: CA300003
TCEQ No.: T104704502

Re: ATL Work Order Number : 1203892

Client Reference : Los Angeles Route 2, S9475-06-22

Enclosed are the results for sample(s) received on November 06, 2012 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

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

Sincerely,

Eddie Rodriguez
Laboratory Director

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/20/2012

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
1190-101-0.0	1203892-01	Soil	11/06/12 9:49	11/06/12 15:19
1190-101-1.0	1203892-02	Soil	11/06/12 9:53	11/06/12 15:19
1190-101-2.0	1203892-03	Soil	11/06/12 10:11	11/06/12 15:19
1190-101-3.0	1203892-04	Soil	11/06/12 10:23	11/06/12 15:19
1190-102-0.0	1203892-05	Soil	11/06/12 9:48	11/06/12 15:19
1190-102-1.0	1203892-06	Soil	11/06/12 9:54	11/06/12 15:19
1190-102-2.0	1203892-07	Soil	11/06/12 10:11	11/06/12 15:19
1190-102-4.0	1203892-08	Soil	11/06/12 10:36	11/06/12 15:19
1190-104-0.0	1203892-09	Soil	11/06/12 11:35	11/06/12 15:19
1190-104-1.0	1203892-10	Soil	11/06/12 11:37	11/06/12 15:19
1190-104-2.0	1203892-11	Soil	11/06/12 11:41	11/06/12 15:19
1190-104-4.0	1203892-12	Soil	11/06/12 11:57	11/06/12 15:19
1190-105-0.0	1203892-13	Soil	11/06/12 12:20	11/06/12 15:19
1190-105-1.0	1203892-14	Soil	11/06/12 12:27	11/06/12 15:19
1190-105-2.0	1203892-15	Soil	11/06/12 12:35	11/06/12 15:19
1190-105-3.5	1203892-16	Soil	11/06/12 12:41	11/06/12 15:19
1190-106-0.0	1203892-17	Soil	11/06/12 13:02	11/06/12 15:19
1190-106-1.0	1203892-18	Soil	11/06/12 13:04	11/06/12 15:19
1190-106-2.0	1203892-19	Soil	11/06/12 13:06	11/06/12 15:19
1190-106-3.5	1203892-20	Soil	11/06/12 13:14	11/06/12 15:19
1190-107-0.0	1203892-21	Soil	11/06/12 14:00	11/06/12 15:19
1190-107-1.0	1203892-22	Soil	11/06/12 14:02	11/06/12 15:19
1190-107-2.0	1203892-23	Soil	11/06/12 14:06	11/06/12 15:19
1190-107-4.5	1203892-24	Soil	11/06/12 14:15	11/06/12 15:19
1190-EB-1	1203892-25	Water	11/06/12 14:23	11/06/12 15:19

CASE NARRATIVE

Results were J-flagged. "J" is used to flag those results that are between the PQL (Practical Quantitation Limit) and the calculated MDL (Method Detection Limit). Results that are "J" flagged are estimated values since it becomes difficult to accurately quantitate the analyte near the MDL.

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/20/2012

Lead by ICP-AES EPA 6010B

Analyte: Lead **Analyst: SB**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203892-01	1190-101-0.0	**52**	mg/kg	1.0	0.18	1	B2K0134	11/07/2012	11/08/12 13:49	
1203892-02	1190-101-1.0	**42**	mg/kg	1.0	0.18	1	B2K0134	11/07/2012	11/08/12 13:50	
1203892-03	1190-101-2.0	**13**	mg/kg	1.0	0.18	1	B2K0134	11/07/2012	11/08/12 13:50	
1203892-04	1190-101-3.0	**9.7**	mg/kg	1.0	0.18	1	B2K0134	11/07/2012	11/08/12 13:51	
1203892-05	1190-102-0.0	**380**	mg/kg	1.0	0.18	1	B2K0134	11/07/2012	11/08/12 13:51	
1203892-06	1190-102-1.0	**44**	mg/kg	1.0	0.18	1	B2K0134	11/07/2012	11/08/12 13:52	
1203892-07	1190-102-2.0	**29**	mg/kg	1.0	0.18	1	B2K0134	11/07/2012	11/08/12 13:52	
1203892-08	1190-102-4.0	**170**	mg/kg	1.0	0.18	1	B2K0134	11/07/2012	11/08/12 13:54	
1203892-09	1190-104-0.0	**350**	mg/kg	1.0	0.18	1	B2K0134	11/07/2012	11/08/12 13:55	
1203892-10	1190-104-1.0	**380**	mg/kg	1.0	0.18	1	B2K0134	11/07/2012	11/08/12 13:55	
1203892-11	1190-104-2.0	**130**	mg/kg	1.0	0.18	1	B2K0134	11/07/2012	11/08/12 13:57	
1203892-12	1190-104-4.0	**200**	mg/kg	1.0	0.18	1	B2K0134	11/07/2012	11/08/12 13:57	
1203892-13	1190-105-0.0	**570**	mg/kg	1.0	0.18	1	B2K0134	11/07/2012	11/08/12 13:58	
1203892-14	1190-105-1.0	**280**	mg/kg	1.0	0.18	1	B2K0134	11/07/2012	11/08/12 13:58	
1203892-15	1190-105-2.0	**150**	mg/kg	1.0	0.18	1	B2K0134	11/07/2012	11/08/12 13:59	
1203892-16	1190-105-3.5	**400**	mg/kg	1.0	0.18	1	B2K0134	11/07/2012	11/08/12 14:01	
1203892-17	1190-106-0.0	**87**	mg/kg	1.0	0.18	1	B2K0134	11/07/2012	11/08/12 14:01	
1203892-18	1190-106-1.0	**200**	mg/kg	1.0	0.18	1	B2K0134	11/07/2012	11/08/12 14:02	
1203892-19	1190-106-2.0	**150**	mg/kg	1.0	0.18	1	B2K0134	11/07/2012	11/08/12 14:02	
1203892-20	1190-106-3.5	**99**	mg/kg	1.0	0.18	1	B2K0134	11/07/2012	11/08/12 14:03	
1203892-21	1190-107-0.0	**18**	mg/kg	1.0	0.18	1	B2K0135	11/07/2012	11/08/12 14:08	
1203892-22	1190-107-1.0	**7.0**	mg/kg	1.0	0.18	1	B2K0135	11/07/2012	11/08/12 14:08	
1203892-23	1190-107-2.0	**15**	mg/kg	1.0	0.18	1	B2K0135	11/07/2012	11/08/12 14:09	
1203892-24	1190-107-4.5	**22**	mg/kg	1.0	0.18	1	B2K0135	11/07/2012	11/08/12 14:09	

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100		Report To :	Mike Conkle
Burbank , CA 91504		Reported :	11/20/2012

Lead by ICP-AES EPA 6010B

Analyte: Lead **Analyst: PT**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203892-25	1190-EB-1	**ND**	mg/L	0.0050	0.0028	1	B2K0142	11/07/2012	11/08/12 13:03	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/20/2012

STLC Lead by AA (Direct Aspiration) by EPA 7420

Analyte: Lead **Analyst: VV**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203892-01	1190-101-0.0	**4.1**	mg/L	0.50	0.26	1	B2K0213	11/09/2012	11/13/12 15:50	
1203892-02	1190-101-1.0	**2.8**	mg/L	0.50	0.26	1	B2K0213	11/09/2012	11/13/12 15:50	
1203892-03	1190-101-2.0	**0.96**	mg/L	0.50	0.26	1	B2K0213	11/09/2012	11/13/12 15:50	
1203892-04	1190-101-3.0	**0.55**	mg/L	0.50	0.26	1	B2K0213	11/09/2012	11/13/12 15:50	
1203892-05	1190-102-0.0	**24**	mg/L	2.5	1.3	5	B2K0213	11/09/2012	11/13/12 15:53	
1203892-06	1190-102-1.0	**2.5**	mg/L	0.50	0.26	1	B2K0213	11/09/2012	11/13/12 15:53	
1203892-07	1190-102-2.0	**1.8**	mg/L	0.50	0.26	1	B2K0213	11/09/2012	11/13/12 15:53	
1203892-08	1190-102-4.0	**9.1**	mg/L	0.50	0.26	1	B2K0213	11/09/2012	11/12/12 16:27	
1203892-09	1190-104-0.0	**24**	mg/L	2.5	1.3	5	B2K0213	11/09/2012	11/12/12 16:28	
1203892-10	1190-104-1.0	**27**	mg/L	2.5	1.3	5	B2K0213	11/09/2012	11/12/12 16:31	
1203892-11	1190-104-2.0	**11**	mg/L	1.0	0.52	2	B2K0213	11/09/2012	11/12/12 16:34	
1203892-12	1190-104-4.0	**14**	mg/L	1.0	0.52	2	B2K0213	11/09/2012	11/12/12 16:36	
1203892-13	1190-105-0.0	**47**	mg/L	5.0	2.6	10	B2K0213	11/09/2012	11/12/12 16:37	
1203892-14	1190-105-1.0	**27**	mg/L	2.5	1.3	5	B2K0213	11/09/2012	11/12/12 16:38	
1203892-15	1190-105-2.0	**9.1**	mg/L	0.50	0.26	1	B2K0213	11/09/2012	11/12/12 16:39	
1203892-16	1190-105-3.5	**20**	mg/L	2.5	1.3	5	B2K0213	11/09/2012	11/12/12 16:41	
1203892-17	1190-106-0.0	**8.9**	mg/L	0.50	0.26	1	B2K0213	11/09/2012	11/12/12 16:41	
1203892-18	1190-106-1.0	**19**	mg/L	2.5	1.3	5	B2K0213	11/09/2012	11/12/12 16:42	
1203892-19	1190-106-2.0	**13**	mg/L	1.0	0.52	2	B2K0213	11/09/2012	11/12/12 16:43	
1203892-20	1190-106-3.5	**7.0**	mg/L	0.50	0.26	1	B2K0213	11/09/2012	11/12/12 16:44	
1203892-21	1190-107-0.0	**1.0**	mg/L	0.50	0.26	1	B2K0214	11/09/2012	11/12/12 16:47	
1203892-22	1190-107-1.0	**0.44**	mg/L	0.50	0.26	1	B2K0214	11/09/2012	11/12/12 16:47	J
1203892-23	1190-107-2.0	**0.55**	mg/L	0.50	0.26	1	B2K0214	11/09/2012	11/12/12 16:48	
1203892-24	1190-107-4.5	**0.98**	mg/L	0.50	0.26	1	B2K0214	11/09/2012	11/12/12 16:48	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/20/2012

STLC-DI Lead by AA (Direct Aspiration) EPA 7420

Analyte: Lead **Analyst: VV**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203892-05	1190-102-0.0	**ND**	mg/L	0.50	0.26	1	B2K0474	11/19/2012	11/19/12 18:01	
1203892-08	1190-102-4.0	**ND**	mg/L	0.50	0.26	1	B2K0474	11/19/2012	11/19/12 18:01	
1203892-09	1190-104-0.0	**ND**	mg/L	0.50	0.26	1	B2K0474	11/19/2012	11/19/12 18:01	
1203892-10	1190-104-1.0	**ND**	mg/L	0.50	0.26	1	B2K0474	11/19/2012	11/19/12 18:01	
1203892-11	1190-104-2.0	**ND**	mg/L	0.50	0.26	1	B2K0474	11/19/2012	11/19/12 18:02	
1203892-12	1190-104-4.0	**ND**	mg/L	0.50	0.26	1	B2K0474	11/19/2012	11/19/12 18:02	
1203892-13	1190-105-0.0	**ND**	mg/L	0.50	0.26	1	B2K0474	11/19/2012	11/19/12 18:02	
1203892-14	1190-105-1.0	**ND**	mg/L	0.50	0.26	1	B2K0474	11/19/2012	11/19/12 18:03	
1203892-15	1190-105-2.0	**ND**	mg/L	0.50	0.26	1	B2K0474	11/19/2012	11/19/12 18:03	
1203892-16	1190-105-3.5	**ND**	mg/L	0.50	0.26	1	B2K0474	11/19/2012	11/19/12 18:04	
1203892-17	1190-106-0.0	**ND**	mg/L	0.50	0.26	1	B2K0474	11/19/2012	11/19/12 18:05	
1203892-18	1190-106-1.0	**ND**	mg/L	0.50	0.26	1	B2K0474	11/19/2012	11/19/12 18:05	
1203892-19	1190-106-2.0	**ND**	mg/L	0.50	0.26	1	B2K0474	11/19/2012	11/19/12 18:05	
1203892-20	1190-106-3.5	**ND**	mg/L	0.50	0.26	1	B2K0474	11/19/2012	11/19/12 18:05	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/20/2012

QUALITY CONTROL SECTION

Lead by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0134 - EPA 3050 Modified									
Blank (B2K0134-BLK1)					Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	0.308896	1.0			NR				J
Blank (B2K0134-BLK2)					Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	0.795087	1.0			NR				J
LCS (B2K0134-BS1)					Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	49.2686	1.0	50.0000		98.5	80 - 120			
Duplicate (B2K0134-DUP1)		**Source: 1203892-20**			Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	105.648	1.0		99.3246	NR		6.17	20	
Duplicate (B2K0134-DUP2)		**Source: 1203892-10**			Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	319.795	1.0		380.326	NR		17.3	20	
Matrix Spike (B2K0134-MS1)		**Source: 1203892-20**			Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	384.778	1.0	250.000	99.3246	114	46 - 116			
Matrix Spike (B2K0134-MS2)		**Source: 1203892-10**			Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	699.280	1.0	250.000	380.326	128	46 - 116			M1
Matrix Spike Dup (B2K0134-MSD1)		**Source: 1203892-20**			Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	368.834	1.0	250.000	99.3246	108	46 - 116	4.23	20	
Batch B2K0135 - EPA 3050 Modified									
Blank (B2K0135-BLK1)					Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	0.579619	1.0			NR				J
Blank (B2K0135-BLK2)					Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	0.625778	1.0			NR				J
LCS (B2K0135-BS1)					Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	51.0735	1.0			NR	80 - 120			
Duplicate (B2K0135-DUP1)		**Source: 1203893-08**			Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	14.3020	1.0		8.69968	NR		48.7	20	R
Duplicate (B2K0135-DUP2)		**Source: 1203893-06**			Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	3.72192	1.0		4.26524	NR		13.6	20	
Matrix Spike (B2K0135-MS1)		**Source: 1203893-08**			Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	267.791	1.0	250.000	8.69968	104	46 - 116			
Matrix Spike (B2K0135-MS2)		**Source: 1203893-06**			Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	261.969	1.0	250.000	4.26524	103	46 - 116			

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/20/2012

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

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0135 - EPA 3050 Modified (continued)									
Matrix Spike Dup (B2K0135-MSD1)		**Source: 1203893-08**			Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	208.604	1.0	250.000	8.69968	80.0	46 - 116	24.8	20	M1
Batch B2K0142 - EPA 3010A									
Blank (B2K0142-BLK1)					Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	ND	0.0050			NR				
LCS (B2K0142-BS1)					Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	0.997462	0.0050	1.00000		99.7	80 - 120			
Duplicate (B2K0142-DUP1)		**Source: 1203891-21**			Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	ND	0.0050		ND	NR			20	
Matrix Spike (B2K0142-MS1)		**Source: 1203891-21**			Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	2.22399	0.0050	2.50000	ND	89.0	78 - 117			
Matrix Spike Dup (B2K0142-MSD1)		**Source: 1203891-21**			Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	2.20098	0.0050	2.50000	ND	88.0	78 - 117	1.04	20	
Batch S2K0103 - B2K0142									
Instrument Blank (S2K0103-IBL1)					Prepared: 11/8/2012 Analyzed: 11/8/2012				
Lead	ND	0.0050			NR				
Batch S2K0110 - B2J0834									
Instrument Blank (S2K0110-IBL1)					Prepared: 11/8/2012 Analyzed: 11/8/2012				
Lead	ND	1.0			NR				

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/20/2012

STLC Lead by AA (Direct Aspiration) by EPA 7420 - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0213 - STLC Extraction									
Blank (B2K0213-BLK1)					Prepared: 11/9/2012 Analyzed: 11/13/2012				
Lead	ND	0.50			NR				
Blank (B2K0213-BLK2)					Prepared: 11/9/2012 Analyzed: 11/13/2012				
Lead	ND	0.50			NR				
LCS (B2K0213-BS1)					Prepared: 11/9/2012 Analyzed: 11/13/2012				
Lead	5.13098	0.05	5.00000		103	80 - 120			
Duplicate (B2K0213-DUP1)		**Source: 1203892-10**			Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	28.9425	2.5		26.5618	NR		8.58	20	
Duplicate (B2K0213-DUP2)		**Source: 1203892-20**			Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	7.84717	0.50		6.98233	NR		11.7	20	
Matrix Spike (B2K0213-MS1)		**Source: 1203892-10**			Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	30.8552	0.25	5.00000	26.5618	85.9	80 - 120			
Matrix Spike (B2K0213-MS2)		**Source: 1203892-20**			Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	12.7672	0.10	5.00000	6.98233	116	80 - 120			
Matrix Spike Dup (B2K0213-MSD1)		**Source: 1203892-10**			Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	31.5362	0.25	5.00000	26.5618	99.5	80 - 120	2.18	20	
Batch B2K0214 - STLC Extraction									
Blank (B2K0214-BLK1)					Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	0.312963	0.50			NR				J
Blank (B2K0214-BLK2)					Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	0.308525	0.50			NR				J
LCS (B2K0214-BS1)					Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	5.46035	0.05	5.00000		109	80 - 120			
Duplicate (B2K0214-DUP1)		**Source: 1203893-06**			Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	0.287301	0.50		0.298588	NR		3.85	20	J
Duplicate (B2K0214-DUP2)		**Source: 1203893-08**			Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	0.699101	0.50		0.735906	NR		5.13	20	
Matrix Spike (B2K0214-MS1)		**Source: 1203893-06**			Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	5.25433	0.05	5.00000	0.298588	99.1	80 - 120			
Matrix Spike (B2K0214-MS2)		**Source: 1203893-08**			Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	5.76130	0.05	5.00000	0.735906	101	80 - 120			
Batch S2K0170 - B2K0214									
Instrument Blank (S2K0170-IBL1)					Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	ND	0.50			NR				

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/20/2012

STLC Lead by AA (Direct Aspiration) by EPA 7420 - Quality Control (cont'd)

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch S2K0170 - B2K0214 (continued)									
Instrument Blank (S2K0170-IBL1) - Continued					Prepared: 11/12/2012 Analyzed: 11/12/2012				
Batch S2K0189 - B2K0213									
Instrument Blank (S2K0189-IBL1)					Prepared: 11/13/2012 Analyzed: 11/13/2012				
Lead	ND	0.50			NR				

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/20/2012

STLC-DI Lead by AA (Direct Aspiration) EPA 7420 - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0474 - STLC DI Extraction									
Blank (B2K0474-BLK1)					Prepared: 11/19/2012 Analyzed: 11/19/2012				
Lead	ND	0.50			NR				
Blank (B2K0474-BLK2)					Prepared: 11/19/2012 Analyzed: 11/19/2012				
Lead	ND	0.50			NR				
LCS (B2K0474-BS1)					Prepared: 11/19/2012 Analyzed: 11/19/2012				
Lead	4.90850	0.05	5.00000		98.2	80 - 120			
Duplicate (B2K0474-DUP1)		**Source: 1203892-16**			Prepared: 11/19/2012 Analyzed: 11/19/2012				
Lead	ND	0.50		ND	NR			20	
Duplicate (B2K0474-DUP2)		**Source: 1203893-05**			Prepared: 11/19/2012 Analyzed: 11/19/2012				
Lead	ND	0.50		ND	NR			20	
Matrix Spike (B2K0474-MS1)		**Source: 1203892-16**			Prepared: 11/19/2012 Analyzed: 11/19/2012				
Lead	4.93208	0.05	5.00000	ND	98.6	80 - 120			
Matrix Spike (B2K0474-MS2)		**Source: 1203893-05**			Prepared: 11/19/2012 Analyzed: 11/19/2012				
Lead	5.00207	0.05	5.00000	ND	100	80 - 120			
Matrix Spike Dup (B2K0474-MSD1)		**Source: 1203892-16**			Prepared: 11/19/2012 Analyzed: 11/19/2012				
Lead	5.03539	0.05	5.00000	ND	101	80 - 120	2.07	20	
Batch S2K0290 - B2K0474									
Instrument Blank (S2K0290-IBL1)					Prepared: 11/19/2012 Analyzed: 11/19/2012				
Lead	ND	0.50			NR				

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100		Report To :	Mike Conkle
Burbank , CA 91504		Reported :	11/20/2012

Notes and Definitions

R	RPD value outside acceptance criteria. Calculation is based on raw values.
M1	Matrix spike recovery outside of acceptance limit. The analytical batch was validated by the laboratory control sample.
J	Analyte detected below the Practical Quantitation Limit but above or equal to the Method Detection Limit. Result is an estimated concentration.
ND	Analyte not detected at or above reporting limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA1	CA-NELAP (CDPH)
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

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

CHAIN OF CUSTODY RECORD

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

Client: Geocon
Attention: Mike Conkle
Address: 3303 North San Fernando Blvd Suite 100
City: Burbank State: CA Zip Code: 91504
Tel: 818-841-8388
Fax: 818-841-1704

Project Name: Los Angeles Route 2 Project #: S9475-06-22 Sampler: (Signature)

Relinquished by: (Signature and Printed Name) Mike Alcott	Date: 11/6/12	Time: 1519	Received by: (Signature and Printed Name) RBUCH TYKWOOD/ATL	Date: 11/6/12	Time: 1519
Relinquished by: (Signature and Printed Name) FEDEX	Date: 11/6/12	Time: 1641	Received by: (Signature and Printed Name) FEDEX	Date: 11/6/12	Time: 1641
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: 11/6/12
Mike Conkle (Print Name) Date
Mike Conkle (Signature)

Send Report To:
Attn: Mike Conkle
Co: Geocon Consultants Inc.
Addr: 3303 North San Fernando Blvd Suite 100
City: Burbank State: CA Zip: 91504

Bill To:
Attn: Mike Conkle
Co: Geocon Consultants Inc.
Addr: 3303 North San Fernando Blvd Suite 100
City: Burbank State: CA Zip: 91504

Special Instructions/Comments:
CT Contract 07A2729
Run samples for total lead and STLC. STLC results greater than 5.0 mg/l will be analyze with the soluble lead test by WET using de-ionized water (DI-WET) as the extractant.
Report MDLs and PQLs

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: Total Lead by EPA Method 6010 | STLC by (WET) Method | Soluble Lead Test by (DI-WET) Meth | Title 22 metals | SVOC by 8270 SIM

SPECIFY APPROPRIATE MATRIX: SOIL | WATER | GROUND WATER | WASTEWATER

PRESERVATION: QA/QC RTNE ☐ CT ☐ SWRCB ☐ Logcode____ OTHER ____

ITEM	LAB USE ONLY: Lab No.	Sample Description: Sample ID / Location	Date	Time	Total Lead by EPA Method 6010	STLC by (WET) Method	Soluble Lead Test by (DI-WET) Meth	Title 22 metals	SVOC by 8270 SIM	SOIL	WATER	GROUND WATER	WASTEWATER	TAT	Container(s) #	Type	REMARKS
	1203892-1	1190-101-0.0	11/6/12	0949	x					x				E	1	G J	
	-2	1190-101-1.0		0953	x					x				E	1	G J	
	-3	1190-101-2.0		1011	x					x				E	1	G J	
	-4	1190-101-3.0		1023	x					x				E	1	G J	
	-5	1190-102-0.0		0948	x					x				E	1	G J	
	-6	1190-102-1.0		0954	x					x				E	1	G J	
	-7	1190-102-2.0		1011	x					x				E	1	G J	
	-8	1190-102-3.0		1036	x					x				E	1	G J	
	-9	1190-104-0.0		1135	x					x				E	1	G J	
	-10	1190-104-1.0		1137	x					x				E	1	G J	
	-11	1190-104-2.0		1141	x					x				E	1	G J	
	-12	1190-104-3.0		1157	x					x				E	1	G J	
	-13	1190-105-0.0		1220	x					x				E	1	G J	
	-14	1190-105-1.0		1227	x					x				E	1	G J	
	-15	1190-105-2.0		1235	x					x				E	1	G J	
	-16	1190-105-3.5		1241	x					x				E	1	G J	
	-17	1190-106-0.0		1302	x					x				E	1	G J	
	-18	1190-106-1.0		1304	x					x				E	1	G J	
	-19	1190-106-2.0		1306	x					x				E	1	G J	
	-20	1190-106-3.5		1314	x					x				E	1	G J	

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

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

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

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

CHAIN OF CUSTODY RECORD

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

FOR LABORATORY USE ONLY

P.O. #: _____
Logged By: _____ Date: _____

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other: _____

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

Client: Geocon | Address: 3303 North San Fernando Blvd Suite 100 | Tel: 818-841-8388
Attention: Mike Conkle | City: Burbank | State: CA | Zip Code: 91504 | Fax: 818-841-1704
Project Name: Los Angeles Route 2 | Project #: S9475-06-22 | Sampler: Mike Hacko (Signature)

Relinquished by: (Signature and Printed Name)	Mike Hacko	Date: 11/6/12	Time: 1519	Received by: (Signature and Printed Name) ABT-EL MARIA GAMAS	Date: 11/6/12	Time: 1519
Relinquished by: (Signature and Printed Name)	MANUEL	Date: 11/6/12	Time: 1641	Received by: (Signature and Printed Name) FEDEX	Date: 11/6/12	Time: 1641
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: Mike Conkle 11/6/12 (Print Name / Date)
Mike Conkle (Signature)

Send Report To:
Attn: Mike Conkle
Co: Geocon Consultants Inc.
Addr: 3303 North San Fernando Blvd Suite 100
City: Burbank State: CA Zip: 91504

Bill To:
Attn: Mike Conkle
Co: Geocon Consultants Inc.
Addr: 3303 North San Fernando Blvd Suite 100
City: Burbank State: CA Zip: 91504

Special Instructions/Comments:
CT Contract 07A2729
Run samples for total lead and STLC. STLC results greater than 5.0 mg/l will be analyze with the soluble lead test by WET using de-ionized water (DI-WET) as the extractant.
Report MDLs and PQLs

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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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Circle or Add Analysis(es) Requested: Total Lead by EPA Method 6010 | STLC by (WET) Method | Soluble Lead Test by (DI-WET) Meth | Title 22 metals | SVOC by 8270 SIM

SPECIFY APPROPRIATE MATRIX: SOIL | WATER | GROUND WATER | WASTEWATER

PRESERVATION

QA/QC: RTNE ☐ CT ☐ SWRCB ☐ Logcode_____ OTHER _____

ITEM	LAB USE ONLY: Lab No.	Sample Description: Sample ID / Location	Date	Time	Total Lead by EPA Method 6010	STLC by (WET) Method	Soluble Lead Test by (DI-WET) Meth	Title 22 metals	SVOC by 8270 SIM	SOIL	WATER	GROUND WATER	WASTEWATER	TAT	Container(s) #	Container(s) Type	REMARKS
	123852-21	1190-107-0.0	11/6/12	1400	x					x				E	1	G J	
	-22	1190-107-1.0	"	1402	x					x				E	1	G J	
	-23	1190-107-2.0	"	1406	x					x				E	1	G J	
	-24	1190-107-4.5	"	1415	x					x				E	1	G J	
	-25	1190-EB-1	"	1423	x					x				E	1	P J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	

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

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

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

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

ADVANCED TECHNOLOGY LABORATORIES

November 30, 2012

ELAP No.: 1838
NELAP No.: 02107CA
CSDLAC No.: 10196
ORELAP No.: CA300003
TCEQ No.: T104704502

Mike Conkle
Geocon Consultants, Inc.
3303 N. San Fernando Blvd., Suite 100
Burbank, CA 91504
Tel: (818) 841-8388
Fax:(818) 841-1704

Re: ATL Work Order Number : 1203892

Client Reference : Los Angeles Route 2, S9475-06-22

Enclosed are the results for sample(s) received on November 06, 2012 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

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

Sincerely,

Eddie Rodriguez
Laboratory Director

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100		Report To :	Mike Conkle
Burbank , CA 91504		Reported :	11/30/2012

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
1190-102-0.0	1203892-05	Soil	11/06/12 9:48	11/06/12 15:19
1190-104-0.0	1203892-09	Soil	11/06/12 11:35	11/06/12 15:19
1190-104-1.0	1203892-10	Soil	11/06/12 11:37	11/06/12 15:19
1190-105-0.0	1203892-13	Soil	11/06/12 12:20	11/06/12 15:19
1190-105-3.5	1203892-16	Soil	11/06/12 12:41	11/06/12 15:19

CASE NARRATIVE

Results were J-flagged. "J" is used to flag those results that are between the PQL (Practical Quantitation Limit) and the calculated MDL (Method Detection Limit). Results that are "J" flagged are estimated values since it becomes difficult to accurately quantitate the analyte near the MDL.

Sample Receiving/General Comments

Sample amount used for TCLP analysis by EPA 1311 is less than the amount required by the method. The client was notified on 11/29/12.

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/30/2012

TCLP Lead by AA (Direct Aspiration) EPA 7420

Analyte: Lead **Analyst: VV**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203892-05	1190-102-0.0	**1.3**	mg/L	0.50	0.26	1	B2K0675	11/29/2012	11/29/12 13:13	
1203892-09	1190-104-0.0	**2.4**	mg/L	0.50	0.26	1	B2K0675	11/29/2012	11/29/12 13:13	
1203892-10	1190-104-1.0	**1.9**	mg/L	0.50	0.26	1	B2K0675	11/29/2012	11/29/12 13:14	
1203892-13	1190-105-0.0	**1.9**	mg/L	0.50	0.26	1	B2K0675	11/29/2012	11/29/12 13:14	
1203892-16	1190-105-3.5	**0.92**	mg/L	0.50	0.26	1	B2K0675	11/29/2012	11/29/12 13:14	

Mercury by AA (Cold Vapor) EPA 7471

Analyte: Mercury **Analyst: VV**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203892-05	1190-102-0.0	**0.17**	mg/kg	0.10	0.008	1	B2K0676	11/29/2012	11/29/12 13:22	
1203892-13	1190-105-0.0	**0.14**	mg/kg	0.10	0.008	1	B2K0676	11/29/2012	11/29/12 13:32	

pH by EPA 9045C

Analyte: pH **Analyst: LA**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203892-05	1190-102-0.0	**5.3**	pH Units	0.10	0.10	1	B2K0680	11/29/2012	11/29/12 15:21	
1203892-13	1190-105-0.0	**6.7**	pH Units	0.10	0.10	1	B2K0680	11/29/2012	11/29/12 15:21	
1203892-16	1190-105-3.5	**7.5**	pH Units	0.10	0.10	1	B2K0680	11/29/2012	11/29/12 15:21	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/30/2012

Client Sample ID 1190-102-0.0
Lab ID: 1203892-05

Title 22 Metals by ICP-AES EPA 6010B — **Analyst: PT**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	**0.44**	2.0	0.35	1	B2K0605	11/26/2012	11/27/12 09:02	J
Arsenic	**2.8**	1.0	0.14	1	B2K0605	11/26/2012	11/27/12 09:02	
Barium	**130**	1.0	0.15	1	B2K0605	11/26/2012	11/27/12 09:02	
Beryllium	ND	1.0	0.06	1	B2K0605	11/26/2012	11/27/12 09:02	
Cadmium	**0.88**	1.0	0.03	1	B2K0605	11/26/2012	11/27/12 09:02	J
Chromium	**14**	1.0	0.20	1	B2K0605	11/26/2012	11/27/12 09:02	
Cobalt	**5.5**	1.0	0.03	1	B2K0605	11/26/2012	11/27/12 09:02	
Copper	**30**	2.0	0.28	1	B2K0605	11/26/2012	11/27/12 09:02	
Molybdenum	**1.5**	1.0	0.05	1	B2K0605	11/26/2012	11/27/12 09:02	
Nickel	**14**	1.0	0.19	1	B2K0605	11/26/2012	11/27/12 09:02	
Selenium	ND	1.0	0.38	1	B2K0605	11/26/2012	11/27/12 09:02	
Silver	ND	1.0	0.08	1	B2K0605	11/26/2012	11/27/12 09:02	
Thallium	ND	1.0	0.30	1	B2K0605	11/26/2012	11/27/12 09:02	
Vanadium	**21**	1.0	0.10	1	B2K0605	11/26/2012	11/27/12 09:02	
Zinc	**160**	1.0	0.74	1	B2K0605	11/26/2012	11/27/12 09:02	

Client Sample ID 1190-105-0.0
Lab ID: 1203892-13

Title 22 Metals by ICP-AES EPA 6010B — **Analyst: PT**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	0.35	1	B2K0605	11/26/2012	11/27/12 09:14	
Arsenic	**2.2**	1.0	0.14	1	B2K0605	11/26/2012	11/27/12 09:14	
Barium	**130**	1.0	0.15	1	B2K0605	11/26/2012	11/27/12 09:14	
Beryllium	ND	1.0	0.06	1	B2K0605	11/26/2012	11/27/12 09:14	
Cadmium	**0.78**	1.0	0.03	1	B2K0605	11/26/2012	11/27/12 09:14	J
Chromium	**11**	1.0	0.20	1	B2K0605	11/26/2012	11/27/12 09:14	
Cobalt	**4.9**	1.0	0.03	1	B2K0605	11/26/2012	11/27/12 09:14	
Copper	**20**	2.0	0.28	1	B2K0605	11/26/2012	11/27/12 09:14	
Molybdenum	**0.70**	1.0	0.05	1	B2K0605	11/26/2012	11/27/12 09:14	J
Nickel	**14**	1.0	0.19	1	B2K0605	11/26/2012	11/27/12 09:14	
Selenium	ND	1.0	0.38	1	B2K0605	11/26/2012	11/27/12 09:14	
Silver	ND	1.0	0.08	1	B2K0605	11/26/2012	11/27/12 09:14	
Thallium	ND	1.0	0.30	1	B2K0605	11/26/2012	11/27/12 09:14	
Vanadium	**19**	1.0	0.10	1	B2K0605	11/26/2012	11/27/12 09:14	
Zinc	**140**	1.0	0.74	1	B2K0605	11/26/2012	11/27/12 09:14	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/30/2012

QUALITY CONTROL SECTION

Title 22 Metals by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0605 - EPA 3050B									
Blank (B2K0605-BLK1)					Prepared: 11/26/2012 Analyzed: 11/27/2012				
Antimony	ND	2.0			NR				
Arsenic	ND	1.0			NR				
Barium	0.325204	1.0			NR				J
Beryllium	ND	1.0			NR				
Cadmium	ND	1.0			NR				
Chromium	0.258350	1.0			NR				J
Cobalt	ND	1.0			NR				
Copper	ND	2.0			NR				
Molybdenum	ND	1.0			NR				
Nickel	ND	1.0			NR				
Selenium	ND	1.0			NR				
Silver	ND	1.0			NR				
Thallium	ND	1.0			NR				
Vanadium	ND	1.0			NR				
Zinc	ND	1.0			NR				
LCS (B2K0605-BS1)					Prepared: 11/26/2012 Analyzed: 11/27/2012				
Antimony	44.1885	2.0	50.0000		88.4	80 - 120			
Arsenic	44.4662	1.0	50.0000		88.9	80 - 120			
Barium	46.3774	1.0	50.0000		92.8	80 - 120			
Beryllium	46.1350	1.0	50.0000		92.3	80 - 120			
Cadmium	46.3020	1.0	50.0000		92.6	80 - 120			
Chromium	48.0556	1.0	50.0000		96.1	80 - 120			
Cobalt	47.7002	1.0	50.0000		95.4	80 - 120			
Copper	47.2455	2.0	50.0000		94.5	80 - 120			
Molybdenum	48.4604	1.0	50.0000		96.9	80 - 120			
Nickel	46.8758	1.0	50.0000		93.8	80 - 120			
Selenium	40.6497	1.0	50.0000		81.3	80 - 120			
Silver	44.6569	1.0	50.0000		89.3	80 - 120			
Thallium	48.8054	1.0	50.0000		97.6	80 - 120			
Vanadium	46.0809	1.0	50.0000		92.2	80 - 120			
Zinc	48.4848	1.0	50.0000		97.0	80 - 120			
Duplicate (B2K0605-DUP1)		**Source: 1203892-05**			Prepared: 11/26/2012 Analyzed: 11/27/2012				
Antimony	0.397804	2.0		0.442755	NR		10.7	20	J
Arsenic	2.61041	1.0		2.75090	NR		5.24	20	
Barium	139.858	1.0		125.968	NR		10.5	20	
Beryllium	ND	1.0		ND	NR			20	
Cadmium	0.881814	1.0		0.876010	NR		0.660	20	J
Chromium	13.8612	1.0		14.4266	NR		4.00	20	
Cobalt	5.22795	1.0		5.45003	NR		4.16	20	
Copper	29.2441	2.0		30.1842	NR		3.16	20	
Molybdenum	1.32078	1.0		1.51793	NR		13.9	20	

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Burbank , CA 91504	Reported : 11/30/2012

Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0605 - EPA 3050B (continued)									
Duplicate (B2K0605-DUP1) - Continued		**Source: 1203892-05**			Prepared: 11/26/2012 Analyzed: 11/27/2012				
Nickel	12.8927	1.0		13.5417	NR		4.91	20	
Selenium	ND	1.0		ND	NR			20	
Silver	ND	1.0		ND	NR			20	
Thallium	ND	1.0		ND	NR			20	
Vanadium	21.2902	1.0		21.4223	NR		0.619	20	
Zinc	159.945	1.0		156.375	NR		2.26	20	
Matrix Spike (B2K0605-MS1)		**Source: 1203892-05**			Prepared: 11/26/2012 Analyzed: 11/27/2012				
Antimony	59.3561	2.0	125.000	0.442755	47.1	44 - 105			
Arsenic	94.5318	1.0	125.000	2.75090	73.4	57 - 103			
Barium	225.465	1.0	125.000	125.968	79.6	36 - 134			
Beryllium	92.0519	1.0	125.000	ND	73.6	64 - 106			
Cadmium	88.7390	1.0	125.000	0.876010	70.3	58 - 102			
Chromium	109.936	1.0	125.000	14.4266	76.4	55 - 105			
Cobalt	97.7604	1.0	125.000	5.45003	73.8	59 - 105			
Copper	130.496	2.0	125.000	30.1842	80.2	64 - 117			
Molybdenum	93.8405	1.0	125.000	1.51793	73.9	59 - 108			
Nickel	104.796	1.0	125.000	13.5417	73.0	52 - 109			
Selenium	87.9875	1.0	125.000	ND	70.4	56 - 100			
Silver	83.0114	1.0	125.000	ND	66.4	65 - 107			
Thallium	84.2978	1.0	125.000	ND	67.4	47 - 100			
Vanadium	115.567	1.0	125.000	21.4223	75.3	64 - 110			
Zinc	253.727	1.0	125.000	156.375	77.9	37 - 123			
Matrix Spike Dup (B2K0605-MSD1)		**Source: 1203892-05**			Prepared: 11/26/2012 Analyzed: 11/27/2012				
Antimony	59.7259	2.0	125.000	0.442755	47.4	44 - 105	0.621	20	
Arsenic	92.3206	1.0	125.000	2.75090	71.7	57 - 103	2.37	20	
Barium	217.269	1.0	125.000	125.968	73.0	36 - 134	3.70	20	
Beryllium	90.5090	1.0	125.000	ND	72.4	64 - 106	1.69	20	
Cadmium	89.2368	1.0	125.000	0.876010	70.7	58 - 102	0.559	20	
Chromium	108.494	1.0	125.000	14.4266	75.3	55 - 105	1.32	20	
Cobalt	97.3074	1.0	125.000	5.45003	73.5	59 - 105	0.464	20	
Copper	127.732	2.0	125.000	30.1842	78.0	64 - 117	2.14	20	
Molybdenum	91.8146	1.0	125.000	1.51793	72.2	59 - 108	2.18	20	
Nickel	103.911	1.0	125.000	13.5417	72.3	52 - 109	0.848	20	
Selenium	86.7395	1.0	125.000	ND	69.4	56 - 100	1.43	20	
Silver	80.7485	1.0	125.000	ND	64.6	65 - 107	2.76	20	M1
Thallium	83.3012	1.0	125.000	ND	66.6	47 - 100	1.19	20	
Vanadium	112.780	1.0	125.000	21.4223	73.1	64 - 110	2.44	20	
Zinc	240.506	1.0	125.000	156.375	67.3	37 - 123	5.35	20	
Batch S2K0360 - B2K0603									
Instrument Blank (S2K0360-IBL1)					Prepared: 11/27/2012 Analyzed: 11/27/2012				
Antimony	ND	2.0			NR				
Arsenic	ND	1.0			NR				
Barium	ND	1.0			NR				

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Burbank , CA 91504	Reported : 11/30/2012

Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch S2K0360 - B2K0603 (continued)									
Instrument Blank (S2K0360-IBL1) - Continued					Prepared: 11/27/2012 Analyzed: 11/27/2012				
Beryllium	ND	1.0			NR				
Cadmium	ND	1.0			NR				
Chromium	ND	1.0			NR				
Cobalt	ND	1.0			NR				
Copper	ND	2.0			NR				
Molybdenum	ND	1.0			NR				
Nickel	ND	1.0			NR				
Selenium	ND	1.0			NR				
Silver	ND	1.0			NR				
Thallium	ND	1.0			NR				
Vanadium	ND	1.0			NR				
Zinc	ND	1.0			NR				

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3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/30/2012

TCLP Lead by AA (Direct Aspiration) EPA 7420 - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0675 - EPA 3010A_SOIL									
Blank (B2K0675-BLK1)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	ND	0.50			NR				
Blank (B2K0675-BLK2)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	ND	0.50			NR				
Blank (B2K0675-BLK3)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	ND	0.50			NR				
Blank (B2K0675-BLK4)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	ND	0.50			NR				
LCS (B2K0675-BS1)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	0.904168	0.50	1.00000		90.4	80 - 120			
Duplicate (B2K0675-DUP1)		**Source: 1203937-69**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	0.630692	0.50		0.483791	NR		26.4	20	R
Duplicate (B2K0675-DUP2)		**Source: 1203922-13**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	1.38699	0.50		1.39431	NR		0.526	20	
Matrix Spike (B2K0675-MS1)		**Source: 1203937-69**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	3.48598	0.50	2.50000	0.483791	120	80 - 120			
Matrix Spike (B2K0675-MS2)		**Source: 1203922-13**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	4.06373	0.50	2.50000	1.39431	107	80 - 120			
Matrix Spike Dup (B2K0675-MSD1)		**Source: 1203937-69**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	3.50819	0.50	2.50000	0.483791	121	80 - 120	0.635	20	M1
Batch S2K0407 - B2K0675									
Instrument Blank (S2K0407-IBL1)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	ND	0.50			NR				

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Burbank , CA 91504	Reported : 11/30/2012

Mercury by AA (Cold Vapor) EPA 7471 - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0676 - EPA 7471									
Blank (B2K0676-BLK1)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Mercury	ND	0.10			NR				
LCS (B2K0676-BS1)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Mercury	0.860874	0.10	0.833333		103	80 - 120			
Duplicate (B2K0676-DUP1)		**Source: 1203892-05**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Mercury	0.164644	0.10		0.165772	NR		0.683	20	
Matrix Spike (B2K0676-MS1)		**Source: 1203892-05**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Mercury	0.880898	0.10	0.833333	0.165772	85.8	70 - 130			
Matrix Spike (B2K0676-MS2)		**Source: 1203892-05**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Mercury	0.007162		5.00000E-3	0.001989	103	70 - 130			
Matrix Spike Dup (B2K0676-MSD1)		**Source: 1203892-05**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Mercury	0.878486	0.10	0.833333	0.165772	85.5	70 - 130	0.274	20	
Batch S2K0406 - B2K0676									
Instrument Blank (S2K0406-IBL1)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Mercury	ND	0.10			NR				

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Burbank , CA 91504	Reported : 11/30/2012

pH by EPA 9045C - Quality Control

Analyte	Result (pH Units)	PQL (pH Units)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0680 - Prep_WC_1_S									
Duplicate (B2K0680-DUP1)		**Source: 1203924-22**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
pH	6.80000	0.10		6.98000	NR		2.61	20	

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3303 N. San Fernando Blvd., Suite 100		Report To :	Mike Conkle
Burbank , CA 91504		Reported :	11/30/2012

Notes and Definitions

R	RPD value outside acceptance criteria. Calculation is based on raw values.
M1	Matrix spike recovery outside of acceptance limit. The analytical batch was validated by the laboratory control sample.
J	Analyte detected below the Practical Quantitation Limit but above or equal to the Method Detection Limit. Result is an estimated concentration.
ND	Analyte not detected at or above reporting limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA1	CA-NELAP (CDPH)
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

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

Diane Galvan

From: Mike Conkle [conkle@geoconinc.com]
Sent: Wednesday, November 21, 2012 2:39 PM
To: Diane Galvan
Subject: FW: geocon project number S9475-06-22 - additional analysis
Attachments: S9475-06-22 ATL Add Analysis.xlsx

Hi Diane,
We would like to run the test indicated with an "X" on the attached table. These samples are for Geocon project number S9475-06-22. ATL work order nos. 1203892, 1203893, 1203922, and 1203954.

Let me know if you have questions.

Michael P. Conkle, PG | *Senior Geologist*
Geocon
3303 N. San Fernando Blvd. Suite 100, Burbank, CA 91504
Tel 818.841.8388 Fax 818.841.1704 Cell 213.503.7841
http://www.geoconinc.com

SAMPLE ID	SAMPLE DATE	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	WET-DI LEAD (mg/l)	TCLP LEAD (mg/l)	pH (pH units)	METALS
1190-101-0.0	11/6/2012	52	4.1				
1190-101-1.0	11/6/2012	42	2.8				
1190-101-2.0	11/6/2012	13	0.96				
1190-101-3.0	11/6/2012	9.7	0.55				
1190-102-0.0	11/6/2012	380	24	<0.26	X	X	X
1190-102-1.0	11/6/2012	44	2.5				
1190-102-2.0	11/6/2012	29	1.8				
1190-102-4.0	11/6/2012	170	9.1	<0.26			
1190-103-0	11/6/2012	150	16	<0.26			
1190-103-1	11/6/2012	4.3	0.30 J				
1190-103-2	11/6/2012	14	1.2				
1190-103-4.5	11/6/2012	8.7	0.74				
1190-104-0.0	11/6/2012	350	24	<0.26	X		
1190-104-1.0	11/6/2012	380	27	<0.26	X		
1190-104-2.0	11/6/2012	130	11	<0.26			
1190-104-4.0	11/6/2012	200	14	<0.26			
1190-105-0.0	11/6/2012	570	47	<0.26	X	X	X
1190-105-1.0	11/6/2012	280	27	<0.26			
1190-105-2.0	11/6/2012	150	9.1	<0.26			
1190-105-3.5	11/6/2012	400	20	<0.26	X	X	
1190-106-0.0	11/6/2012	87	8.9	<0.26			
1190-106-1.0	11/6/2012	200	19	<0.26			
1190-106-2.0	11/6/2012	150	13	<0.26			
1190-106-3.5	11/6/2012	99	7.0	<0.26			
1190-107-0.0	11/6/2012	18	1.0				
1190-107-1.0	11/6/2012	7.0	0.44 J				
1190-107-2.0	11/6/2012	15	0.55				
1190-107-4.5	11/6/2012	22	0.98				
DRAFT: 1190-108-0.0	11/7/2012	340	24	X	X	X	X
DRAFT: 1190-108-1.0	11/7/2012	200	30	X	X	X	
DRAFT: 1190-108-2.0	11/7/2012	16	1.3				
DRAFT: 1190-108-4.5	11/7/2012	17	0.87				
DRAFT: 1190-109-0.0	11/8/2012	72	3.6				
DRAFT: 1190-109-1.0	11/8/2012	100	6.4	X			
DRAFT: 1190-109-2.0	11/8/2012	50	3.1				
DRAFT: 1190-109-3.0	11/8/2012	48	2.9				
DRAFT: 1190-110-0.0	11/8/2012	130	8.4	X			
DRAFT: 1190-110-1.0	11/8/2012	110	8.2	X			
DRAFT: 1190-110-2.0	11/8/2012	6.2	0.71				
DRAFT: 1190-110-4.5	11/8/2012	47	3.7				

DRAFT: 1190-111-0.0	11/8/2012	350	21	X	X	X	X
DRAFT: 1190-111-1.0	11/8/2012	220	11	X	X		
DRAFT: 1190-111-2.0	11/8/2012	15	0.94				
DRAFT: 1190-111-4.5	11/8/2012	41	2.7				
DRAFT: 1190-112-0.0	11/8/2012	90	3.9				
DRAFT: 1190-112-1.0	11/8/2012	79	4.2				
DRAFT: 1190-112-2.0	11/8/2012	7.1	0.61				
DRAFT: 1190-112-4.5	11/8/2012	5.5	0.51				
DRAFT: 1190-113-0.0	11/8/2012	150	9.0	X	X		
DRAFT: 1190-113-1.0	11/8/2012	88	5.0	X			
DRAFT: 1190-113-2.0	11/8/2012	33	1.4				
DRAFT: 1190-113-4.5	11/8/2012	60	3.2				
DRAFT: 1190-114-0.0	11/8/2012	42	1.8				
DRAFT: 1190-114-1.0	11/8/2012	11	0.51				
DRAFT: 1190-114-2.0	11/8/2012	7.5	0.3				
DRAFT: 1190-114-4.5	11/8/2012	17	0.86				
1190-115-0	11/6/2012	530	41	<0.26	X		
1190-115-1	11/6/2012	34	2.2				
1190-115-2	11/6/2012	6.5	0.54				
1190-115-4.5	11/6/2012	9.6	0.63				
DRAFT: 1190-116-0.0	11/7/2012	3,700	230	X	X	X	X
DRAFT: 1190-116-1.0	11/7/2012	250	19	X			
DRAFT: 1190-116-2.0	11/7/2012	31	1.4				
DRAFT: 1190-116-3.5	11/7/2012	110	6.7	X			
DRAFT: 1190-117-0.0	11/7/2012	3,200	160	X	X	X	
DRAFT: 1190-117-1.0	11/7/2012	250	11	X			
DRAFT: 1190-117-2.0	11/7/2012	740	30	X			
DRAFT: 1190-117-4.5	11/7/2012	180	13	X			
DRAFT: 1190-118-0.0	11/7/2012	1,500	110	X	X		
DRAFT: 1190-118-1.0	11/7/2012	250	11	X			
DRAFT: 1190-118-2.0	11/7/2012	430	39	X			
DRAFT: 1190-118-4.5	11/7/2012	110	7.5	X			
DRAFT: 1190-119-0.0	11/7/2012	950	63	X	X		
DRAFT: 1190-119-1.0	11/7/2012	31	1.6				
DRAFT: 1190-119-2.0	11/7/2012	18	0.48				
DRAFT: 1190-119-4.5	11/7/2012	12	0.9				

November 20, 2012

Mike Conkle
Geocon Consultants, Inc.
3303 N. San Fernando Blvd., Suite 100
Burbank, CA 91504
Tel: (818) 841-8388
Fax:(818) 841-1704

ELAP No.: 1838
NELAP No.: 02107CA
CSDLAC No.: 10196
ORELAP No.: CA300003
TCEQ No.: T104704502

Re: ATL Work Order Number : 1203893

Client Reference : Los Angeles Route 2, S9475-06-22

Enclosed are the results for sample(s) received on November 06, 2012 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

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

Sincerely,

Eddie Rodriguez
Laboratory Director

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100		Report To :	Mike Conkle
Burbank , CA 91504		Reported :	11/20/2012

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
1190-115-0	1203893-01	Soil	11/06/12 11:50	11/06/12 15:19
1190-115-1	1203893-02	Soil	11/06/12 11:51	11/06/12 15:19
1190-115-2	1203893-03	Soil	11/06/12 11:52	11/06/12 15:19
1190-115-4.5	1203893-04	Soil	11/06/12 11:53	11/06/12 15:19
1190-103-0	1203893-05	Soil	11/06/12 13:05	11/06/12 15:19
1190-103-1	1203893-06	Soil	11/06/12 13:06	11/06/12 15:19
1190-103-2	1203893-07	Soil	11/06/12 13:07	11/06/12 15:19
1190-103-4.5	1203893-08	Soil	11/06/12 13:08	11/06/12 15:19
1190-EB-2	1203893-09	Water	11/06/12 13:20	11/06/12 15:19

CASE NARRATIVE

Results were J-flagged. "J" is used to flag those results that are between the PQL (Practical Quantitation Limit) and the calculated MDL (Method Detection Limit). Results that are "J" flagged are estimated values since it becomes difficult to accurately quantitate the analyte near the MDL.

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/20/2012

Lead by ICP-AES EPA 6010B

Analyte: Lead **Analyst: SB**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203893-01	1190-115-0	**530**	mg/kg	1.0	0.18	1	B2K0135	11/07/2012	11/08/12 14:10	
1203893-02	1190-115-1	**34**	mg/kg	1.0	0.18	1	B2K0135	11/07/2012	11/08/12 14:10	
1203893-03	1190-115-2	**6.5**	mg/kg	1.0	0.18	1	B2K0135	11/07/2012	11/08/12 14:11	
1203893-04	1190-115-4.5	**9.6**	mg/kg	1.0	0.18	1	B2K0135	11/07/2012	11/08/12 14:11	
1203893-05	1190-103-0	**150**	mg/kg	1.0	0.18	1	B2K0135	11/07/2012	11/08/12 14:12	
1203893-06	1190-103-1	**4.3**	mg/kg	1.0	0.18	1	B2K0135	11/07/2012	11/08/12 14:14	
1203893-07	1190-103-2	**14**	mg/kg	1.0	0.18	1	B2K0135	11/07/2012	11/08/12 14:15	
1203893-08	1190-103-4.5	**8.7**	mg/kg	1.0	0.18	1	B2K0135	11/07/2012	11/08/12 14:16	

Lead by ICP-AES EPA 6010B

Analyte: Lead **Analyst: PT**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203893-09	1190-EB-2	**ND**	mg/L	0.0050	0.0028	1	B2K0142	11/07/2012	11/08/12 13:05	

STLC Lead by AA (Direct Aspiration) by EPA 7420

Analyte: Lead **Analyst: SB**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203893-01	1190-115-0	**41**	mg/L	5.0	2.6	10	B2K0214	11/09/2012	11/12/12 16:50	
1203893-02	1190-115-1	**2.2**	mg/L	0.50	0.26	1	B2K0214	11/09/2012	11/12/12 16:50	
1203893-03	1190-115-2	**0.54**	mg/L	0.50	0.26	1	B2K0214	11/09/2012	11/12/12 16:50	
1203893-04	1190-115-4.5	**0.63**	mg/L	0.50	0.26	1	B2K0214	11/09/2012	11/12/12 16:51	
1203893-05	1190-103-0	**16**	mg/L	1.0	0.52	2	B2K0214	11/09/2012	11/12/12 16:52	
1203893-06	1190-103-1	**0.30**	mg/L	0.50	0.26	1	B2K0214	11/09/2012	11/12/12 16:53	J
1203893-07	1190-103-2	**1.2**	mg/L	0.50	0.26	1	B2K0214	11/09/2012	11/12/12 16:54	
1203893-08	1190-103-4.5	**0.74**	mg/L	0.50	0.26	1	B2K0214	11/09/2012	11/12/12 16:55	

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100		Report To :	Mike Conkle
Burbank , CA 91504		Reported :	11/20/2012

STLC-DI Lead by AA (Direct Aspiration) EPA 7420

Analyte: Lead **Analyst: VV**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203893-01	1190-115-0	**ND**	mg/L	0.50	0.26	1	B2K0474	11/19/2012	11/19/12 18:06	
1203893-05	1190-103-0	**ND**	mg/L	0.50	0.26	1	B2K0474	11/19/2012	11/19/12 18:06	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/20/2012

QUALITY CONTROL SECTION

Lead by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0135 - EPA 3050 Modified									
Blank (B2K0135-BLK1)					Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	0.579619	1.0			NR				J
Blank (B2K0135-BLK2)					Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	0.625778	1.0			NR				J
LCS (B2K0135-BS1)					Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	51.0735	1.0			NR	80 - 120			
Duplicate (B2K0135-DUP1)		**Source: 1203893-08**			Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	14.3020	1.0		8.69968	NR		48.7	20	R
Duplicate (B2K0135-DUP2)		**Source: 1203893-06**			Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	3.72192	1.0		4.26524	NR		13.6	20	
Matrix Spike (B2K0135-MS1)		**Source: 1203893-08**			Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	267.791	1.0	250.000	8.69968	104	46 - 116			
Matrix Spike (B2K0135-MS2)		**Source: 1203893-06**			Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	261.969	1.0	250.000	4.26524	103	46 - 116			
Matrix Spike Dup (B2K0135-MSD1)		**Source: 1203893-08**			Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	208.604	1.0	250.000	8.69968	80.0	46 - 116	24.8	20	M1
Batch B2K0142 - EPA 3010A									
Blank (B2K0142-BLK1)					Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	ND	0.0050			NR				
LCS (B2K0142-BS1)					Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	0.997462	0.0050	1.00000		99.7	80 - 120			
Duplicate (B2K0142-DUP1)		**Source: 1203891-21**			Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	ND	0.0050		ND	NR			20	
Matrix Spike (B2K0142-MS1)		**Source: 1203891-21**			Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	2.22399	0.0050	2.50000	ND	89.0	78 - 117			
Matrix Spike Dup (B2K0142-MSD1)		**Source: 1203891-21**			Prepared: 11/7/2012 Analyzed: 11/8/2012				
Lead	2.20098	0.0050	2.50000	ND	88.0	78 - 117	1.04	20	
Batch S2K0103 - B2K0142									
Instrument Blank (S2K0103-IBL1)					Prepared: 11/8/2012 Analyzed: 11/8/2012				
Lead	ND	0.0050			NR				
Batch S2K0110 - B2J0834									

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/20/2012

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

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch S2K0110 - B2J0834 (continued)									
Instrument Blank (S2K0110-IBL1)					Prepared: 11/8/2012 Analyzed: 11/8/2012				
Lead	ND	1.0			NR				

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/20/2012

STLC Lead by AA (Direct Aspiration) by EPA 7420 - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0214 - STLC Extraction									
Blank (B2K0214-BLK1)					Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	0.312963	0.50			NR				J
Blank (B2K0214-BLK2)					Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	0.308525	0.50			NR				J
LCS (B2K0214-BS1)					Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	5.46035	0.05	5.00000		109	80 - 120			
Duplicate (B2K0214-DUP1)		**Source: 1203893-06**			Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	0.287301	0.50		0.298588	NR		3.85	20	J
Duplicate (B2K0214-DUP2)		**Source: 1203893-08**			Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	0.699101	0.50		0.735906	NR		5.13	20	
Matrix Spike (B2K0214-MS1)		**Source: 1203893-06**			Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	5.25433	0.05	5.00000	0.298588	99.1	80 - 120			
Matrix Spike (B2K0214-MS2)		**Source: 1203893-08**			Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	5.76130	0.05	5.00000	0.735906	101	80 - 120			
Batch S2K0170 - B2K0214									
Instrument Blank (S2K0170-IBL1)					Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	ND	0.50			NR				

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/20/2012

STLC-DI Lead by AA (Direct Aspiration) EPA 7420 - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0474 - STLC DI Extraction									
Blank (B2K0474-BLK1)					Prepared: 11/19/2012 Analyzed: 11/19/2012				
Lead	ND	0.50			NR				
Blank (B2K0474-BLK2)					Prepared: 11/19/2012 Analyzed: 11/19/2012				
Lead	ND	0.50			NR				
LCS (B2K0474-BS1)					Prepared: 11/19/2012 Analyzed: 11/19/2012				
Lead	4.90850	0.05	5.00000		98.2	80 - 120			
Duplicate (B2K0474-DUP1)		**Source: 1203892-16**			Prepared: 11/19/2012 Analyzed: 11/19/2012				
Lead	ND	0.50		ND	NR			20	
Duplicate (B2K0474-DUP2)		**Source: 1203893-05**			Prepared: 11/19/2012 Analyzed: 11/19/2012				
Lead	ND	0.50		ND	NR			20	
Matrix Spike (B2K0474-MS1)		**Source: 1203892-16**			Prepared: 11/19/2012 Analyzed: 11/19/2012				
Lead	4.93208	0.05	5.00000	ND	98.6	80 - 120			
Matrix Spike (B2K0474-MS2)		**Source: 1203893-05**			Prepared: 11/19/2012 Analyzed: 11/19/2012				
Lead	5.00207	0.05	5.00000	ND	100	80 - 120			
Matrix Spike Dup (B2K0474-MSD1)		**Source: 1203892-16**			Prepared: 11/19/2012 Analyzed: 11/19/2012				
Lead	5.03539	0.05	5.00000	ND	101	80 - 120	2.07	20	
Batch S2K0290 - B2K0474									
Instrument Blank (S2K0290-IBL1)					Prepared: 11/19/2012 Analyzed: 11/19/2012				
Lead	ND	0.50			NR				

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100		Report To :	Mike Conkle
Burbank , CA 91504		Reported :	11/20/2012

Notes and Definitions

R	RPD value outside acceptance criteria. Calculation is based on raw values.
M1	Matrix spike recovery outside of acceptance limit. The analytical batch was validated by the laboratory control sample.
J	Analyte detected below the Practical Quantitation Limit but above or equal to the Method Detection Limit. Result is an estimated concentration.
ND	Analyte not detected at or above reporting limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA1	CA-NELAP (CDPH)
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

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

CHAIN OF CUSTODY RECORD

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

FOR LABORATORY USE ONLY

P.O. #: _____
Logged By: _____ Date: _____

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other: _____

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

Client: Geocon
Attention: Mike Conkle
Address: 3303 North San Fernando Blvd Suite 100
City: Burbank State: CA Zip Code: 91504
Tel: 818-841-8388
Fax: 818-841-1704

Project Name: Los Angeles Route 2 Project #: S9475-06-22 Sampler: M. O'Brien (Signature)

Relinquished by: (Signature and Printed Name)	Date: 11/6/12	Time: 1519	Received by: (Signature and Printed Name)	Date: 11/6/12	Time: 1819
Relinquished by: (Signature and Printed Name)	Date: 11/6/12	Time: 1519	Received by: (Signature and Printed Name)	Date: 11/6/12	Time: 1519
Relinquished by: (Signature and Printed Name)	Date: 11/6/12	Time: 1641	Received by: (Signature and Printed Name)	Date: 11/6/12	Time: 1641

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter: Mike Conkle
Print Name: Mike Conkle Date
Signature: Mike Conkle

Send Report To:
Attn: Mike Conkle
Co: Geocon Consultants Inc.
Addr: 3303 North San Fernando Blvd Suite 100
City: Burbank State: CA Zip: 91504

Bill To:
Attn: Mike Conkle
Co: Geocon Consultants Inc.
Addr: 3303 North San Fernando Blvd Suite 100
City: Burbank State: CA Zip: 91504

Special Instructions/Comments:
CT Contract 07A2729
Run samples with total lead greater than 40 mg/kg by WET.
Run TCLP and Ph with total lead greater than 100 mg/kg.
Report MDLs and PQLs
Run samples for total lead and STLC
STLC results greater than 5 mg/L
will be analyzed with the soluble lead test (DI-WET)
Run waste water samples for TPH-D with silica gel clean-up
QA/QC
RTNE ☐
CT ☐
SWRCB ☐ Logcode _____
OTHER _____

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

ITEM	LAB USE ONLY: Lab No.	Sample Description: Sample ID / Location	Date	Time	Total Lead by EPA Method 6010	STLC by (WET) Method	Soluble Lead Test by (DI-WET) Meth	Title 22 metals	SVOC by 8270 SIM	SOIL	WATER	GROUND WATER	WASTEWATER	TAT	Container(s) #	Container(s) Type	REMARKS
	1203893-1	~~NS~~ 1190-115-0	11/6/12	1150	x					x				E	1	G J	
	-2	1		1151	x					x				E	1	G J	
	-3	2		1152	x					x				E	1	G J	
	-4	4.5		1153	x					x				E	1	G J	
	-5	1190-103-0		1305	x					x				E	1	G J	
	-6	1		1306	x					x				E	1	G J	
	-7	2		1307	x					x				E	1	G J	
	-8	4.5		1308	x					x				E	1	G J	
	-9	1190-EB-2		1320	x					x	X			E	1	P J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	

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

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

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

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

ADVANCED TECHNOLOGY LABORATORIES

November 30, 2012

ACCREDITED IN ACCORDANCE WITH nelac

ELAP No.: 1838
NELAP No.: 02107CA
CSDLAC No.: 10196
ORELAP No.: CA300003
TCEQ No.: T104704502

Mike Conkle
Geocon Consultants, Inc.
3303 N. San Fernando Blvd., Suite 100
Burbank, CA 91504
Tel: (818) 841-8388
Fax:(818) 841-1704

Re: ATL Work Order Number : 1203893

Client Reference : Los Angeles Route 2, S9475-06-22

Enclosed are the results for sample(s) received on November 06, 2012 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

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

Sincerely,

Eddie Rodriguez
Laboratory Director

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100		Report To :	Mike Conkle
Burbank , CA 91504		Reported :	11/30/2012

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
1190-115-0	1203893-01	Soil	11/06/12 11:50	11/06/12 15:19

CASE NARRATIVE

Results were J-flagged. "J" is used to flag those results that are between the PQL (Practical Quantitation Limit) and the calculated MDL (Method Detection Limit). Results that are "J" flagged are estimated values since it becomes difficult to accurately quantitate the analyte near the MDL.

Sample Receiving/General Comments

Sample amount used for TCLP analysis by EPA 1311 is less than the amount required by the method. The client was notified on 11/29/12.

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100		Report To :	Mike Conkle
Burbank , CA 91504		Reported :	11/30/2012

TCLP Lead by AA (Direct Aspiration) EPA 7420

Analyte: Lead **Analyst: VV**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203893-01	1190-115-0	**2.7**	mg/L	0.50	0.26	1	B2K0675	11/29/2012	11/29/12 13:16	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/30/2012

QUALITY CONTROL SECTION

TCLP Lead by AA (Direct Aspiration) EPA 7420 - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0675 - EPA 3010A_SOIL									
Blank (B2K0675-BLK1)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	ND	0.50			NR				
Blank (B2K0675-BLK2)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	ND	0.50			NR				
Blank (B2K0675-BLK3)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	ND	0.50			NR				
Blank (B2K0675-BLK4)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	ND	0.50			NR				
LCS (B2K0675-BS1)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	0.904168	0.50	1.00000		90.4	80 - 120			
Duplicate (B2K0675-DUP1)		**Source: 1203937-69**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	0.630692	0.50		0.483791	NR		26.4	20	R
Duplicate (B2K0675-DUP2)		**Source: 1203922-13**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	1.38699	0.50		1.39431	NR		0.526	20	
Matrix Spike (B2K0675-MS1)		**Source: 1203937-69**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	3.48598	0.50	2.50000	0.483791	120	80 - 120			
Matrix Spike (B2K0675-MS2)		**Source: 1203922-13**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	4.06373	0.50	2.50000	1.39431	107	80 - 120			
Matrix Spike Dup (B2K0675-MSD1)		**Source: 1203937-69**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	3.50819	0.50	2.50000	0.483791	121	80 - 120	0.635	20	M1
Batch S2K0407 - B2K0675									
Instrument Blank (S2K0407-IBL1)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	ND	0.50			NR				

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100		Report To :	Mike Conkle
Burbank , CA 91504		Reported :	11/30/2012

Notes and Definitions

R	RPD value outside acceptance criteria. Calculation is based on raw values.
M1	Matrix spike recovery outside of acceptance limit. The analytical batch was validated by the laboratory control sample.
ND	Analyte not detected at or above reporting limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA1	CA-NELAP (CDPH)
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

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

Diane Galvan

From: Mike Conkle [conkle@geoconinc.com]
Sent: Wednesday, November 21, 2012 2:39 PM
To: Diane Galvan
Subject: FW: geocon project number S9475-06-22 - additional analysis
Attachments: S9475-06-22 ATL Add Analysis.xlsx

Hi Diane,
We would like to run the test indicated with an "X" on the attached table. These samples are for Geocon project number S9475-06-22. ATL work order nos. 1203892, 1203893, 1203922, and 1203954.

Let me know if you have questions.

Michael P. Conkle, PG | *Senior Geologist*
Geocon
3303 N. San Fernando Blvd. Suite 100, Burbank, CA 91504
Tel 818.841.8388 Fax 818.841.1704 Cell 213.503.7841
http://www.geoconinc.com

SAMPLE ID	SAMPLE DATE	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	WET-DI LEAD (mg/l)	TCLP LEAD (mg/l)	pH (pH units)	METALS
1190-101-0.0	11/6/2012	52	4.1				
1190-101-1.0	11/6/2012	42	2.8				
1190-101-2.0	11/6/2012	13	0.96				
1190-101-3.0	11/6/2012	9.7	0.55				
1190-102-0.0	11/6/2012	380	24	<0.26	X	X	X
1190-102-1.0	11/6/2012	44	2.5				
1190-102-2.0	11/6/2012	29	1.8				
1190-102-4.0	11/6/2012	170	9.1	<0.26			
1190-103-0	11/6/2012	150	16	<0.26			
1190-103-1	11/6/2012	4.3	0.30 J				
1190-103-2	11/6/2012	14	1.2				
1190-103-4.5	11/6/2012	8.7	0.74				
1190-104-0.0	11/6/2012	350	24	<0.26	X		
1190-104-1.0	11/6/2012	380	27	<0.26	X		
1190-104-2.0	11/6/2012	130	11	<0.26			
1190-104-4.0	11/6/2012	200	14	<0.26			
1190-105-0.0	11/6/2012	570	47	<0.26	X	X	X
1190-105-1.0	11/6/2012	280	27	<0.26			
1190-105-2.0	11/6/2012	150	9.1	<0.26			
1190-105-3.5	11/6/2012	400	20	<0.26	X	X	
1190-106-0.0	11/6/2012	87	8.9	<0.26			
1190-106-1.0	11/6/2012	200	19	<0.26			
1190-106-2.0	11/6/2012	150	13	<0.26			
1190-106-3.5	11/6/2012	99	7.0	<0.26			
1190-107-0.0	11/6/2012	18	1.0				
1190-107-1.0	11/6/2012	7.0	0.44 J				
1190-107-2.0	11/6/2012	15	0.55				
1190-107-4.5	11/6/2012	22	0.98				
DRAFT: 1190-108-0.0	11/7/2012	340	24	X	X	X	X
DRAFT: 1190-108-1.0	11/7/2012	200	30	X	X	X	
DRAFT: 1190-108-2.0	11/7/2012	16	1.3				
DRAFT: 1190-108-4.5	11/7/2012	17	0.87				
DRAFT: 1190-109-0.0	11/8/2012	72	3.6				
DRAFT: 1190-109-1.0	11/8/2012	100	6.4	X			
DRAFT: 1190-109-2.0	11/8/2012	50	3.1				
DRAFT: 1190-109-3.0	11/8/2012	48	2.9				
DRAFT: 1190-110-0.0	11/8/2012	130	8.4	X			
DRAFT: 1190-110-1.0	11/8/2012	110	8.2	X			
DRAFT: 1190-110-2.0	11/8/2012	6.2	0.71				
DRAFT: 1190-110-4.5	11/8/2012	47	3.7				

DRAFT: 1190-111-0.0	11/8/2012	350	21	X	X	X	X
DRAFT: 1190-111-1.0	11/8/2012	220	11	X	X		
DRAFT: 1190-111-2.0	11/8/2012	15	0.94				
DRAFT: 1190-111-4.5	11/8/2012	41	2.7				
DRAFT: 1190-112-0.0	11/8/2012	90	3.9				
DRAFT: 1190-112-1.0	11/8/2012	79	4.2				
DRAFT: 1190-112-2.0	11/8/2012	7.1	0.61				
DRAFT: 1190-112-4.5	11/8/2012	5.5	0.51				
DRAFT: 1190-113-0.0	11/8/2012	150	9.0	X	X		
DRAFT: 1190-113-1.0	11/8/2012	88	5.0	X			
DRAFT: 1190-113-2.0	11/8/2012	33	1.4				
DRAFT: 1190-113-4.5	11/8/2012	60	3.2				
DRAFT: 1190-114-0.0	11/8/2012	42	1.8				
DRAFT: 1190-114-1.0	11/8/2012	11	0.51				
DRAFT: 1190-114-2.0	11/8/2012	7.5	0.3				
DRAFT: 1190-114-4.5	11/8/2012	17	0.86				
1190-115-0	11/6/2012	530	41	<0.26	X		
1190-115-1	11/6/2012	34	2.2				
1190-115-2	11/6/2012	6.5	0.54				
1190-115-4.5	11/6/2012	9.6	0.63				
DRAFT: 1190-116-0.0	11/7/2012	3,700	230	X	X	X	X
DRAFT: 1190-116-1.0	11/7/2012	250	19	X			
DRAFT: 1190-116-2.0	11/7/2012	31	1.4				
DRAFT: 1190-116-3.5	11/7/2012	110	6.7	X			
DRAFT: 1190-117-0.0	11/7/2012	3,200	160	X	X	X	
DRAFT: 1190-117-1.0	11/7/2012	250	11	X			
DRAFT: 1190-117-2.0	11/7/2012	740	30	X			
DRAFT: 1190-117-4.5	11/7/2012	180	13	X			
DRAFT: 1190-118-0.0	11/7/2012	1,500	110	X	X		
DRAFT: 1190-118-1.0	11/7/2012	250	11	X			
DRAFT: 1190-118-2.0	11/7/2012	430	39	X			
DRAFT: 1190-118-4.5	11/7/2012	110	7.5	X			
DRAFT: 1190-119-0.0	11/7/2012	950	63	X	X		
DRAFT: 1190-119-1.0	11/7/2012	31	1.6				
DRAFT: 1190-119-2.0	11/7/2012	18	0.48				
DRAFT: 1190-119-4.5	11/7/2012	12	0.9				

ADVANCED TECHNOLOGY LABORATORIES

November 21, 2012

ELAP No.: 1838
NELAP No.: 02107CA
CSDLAC No.: 10196
ORELAP No.: CA300003
TCEQ No.: T104704502

Mike Conkle
Geocon Consultants, Inc.
3303 N. San Fernando Blvd., Suite 100
Burbank, CA 91504
Tel: (818) 841-8388
Fax:(818) 841-1704

Re: ATL Work Order Number : 1203922

Client Reference : Los Angeles Route 2, S9475-06-22

Enclosed are the results for sample(s) received on November 07, 2012 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

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

Sincerely,

Eddie Rodriguez
Laboratory Director

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/21/2012

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
1190-116-0.0	1203922-01	Soil	11/07/12 8:42	11/07/12 14:06
1190-116-1.0	1203922-02	Soil	11/07/12 8:46	11/07/12 14:06
1190-116-2.0	1203922-03	Soil	11/07/12 9:21	11/07/12 14:06
1190-116-3.5	1203922-04	Soil	11/07/12 9:26	11/07/12 14:06
1190-117-0.0	1203922-05	Soil	11/07/12 9:37	11/07/12 14:06
1190-117-1.0	1203922-06	Soil	11/07/12 9:40	11/07/12 14:06
1190-117-2.0	1203922-07	Soil	11/07/12 9:55	11/07/12 14:06
1190-117-4.5	1203922-08	Soil	11/07/12 10:18	11/07/12 14:06
1190-118-0.0	1203922-09	Soil	11/07/12 10:31	11/07/12 14:06
1190-118-1.0	1203922-10	Soil	11/07/12 10:35	11/07/12 14:06
1190-118-2.0	1203922-11	Soil	11/07/12 10:44	11/07/12 14:06
1190-118-4.5	1203922-12	Soil	11/07/12 10:54	11/07/12 14:06
1190-119-0.0	1203922-13	Soil	11/07/12 11:08	11/07/12 14:06
1190-119-1.0	1203922-14	Soil	11/07/12 11:11	11/07/12 14:06
1190-119-2.0	1203922-15	Soil	11/07/12 11:15	11/07/12 14:06
1190-119-4.5	1203922-16	Soil	11/07/12 11:19	11/07/12 14:06
1190-EB-3	1203922-17	Water	11/07/12 14:10	11/07/12 14:06

CASE NARRATIVE

Results were J-flagged. "J" is used to flag those results that are between the PQL (Practical Quantitation Limit) and the calculated MDL (Method Detection Limit). Results that are "J" flagged are estimated values since it becomes difficult to accurately quantitate the analyte near the MDL.

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/21/2012

Lead by ICP-AES EPA 6010B

Analyte: Lead **Analyst: PT**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203922-01	1190-116-0.0	**3700**	mg/kg	1.0	0.18	1	B2K0215	11/09/2012	11/12/12 15:45	
1203922-02	1190-116-1.0	**250**	mg/kg	1.0	0.18	1	B2K0215	11/09/2012	11/12/12 15:46	
1203922-03	1190-116-2.0	**31**	mg/kg	1.0	0.18	1	B2K0215	11/09/2012	11/12/12 15:47	
1203922-04	1190-116-3.5	**110**	mg/kg	1.0	0.18	1	B2K0215	11/09/2012	11/12/12 15:47	
1203922-05	1190-117-0.0	**3200**	mg/kg	1.0	0.18	1	B2K0215	11/09/2012	11/12/12 15:48	
1203922-06	1190-117-1.0	**250**	mg/kg	1.0	0.18	1	B2K0215	11/09/2012	11/12/12 15:49	
1203922-07	1190-117-2.0	**740**	mg/kg	1.0	0.18	1	B2K0215	11/09/2012	11/12/12 15:49	
1203922-08	1190-117-4.5	**180**	mg/kg	1.0	0.18	1	B2K0215	11/09/2012	11/12/12 15:51	
1203922-09	1190-118-0.0	**1500**	mg/kg	1.0	0.18	1	B2K0215	11/09/2012	11/12/12 15:51	
1203922-10	1190-118-1.0	**250**	mg/kg	1.0	0.18	1	B2K0215	11/09/2012	11/12/12 15:52	
1203922-11	1190-118-2.0	**430**	mg/kg	1.0	0.18	1	B2K0215	11/09/2012	11/12/12 15:53	
1203922-12	1190-118-4.5	**110**	mg/kg	1.0	0.18	1	B2K0215	11/09/2012	11/12/12 15:54	
1203922-13	1190-119-0.0	**950**	mg/kg	1.0	0.18	1	B2K0215	11/09/2012	11/12/12 15:55	
1203922-14	1190-119-1.0	**31**	mg/kg	1.0	0.18	1	B2K0215	11/09/2012	11/12/12 15:55	
1203922-15	1190-119-2.0	**18**	mg/kg	1.0	0.18	1	B2K0215	11/09/2012	11/12/12 15:56	
1203922-16	1190-119-4.5	**12**	mg/kg	1.0	0.18	1	B2K0215	11/09/2012	11/12/12 15:57	

Lead by ICP-AES EPA 6010B

Analyte: Lead **Analyst: PT**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203922-17	1190-EB-3	**0.0031**	mg/L	0.0050	0.0028	1	B2K0273	11/12/2012	11/12/12 13:29	J

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/21/2012

STLC Lead by AA (Direct Aspiration) by EPA 7420

Analyte: Lead **Analyst: SB**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203922-01	1190-116-0.0	**230**	mg/L	25	13	50	B2K0282	11/12/2012	11/12/12 15:13	
1203922-02	1190-116-1.0	**19**	mg/L	2.5	1.3	5	B2K0282	11/12/2012	11/12/12 15:15	
1203922-03	1190-116-2.0	**1.4**	mg/L	0.50	0.26	1	B2K0282	11/12/2012	11/12/12 15:15	
1203922-04	1190-116-3.5	**6.7**	mg/L	0.50	0.26	1	B2K0282	11/12/2012	11/12/12 15:15	
1203922-05	1190-117-0.0	**160**	mg/L	10	5.2	20	B2K0282	11/12/2012	11/12/12 15:17	
1203922-06	1190-117-1.0	**11**	mg/L	1.0	0.52	2	B2K0282	11/12/2012	11/12/12 15:18	
1203922-07	1190-117-2.0	**30**	mg/L	5.0	2.6	10	B2K0282	11/12/2012	11/12/12 15:22	
1203922-08	1190-117-4.5	**13**	mg/L	1.0	0.52	2	B2K0282	11/12/2012	11/12/12 15:24	
1203922-09	1190-118-0.0	**110**	mg/L	10	5.2	20	B2K0282	11/12/2012	11/12/12 15:26	
1203922-10	1190-118-1.0	**11**	mg/L	1.0	0.52	2	B2K0282	11/12/2012	11/12/12 15:29	
1203922-11	1190-118-2.0	**39**	mg/L	5.0	2.6	10	B2K0282	11/12/2012	11/12/12 15:30	
1203922-12	1190-118-4.5	**7.5**	mg/L	0.50	0.26	1	B2K0282	11/12/2012	11/12/12 15:31	
1203922-13	1190-119-0.0	**63**	mg/L	5.0	2.6	10	B2K0282	11/12/2012	11/12/12 15:32	
1203922-14	1190-119-1.0	**1.6**	mg/L	0.50	0.26	1	B2K0282	11/12/2012	11/12/12 15:33	
1203922-15	1190-119-2.0	**0.48**	mg/L	0.50	0.26	1	B2K0282	11/12/2012	11/12/12 15:33	J
1203922-16	1190-119-4.5	**0.90**	mg/L	0.50	0.26	1	B2K0282	11/12/2012	11/12/12 15:34	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/21/2012

STLC-DI Lead by AA (Direct Aspiration) EPA 7420

Analyte: Lead **Analyst: VV**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203922-01	1190-116-0.0	**1.0**	mg/L	0.50	0.26	1	B2K0520	11/20/2012	11/20/12 17:37	
1203922-02	1190-116-1.0	**ND**	mg/L	0.50	0.26	1	B2K0520	11/20/2012	11/20/12 17:37	
1203922-04	1190-116-3.5	**ND**	mg/L	0.50	0.26	1	B2K0520	11/20/2012	11/20/12 17:37	
1203922-05	1190-117-0.0	**0.46**	mg/L	0.50	0.26	1	B2K0520	11/20/2012	11/20/12 17:37	J
1203922-06	1190-117-1.0	**0.28**	mg/L	0.50	0.26	1	B2K0520	11/20/2012	11/20/12 17:38	J
1203922-07	1190-117-2.0	**ND**	mg/L	0.50	0.26	1	B2K0520	11/20/2012	11/20/12 17:38	
1203922-08	1190-117-4.5	**0.28**	mg/L	0.50	0.26	1	B2K0520	11/20/2012	11/20/12 17:38	J
1203922-09	1190-118-0.0	**0.39**	mg/L	0.50	0.26	1	B2K0520	11/20/2012	11/20/12 17:39	J
1203922-10	1190-118-1.0	**ND**	mg/L	0.50	0.26	1	B2K0520	11/20/2012	11/20/12 17:39	
1203922-11	1190-118-2.0	**0.85**	mg/L	0.50	0.26	1	B2K0520	11/20/2012	11/20/12 17:39	
1203922-12	1190-118-4.5	**0.36**	mg/L	0.50	0.26	1	B2K0520	11/20/2012	11/20/12 17:41	J
1203922-13	1190-119-0.0	**0.28**	mg/L	0.50	0.26	1	B2K0520	11/20/2012	11/20/12 17:41	J

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/21/2012

QUALITY CONTROL SECTION

Lead by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0215 - EPA 3050 Modified									
Blank (B2K0215-BLK1)					Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	0.550272	1.0			NR				J
Blank (B2K0215-BLK2)					Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	0.358965	1.0			NR				J
LCS (B2K0215-BS1)					Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	51.5643	1.0	50.0000		103	80 - 120			
Duplicate (B2K0215-DUP1)		**Source: 1203924-04**			Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	18.3184	1.0		11.0082	NR		49.9	20	R
Duplicate (B2K0215-DUP2)		**Source: 1203922-10**			Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	223.508	1.0		248.909	NR		10.8	20	
Matrix Spike (B2K0215-MS1)		**Source: 1203924-04**			Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	253.281	1.0	250.000	11.0082	96.9	46 - 116			
Matrix Spike (B2K0215-MS2)		**Source: 1203922-10**			Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	396.663	1.0	250.000	248.909	59.1	46 - 116			
Matrix Spike Dup (B2K0215-MSD1)		**Source: 1203924-04**			Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	243.850	1.0	250.000	11.0082	93.1	46 - 116	3.79	20	
Batch B2K0273 - EPA 3010A									
Blank (B2K0273-BLK1)					Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	ND	0.0050			NR				
LCS (B2K0273-BS1)					Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	1.01396	0.0050	1.00000		101	80 - 120			
Duplicate (B2K0273-DUP1)		**Source: 1203912-21**			Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	0.003465	0.0050		0.003170	NR		8.90	20	J
Matrix Spike (B2K0273-MS1)		**Source: 1203912-21**			Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	2.26862	0.0050	2.50000	0.003170	90.6	78 - 117			
Matrix Spike Dup (B2K0273-MSD1)		**Source: 1203912-21**			Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	2.40512	0.0050	2.50000	0.003170	96.1	78 - 117	5.84	20	
Batch S2K0155 - B2K0251									
Instrument Blank (S2K0155-IBL1)					Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	ND	1.0			NR				
Batch S2K0174 - B2K0216									

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/21/2012

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

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch S2K0174 - B2K0216 (continued)									
Instrument Blank (S2K0174-IBL1)					Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	ND	1.0			NR				

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/21/2012

STLC Lead by AA (Direct Aspiration) by EPA 7420 - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0282 - STLC Extraction									
Blank (B2K0282-BLK1)					Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	ND	0.50			NR				
Blank (B2K0282-BLK2)					Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	ND	0.50			NR				
LCS (B2K0282-BS1)					Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	5.64824	0.05	5.00000		113	80 - 120			
Duplicate (B2K0282-DUP1)		**Source: 1203922-09**			Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	111.240	10		111.936	NR		0.624	20	
Duplicate (B2K0282-DUP2)		**Source: 1203954-03**			Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	1.30009	0.50		1.32488	NR		1.89	20	
Matrix Spike (B2K0282-MS1)		**Source: 1203922-09**			Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	122.080	1.0	5.00000	111.936	203	80 - 120			M1
Matrix Spike (B2K0282-MS2)		**Source: 1203954-03**			Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	6.48245	0.05	5.00000	1.32488	103	80 - 120			
Matrix Spike Dup (B2K0282-MSD1)		**Source: 1203922-09**			Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	120.551	1.0	5.00000	111.936	172	80 - 120	1.26	20	M1
Batch S2K0170 - B2K0214									
Instrument Blank (S2K0170-IBL1)					Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	ND	0.50			NR				

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/21/2012

STLC-DI Lead by AA (Direct Aspiration) EPA 7420 - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0520 - STLC DI Extraction									
Blank (B2K0520-BLK1)					Prepared: 11/20/2012 Analyzed: 11/20/2012				
Lead	ND	0.50			NR				
Blank (B2K0520-BLK2)					Prepared: 11/20/2012 Analyzed: 11/20/2012				
Lead	ND	0.50			NR				
LCS (B2K0520-BS1)					Prepared: 11/20/2012 Analyzed: 11/20/2012				
Lead	5.10740	0.05	5.00000		102	80 - 120			
Duplicate (B2K0520-DUP1)		**Source: 1203922-11**			Prepared: 11/20/2012 Analyzed: 11/20/2012				
Lead	0.772310	0.50		0.845411	NR		9.04	20	
Duplicate (B2K0520-DUP2)		**Source: 1203922-13**			Prepared: 11/20/2012 Analyzed: 11/20/2012				
Lead	ND	0.50		0.275720	NR			20	
Matrix Spike (B2K0520-MS1)		**Source: 1203922-11**			Prepared: 11/20/2012 Analyzed: 11/20/2012				
Lead	6.35187	0.05	5.00000	0.845411	110	80 - 120			
Matrix Spike (B2K0520-MS2)		**Source: 1203922-13**			Prepared: 11/20/2012 Analyzed: 11/20/2012				
Lead	5.17556	0.05	5.00000	0.275720	98.0	80 - 120			
Matrix Spike Dup (B2K0520-MSD1)		**Source: 1203922-11**			Prepared: 11/20/2012 Analyzed: 11/20/2012				
Lead	6.40947	0.05	5.00000	0.845411	111	80 - 120	0.903	20	
Batch S2K0313 - B2K0520									
Instrument Blank (S2K0313-IBL1)					Prepared: 11/20/2012 Analyzed: 11/20/2012				
Lead	ND	0.50			NR				

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100		Report To :	Mike Conkle
Burbank , CA 91504		Reported :	11/21/2012

Notes and Definitions

R	RPD value outside acceptance criteria. Calculation is based on raw values.
M1	Matrix spike recovery outside of acceptance limit. The analytical batch was validated by the laboratory control sample.
J	Analyte detected below the Practical Quantitation Limit but above or equal to the Method Detection Limit. Result is an estimated concentration.
ND	Analyte not detected at or above reporting limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA1	CA-NELAP (CDPH)
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

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

CHAIN OF CUSTODY RECORD

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 5.6°C Y ☑ N ☐ 4. SEALED Y ☐ N ☑
2. HEADSPACE (VOA) Y ☐ N ☐ 5. # OF SPLS MATCH COC Y ☑ N ☐
3. CONTAINER INTACT Y ☑ N ☐ 6. PRESERVED Y ☐ N ☐

Client: Geocon
Attention: Mike Conkle
Address: 3303 North San Fernando Blvd Suite 100
City: Burbank State: CA Zip Code: 91504
Tel: 818-841-8388
Fax: 818-841-1704
Project Name: Los Angeles Route 2 Project #: S9475-06-22
Sampler: Mike Hoh (Signature)

Relinquished by: (Signature and Printed Name)	Mike Hoh	Date: 11/7/12	Time: 1406	Received by: (Signature and Printed Name)		Date: 11/7/12	Time: 1406
Relinquished by: (Signature and Printed Name)		Date: 11/7/12	Time: 1602	Received by: (Signature and Printed Name)		Date: 11/7/12	Time: 1605
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: Mike Conkle 11/7/12
Print Name Date
Mike Conkle
Signature

Send Report To:
Attn: Mike Conkle
Co: Geocon Consultants Inc.
Addr: 3303 North San Fernando Blvd Suite 100
City: Burbank State: CA Zip: 91504

Bill To:
Attn: Mike Conkle
Co: Geocon Consultants Inc.
Addr: 3303 North San Fernando Blvd Suite 100
City: Burbank State: CA Zip: 91504

Special Instructions/Comments:
CT Contract 07A2729
Run samples for total lead and STLC. STLC results greater than 5.0 mg/l will be analyze with the soluble lead test by WET using de-ionized water (DI-WET) as the extractant.
Report MDLs and PQLs. Filter and preserve water samples at the Lab.

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: RTNE ☐ CT ☐ SWRCB ☐ Logcode____ OTHER ____

ITEM	LAB USE ONLY: Lab No.	Sample Description: Sample ID / Location	Date	Time	Total Lead by EPA Method 6010	STLC by (WET) Method	Soluble Lead Test by (DI-WET) Meth	Title 22 metals	SVOC by 8270 SIM	SOIL	WATER	GROUND WATER	WASTEWATER	TAT	Container(s) #	Container(s) Type	REMARKS
	1203922-1	1190-116-0.0	11/7/12	0842	x					x				E	1	G J	
	-2	1190-116-1.0		0846	x					x				E	1	G J	
	-3	1190-116-2.0		0921	x					x				E	1	G J	
	-4	1190-116-3.5		0926	x					x				E	1	G J	
	-5	1190-117-0.0		0937	x					x				E	1	G J	
	-6	1190-117-1.0		0940	x					x				E	1	G J	
	-7	1190-117-2.0		0955	x					x				E	1	G J	
	-8	1190-117-4.5		1018	x					x				E	1	G J	
	-9	1190-118-0.0		1031	x					x				E	1	G J	
	-10	1190-118-1.0		1035	x					x				E	1	G J	
	-11	1190-118-2.0		1044	x					x				E	1	G J	
	-12	1190-118-4.5		1054	x					x				E	1	G J	
	-13	1190-119-0.0		1108	x					x				E	1	G J	
	-14	1190-119-1.0		1111	x					x				E	1	G J	
	-15	1190-119-2.0		1115	x					x				E	1	G J	
	-16	1190-119-4.5	↓	1119	x					x				E	1	G J	
	-17	1190-ES-3	↓	1410	x					X				E	1	P J	
					x					x				E	1	G J	
					x					x				E	1	G J	
					x					x				E	1	G J	

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

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

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

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

ADVANCED TECHNOLOGY LABORATORIES

November 30, 2012

ELAP No.: 1838
NELAP No.: 02107CA
CSDLAC No.: 10196
ORELAP No.: CA300003
TCEQ No.: T104704502

Mike Conkle
Geocon Consultants, Inc.
3303 N. San Fernando Blvd., Suite 100
Burbank, CA 91504
Tel: (818) 841-8388
Fax:(818) 841-1704

Re: ATL Work Order Number : 1203922

Client Reference : Los Angeles Route 2, S9475-06-22

Enclosed are the results for sample(s) received on November 07, 2012 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

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

Sincerely,

Eddie Rodriguez
Laboratory Director

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100		Report To :	Mike Conkle
Burbank , CA 91504		Reported :	11/30/2012

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
1190-116-0.0	1203922-01	Soil	11/07/12 8:42	11/07/12 14:06
1190-117-0.0	1203922-05	Soil	11/07/12 9:37	11/07/12 14:06
1190-118-0.0	1203922-09	Soil	11/07/12 10:31	11/07/12 14:06
1190-119-0.0	1203922-13	Soil	11/07/12 11:08	11/07/12 14:06

CASE NARRATIVE

Results were J-flagged. "J" is used to flag those results that are between the PQL (Practical Quantitation Limit) and the calculated MDL (Method Detection Limit). Results that are "J" flagged are estimated values since it becomes difficult to accurately quantitate the analyte near the MDL.

Sample Receiving/General Comments

Sample amount used for TCLP analysis by EPA 1311 is less than the amount required by the method. The client was notified on 11/29/12.

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/30/2012

TCLP Lead by AA (Direct Aspiration) EPA 7420

Analyte: Lead **Analyst: VV**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203922-01	1190-116-0.0	**7.2**	mg/L	0.50	0.26	1	B2K0675	11/29/2012	11/29/12 13:16	
1203922-05	1190-117-0.0	**5.3**	mg/L	0.50	0.26	1	B2K0675	11/29/2012	11/29/12 13:16	
1203922-09	1190-118-0.0	**2.0**	mg/L	0.50	0.26	1	B2K0675	11/29/2012	11/29/12 13:16	
1203922-13	1190-119-0.0	**1.4**	mg/L	0.50	0.26	1	B2K0675	11/29/2012	11/29/12 13:17	

Mercury by AA (Cold Vapor) EPA 7471

Analyte: Mercury **Analyst: VV**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203922-01	1190-116-0.0	**0.21**	mg/kg	0.10	0.008	1	B2K0676	11/29/2012	11/29/12 13:34	

pH by EPA 9045C

Analyte: pH **Analyst: LA**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203922-01	1190-116-0.0	**6.4**	pH Units	0.10	0.10	1	B2K0680	11/29/2012	11/29/12 15:21	
1203922-05	1190-117-0.0	**6.4**	pH Units	0.10	0.10	1	B2K0680	11/29/2012	11/29/12 15:21	

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100		Report To :	Mike Conkle
Burbank , CA 91504		Reported :	11/30/2012

Client Sample ID 1190-116-0.0

Lab ID: 1203922-01

Title 22 Metals by ICP-AES EPA 6010B **Analyst: PT**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	**0.81**	2.0	0.35	1	B2K0605	11/26/2012	11/27/12 09:15	J
Arsenic	**3.8**	1.0	0.14	1	B2K0605	11/26/2012	11/27/12 09:15	
Barium	**160**	1.0	0.15	1	B2K0605	11/26/2012	11/27/12 09:15	
Beryllium	ND	1.0	0.06	1	B2K0605	11/26/2012	11/27/12 09:15	
Cadmium	**2.2**	1.0	0.03	1	B2K0605	11/26/2012	11/27/12 09:15	
Chromium	**21**	1.0	0.20	1	B2K0605	11/26/2012	11/27/12 09:15	
Cobalt	**5.4**	1.0	0.03	1	B2K0605	11/26/2012	11/27/12 09:15	
Copper	**50**	2.0	0.28	1	B2K0605	11/26/2012	11/27/12 09:15	
Molybdenum	**2.6**	1.0	0.05	1	B2K0605	11/26/2012	11/27/12 09:15	
Nickel	**19**	1.0	0.19	1	B2K0605	11/26/2012	11/27/12 09:15	
Selenium	**0.39**	1.0	0.38	1	B2K0605	11/26/2012	11/27/12 09:15	J
Silver	ND	1.0	0.08	1	B2K0605	11/26/2012	11/27/12 09:15	
Thallium	ND	1.0	0.30	1	B2K0605	11/26/2012	11/27/12 09:15	
Vanadium	**19**	1.0	0.10	1	B2K0605	11/26/2012	11/27/12 09:15	
Zinc	**520**	1.0	0.74	1	B2K0605	11/26/2012	11/27/12 09:15	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/30/2012

QUALITY CONTROL SECTION

Title 22 Metals by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0605 - EPA 3050B									
Blank (B2K0605-BLK1)					Prepared: 11/26/2012 Analyzed: 11/27/2012				
Antimony	ND	2.0			NR				
Arsenic	ND	1.0			NR				
Barium	0.325204	1.0			NR				J
Beryllium	ND	1.0			NR				
Cadmium	ND	1.0			NR				
Chromium	0.258350	1.0			NR				J
Cobalt	ND	1.0			NR				
Copper	ND	2.0			NR				
Molybdenum	ND	1.0			NR				
Nickel	ND	1.0			NR				
Selenium	ND	1.0			NR				
Silver	ND	1.0			NR				
Thallium	ND	1.0			NR				
Vanadium	ND	1.0			NR				
Zinc	ND	1.0			NR				
LCS (B2K0605-BS1)					Prepared: 11/26/2012 Analyzed: 11/27/2012				
Antimony	44.1885	2.0	50.0000		88.4	80 - 120			
Arsenic	44.4662	1.0	50.0000		88.9	80 - 120			
Barium	46.3774	1.0	50.0000		92.8	80 - 120			
Beryllium	46.1350	1.0	50.0000		92.3	80 - 120			
Cadmium	46.3020	1.0	50.0000		92.6	80 - 120			
Chromium	48.0556	1.0	50.0000		96.1	80 - 120			
Cobalt	47.7002	1.0	50.0000		95.4	80 - 120			
Copper	47.2455	2.0	50.0000		94.5	80 - 120			
Molybdenum	48.4604	1.0	50.0000		96.9	80 - 120			
Nickel	46.8758	1.0	50.0000		93.8	80 - 120			
Selenium	40.6497	1.0	50.0000		81.3	80 - 120			
Silver	44.6569	1.0	50.0000		89.3	80 - 120			
Thallium	48.8054	1.0	50.0000		97.6	80 - 120			
Vanadium	46.0809	1.0	50.0000		92.2	80 - 120			
Zinc	48.4848	1.0	50.0000		97.0	80 - 120			
Duplicate (B2K0605-DUP1)		**Source: 1203892-05**			Prepared: 11/26/2012 Analyzed: 11/27/2012				
Antimony	0.397804	2.0		0.442755	NR		10.7	20	J
Arsenic	2.61041	1.0		2.75090	NR		5.24	20	
Barium	139.858	1.0		125.968	NR		10.5	20	
Beryllium	ND	1.0		ND	NR			20	
Cadmium	0.881814	1.0		0.876010	NR		0.660	20	J
Chromium	13.8612	1.0		14.4266	NR		4.00	20	
Cobalt	5.22795	1.0		5.45003	NR		4.16	20	
Copper	29.2441	2.0		30.1842	NR		3.16	20	
Molybdenum	1.32078	1.0		1.51793	NR		13.9	20	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/30/2012

Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0605 - EPA 3050B (continued)									
Duplicate (B2K0605-DUP1) - Continued		**Source: 1203892-05**			Prepared: 11/26/2012 Analyzed: 11/27/2012				
Nickel	12.8927	1.0		13.5417	NR		4.91	20	
Selenium	ND	1.0		ND	NR			20	
Silver	ND	1.0		ND	NR			20	
Thallium	ND	1.0		ND	NR			20	
Vanadium	21.2902	1.0		21.4223	NR		0.619	20	
Zinc	159.945	1.0		156.375	NR		2.26	20	
Matrix Spike (B2K0605-MS1)		**Source: 1203892-05**			Prepared: 11/26/2012 Analyzed: 11/27/2012				
Antimony	59.3561	2.0	125.000	0.442755	47.1	44 - 105			
Arsenic	94.5318	1.0	125.000	2.75090	73.4	57 - 103			
Barium	225.465	1.0	125.000	125.968	79.6	36 - 134			
Beryllium	92.0519	1.0	125.000	ND	73.6	64 - 106			
Cadmium	88.7390	1.0	125.000	0.876010	70.3	58 - 102			
Chromium	109.936	1.0	125.000	14.4266	76.4	55 - 105			
Cobalt	97.7604	1.0	125.000	5.45003	73.8	59 - 105			
Copper	130.496	2.0	125.000	30.1842	80.2	64 - 117			
Molybdenum	93.8405	1.0	125.000	1.51793	73.9	59 - 108			
Nickel	104.796	1.0	125.000	13.5417	73.0	52 - 109			
Selenium	87.9875	1.0	125.000	ND	70.4	56 - 100			
Silver	83.0114	1.0	125.000	ND	66.4	65 - 107			
Thallium	84.2978	1.0	125.000	ND	67.4	47 - 100			
Vanadium	115.567	1.0	125.000	21.4223	75.3	64 - 110			
Zinc	253.727	1.0	125.000	156.375	77.9	37 - 123			
Matrix Spike Dup (B2K0605-MSD1)		**Source: 1203892-05**			Prepared: 11/26/2012 Analyzed: 11/27/2012				
Antimony	59.7259	2.0	125.000	0.442755	47.4	44 - 105	0.621	20	
Arsenic	92.3206	1.0	125.000	2.75090	71.7	57 - 103	2.37	20	
Barium	217.269	1.0	125.000	125.968	73.0	36 - 134	3.70	20	
Beryllium	90.5090	1.0	125.000	ND	72.4	64 - 106	1.69	20	
Cadmium	89.2368	1.0	125.000	0.876010	70.7	58 - 102	0.559	20	
Chromium	108.494	1.0	125.000	14.4266	75.3	55 - 105	1.32	20	
Cobalt	97.3074	1.0	125.000	5.45003	73.5	59 - 105	0.464	20	
Copper	127.732	2.0	125.000	30.1842	78.0	64 - 117	2.14	20	
Molybdenum	91.8146	1.0	125.000	1.51793	72.2	59 - 108	2.18	20	
Nickel	103.911	1.0	125.000	13.5417	72.3	52 - 109	0.848	20	
Selenium	86.7395	1.0	125.000	ND	69.4	56 - 100	1.43	20	
Silver	80.7485	1.0	125.000	ND	64.6	65 - 107	2.76	20	M1
Thallium	83.3012	1.0	125.000	ND	66.6	47 - 100	1.19	20	
Vanadium	112.780	1.0	125.000	21.4223	73.1	64 - 110	2.44	20	
Zinc	240.506	1.0	125.000	156.375	67.3	37 - 123	5.35	20	
Batch S2K0360 - B2K0603									
Instrument Blank (S2K0360-IBL1)					Prepared: 11/27/2012 Analyzed: 11/27/2012				
Antimony	ND	2.0			NR				
Arsenic	ND	1.0			NR				
Barium	ND	1.0			NR				

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/30/2012

Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch S2K0360 - B2K0603 (continued)									
Instrument Blank (S2K0360-IBL1) - Continued					Prepared: 11/27/2012 Analyzed: 11/27/2012				
Beryllium	ND	1.0			NR				
Cadmium	ND	1.0			NR				
Chromium	ND	1.0			NR				
Cobalt	ND	1.0			NR				
Copper	ND	2.0			NR				
Molybdenum	ND	1.0			NR				
Nickel	ND	1.0			NR				
Selenium	ND	1.0			NR				
Silver	ND	1.0			NR				
Thallium	ND	1.0			NR				
Vanadium	ND	1.0			NR				
Zinc	ND	1.0			NR				

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/30/2012

TCLP Lead by AA (Direct Aspiration) EPA 7420 - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0675 - EPA 3010A_SOIL									
Blank (B2K0675-BLK1)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	ND	0.50			NR				
Blank (B2K0675-BLK2)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	ND	0.50			NR				
Blank (B2K0675-BLK3)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	ND	0.50			NR				
Blank (B2K0675-BLK4)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	ND	0.50			NR				
LCS (B2K0675-BS1)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	0.904168	0.50	1.00000		90.4	80 - 120			
Duplicate (B2K0675-DUP1)		**Source: 1203937-69**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	0.630692	0.50		0.483791	NR		26.4	20	R
Duplicate (B2K0675-DUP2)		**Source: 1203922-13**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	1.38699	0.50		1.39431	NR		0.526	20	
Matrix Spike (B2K0675-MS1)		**Source: 1203937-69**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	3.48598	0.50	2.50000	0.483791	120	80 - 120			
Matrix Spike (B2K0675-MS2)		**Source: 1203922-13**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	4.06373	0.50	2.50000	1.39431	107	80 - 120			
Matrix Spike Dup (B2K0675-MSD1)		**Source: 1203937-69**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	3.50819	0.50	2.50000	0.483791	121	80 - 120	0.635	20	M1
Batch S2K0407 - B2K0675									
Instrument Blank (S2K0407-IBL1)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Lead	ND	0.50			NR				

Certificate of Analysis

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3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/30/2012

Mercury by AA (Cold Vapor) EPA 7471 - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0676 - EPA 7471									
Blank (B2K0676-BLK1)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Mercury	ND	0.10			NR				
LCS (B2K0676-BS1)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Mercury	0.860874	0.10	0.833333		103	80 - 120			
Duplicate (B2K0676-DUP1)		**Source: 1203892-05**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Mercury	0.164644	0.10		0.165772	NR		0.683	20	
Matrix Spike (B2K0676-MS1)		**Source: 1203892-05**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Mercury	0.880898	0.10	0.833333	0.165772	85.8	70 - 130			
Matrix Spike (B2K0676-MS2)		**Source: 1203892-05**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Mercury	0.007162		5.00000E-3	0.001989	103	70 - 130			
Matrix Spike Dup (B2K0676-MSD1)		**Source: 1203892-05**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Mercury	0.878486	0.10	0.833333	0.165772	85.5	70 - 130	0.274	20	
Batch S2K0406 - B2K0676									
Instrument Blank (S2K0406-IBL1)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Mercury	ND	0.10			NR				

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/30/2012

pH by EPA 9045C - Quality Control

Analyte	Result (pH Units)	PQL (pH Units)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0680 - Prep_WC_1_S									
Duplicate (B2K0680-DUP1)		**Source: 1203924-22**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
pH	6.80000	0.10		6.98000	NR		2.61	20	

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100		Report To :	Mike Conkle
Burbank , CA 91504		Reported :	11/30/2012

Notes and Definitions

R	RPD value outside acceptance criteria. Calculation is based on raw values.
M1	Matrix spike recovery outside of acceptance limit. The analytical batch was validated by the laboratory control sample.
J	Analyte detected below the Practical Quantitation Limit but above or equal to the Method Detection Limit. Result is an estimated concentration.
ND	Analyte not detected at or above reporting limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA1	CA-NELAP (CDPH)
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

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

Diane Galvan

From: Mike Conkle [conkle@geoconinc.com]
Sent: Wednesday, November 21, 2012 2:39 PM
To: Diane Galvan
Subject: FW: geocon project number S9475-06-22 - additional analysis
Attachments: S9475-06-22 ATL Add Analysis.xlsx

Hi Diane,
We would like to run the test indicated with an "X" on the attached table. These samples are for Geocon project number S9475-06-22. ATL work order nos. 1203892, 1203893, 1203922, and 1203954.

Let me know if you have questions.

Michael P. Conkle, PG | *Senior Geologist*
Geocon
3303 N. San Fernando Blvd. Suite 100, Burbank, CA 91504
Tel 818.841.8388 Fax 818.841.1704 Cell 213.503.7841
http://www.geoconinc.com

SAMPLE ID	SAMPLE DATE	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	WET-DI LEAD (mg/l)	TCLP LEAD (mg/l)	pH (pH units)	METALS
1190-101-0.0	11/6/2012	52	4.1				
1190-101-1.0	11/6/2012	42	2.8				
1190-101-2.0	11/6/2012	13	0.96				
1190-101-3.0	11/6/2012	9.7	0.55				
1190-102-0.0	11/6/2012	380	24	<0.26	X	X	X
1190-102-1.0	11/6/2012	44	2.5				
1190-102-2.0	11/6/2012	29	1.8				
1190-102-4.0	11/6/2012	170	9.1	<0.26			
1190-103-0	11/6/2012	150	16	<0.26			
1190-103-1	11/6/2012	4.3	0.30 J				
1190-103-2	11/6/2012	14	1.2				
1190-103-4.5	11/6/2012	8.7	0.74				
1190-104-0.0	11/6/2012	350	24	<0.26	X		
1190-104-1.0	11/6/2012	380	27	<0.26	X		
1190-104-2.0	11/6/2012	130	11	<0.26			
1190-104-4.0	11/6/2012	200	14	<0.26			
1190-105-0.0	11/6/2012	570	47	<0.26	X	X	X
1190-105-1.0	11/6/2012	280	27	<0.26			
1190-105-2.0	11/6/2012	150	9.1	<0.26			
1190-105-3.5	11/6/2012	400	20	<0.26	X	X	
1190-106-0.0	11/6/2012	87	8.9	<0.26			
1190-106-1.0	11/6/2012	200	19	<0.26			
1190-106-2.0	11/6/2012	150	13	<0.26			
1190-106-3.5	11/6/2012	99	7.0	<0.26			
1190-107-0.0	11/6/2012	18	1.0				
1190-107-1.0	11/6/2012	7.0	0.44 J				
1190-107-2.0	11/6/2012	15	0.55				
1190-107-4.5	11/6/2012	22	0.98				
DRAFT: 1190-108-0.0	11/7/2012	340	24	X	X	X	X
DRAFT: 1190-108-1.0	11/7/2012	200	30	X	X	X	
DRAFT: 1190-108-2.0	11/7/2012	16	1.3				
DRAFT: 1190-108-4.5	11/7/2012	17	0.87				
DRAFT: 1190-109-0.0	11/8/2012	72	3.6				
DRAFT: 1190-109-1.0	11/8/2012	100	6.4	X			
DRAFT: 1190-109-2.0	11/8/2012	50	3.1				
DRAFT: 1190-109-3.0	11/8/2012	48	2.9				
DRAFT: 1190-110-0.0	11/8/2012	130	8.4	X			
DRAFT: 1190-110-1.0	11/8/2012	110	8.2	X			
DRAFT: 1190-110-2.0	11/8/2012	6.2	0.71				
DRAFT: 1190-110-4.5	11/8/2012	47	3.7				

DRAFT: 1190-111-0.0	11/8/2012	350	21	X	X	X	X
DRAFT: 1190-111-1.0	11/8/2012	220	11	X	X		
DRAFT: 1190-111-2.0	11/8/2012	15	0.94				
DRAFT: 1190-111-4.5	11/8/2012	41	2.7				
DRAFT: 1190-112-0.0	11/8/2012	90	3.9				
DRAFT: 1190-112-1.0	11/8/2012	79	4.2				
DRAFT: 1190-112-2.0	11/8/2012	7.1	0.61				
DRAFT: 1190-112-4.5	11/8/2012	5.5	0.51				
DRAFT: 1190-113-0.0	11/8/2012	150	9.0	X	X		
DRAFT: 1190-113-1.0	11/8/2012	88	5.0	X			
DRAFT: 1190-113-2.0	11/8/2012	33	1.4				
DRAFT: 1190-113-4.5	11/8/2012	60	3.2				
DRAFT: 1190-114-0.0	11/8/2012	42	1.8				
DRAFT: 1190-114-1.0	11/8/2012	11	0.51				
DRAFT: 1190-114-2.0	11/8/2012	7.5	0.3				
DRAFT: 1190-114-4.5	11/8/2012	17	0.86				
1190-115-0	11/6/2012	530	41	<0.26	X		
1190-115-1	11/6/2012	34	2.2				
1190-115-2	11/6/2012	6.5	0.54				
1190-115-4.5	11/6/2012	9.6	0.63				
DRAFT: 1190-116-0.0	11/7/2012	3,700	230	X	X	X	X
DRAFT: 1190-116-1.0	11/7/2012	250	19	X			
DRAFT: 1190-116-2.0	11/7/2012	31	1.4				
DRAFT: 1190-116-3.5	11/7/2012	110	6.7	X			
DRAFT: 1190-117-0.0	11/7/2012	3,200	160	X	X	X	
DRAFT: 1190-117-1.0	11/7/2012	250	11	X			
DRAFT: 1190-117-2.0	11/7/2012	740	30	X			
DRAFT: 1190-117-4.5	11/7/2012	180	13	X			
DRAFT: 1190-118-0.0	11/7/2012	1,500	110	X	X		
DRAFT: 1190-118-1.0	11/7/2012	250	11	X			
DRAFT: 1190-118-2.0	11/7/2012	430	39	X			
DRAFT: 1190-118-4.5	11/7/2012	110	7.5	X			
DRAFT: 1190-119-0.0	11/7/2012	950	63	X	X		
DRAFT: 1190-119-1.0	11/7/2012	31	1.6				
DRAFT: 1190-119-2.0	11/7/2012	18	0.48				
DRAFT: 1190-119-4.5	11/7/2012	12	0.9				

ADVANCED TECHNOLOGY LABORATORIES

November 21, 2012

ELAP No.: 1838
NELAP No.: 02107CA
CSDLAC No.: 10196
ORELAP No.: CA300003
TCEQ No.: T104704502

Mike Conkle
Geocon Consultants, Inc.
3303 N. San Fernando Blvd., Suite 100
Burbank, CA 91504
Tel: (818) 841-8388
Fax:(818) 841-1704

Re: ATL Work Order Number : 1203954

Client Reference : Los Angeles Route 2, S9475-06-22

Enclosed are the results for sample(s) received on November 08, 2012 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

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

Sincerely,

Eddie Rodriguez
Laboratory Director

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/21/2012

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
1190-108-0.0	1203954-01	Soil	11/07/12 14:36	11/08/12 15:11
1190-108-1.0	1203954-02	Soil	11/07/12 14:39	11/08/12 15:11
1190-108-2.0	1203954-03	Soil	11/07/12 14:42	11/08/12 15:11
1190-108-4.5	1203954-04	Soil	11/07/12 14:47	11/08/12 15:11
1190-109-0.0	1203954-05	Soil	11/08/12 8:52	11/08/12 15:11
1190-109-1.0	1203954-06	Soil	11/08/12 9:00	11/08/12 15:11
1190-109-2.0	1203954-07	Soil	11/08/12 9:15	11/08/12 15:11
1190-109-3.0	1203954-08	Soil	11/08/12 9:22	11/08/12 15:11
1190-110-0.0	1203954-09	Soil	11/08/12 9:56	11/08/12 15:11
1190-110-1.0	1203954-10	Soil	11/08/12 9:58	11/08/12 15:11
1190-110-2.0	1203954-11	Soil	11/08/12 10:03	11/08/12 15:11
1190-110-4.5	1203954-12	Soil	11/08/12 10:15	11/08/12 15:11
1190-111-0.0	1203954-13	Soil	11/08/12 10:39	11/08/12 15:11
1190-111-1.0	1203954-14	Soil	11/08/12 10:41	11/08/12 15:11
1190-111-2.0	1203954-15	Soil	11/08/12 10:45	11/08/12 15:11
1190-111-4.5	1203954-16	Soil	11/08/12 11:00	11/08/12 15:11
1190-112-0.0	1203954-17	Soil	11/08/12 12:10	11/08/12 15:11
1190-112-1.0	1203954-18	Soil	11/08/12 12:12	11/08/12 15:11
1190-112-2.0	1203954-19	Soil	11/08/12 12:15	11/08/12 15:11
1190-112-4.5	1203954-20	Soil	11/08/12 12:22	11/08/12 15:11
1190-113-0.0	1203954-21	Soil	11/08/12 11:17	11/08/12 15:11
1190-113-1.0	1203954-22	Soil	11/08/12 11:19	11/08/12 15:11
1190-113-2.0	1203954-23	Soil	11/08/12 11:22	11/08/12 15:11
1190-113-4.5	1203954-24	Soil	11/08/12 11:30	11/08/12 15:11
1190-114-0.0	1203954-25	Soil	11/08/12 11:35	11/08/12 15:11
1190-114-1.0	1203954-26	Soil	11/08/12 11:37	11/08/12 15:11
1190-114-2.0	1203954-27	Soil	11/08/12 11:38	11/08/12 15:11
1190-114-4.5	1203954-28	Soil	11/08/12 11:48	11/08/12 15:11
1190-EB-4	1203954-29	Water	11/08/12 12:30	11/08/12 15:11

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100		Report To :	Mike Conkle
Burbank , CA 91504		Reported :	11/21/2012

CASE NARRATIVE

Results were J-flagged. "J" is used to flag those results that are between the PQL (Practical Quantitation Limit) and the calculated MDL (Method Detection Limit). Results that are "J" flagged are estimated values since it becomes difficult to accurately quantitate the analyte near the MDL.

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/21/2012

Lead by ICP-AES EPA 6010B

Analyte: Lead **Analyst: PT**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203954-01	1190-108-0.0	**340**	mg/kg	1.0	0.18	1	B2K0218	11/10/2012	11/12/12 16:27	
1203954-02	1190-108-1.0	**200**	mg/kg	1.0	0.18	1	B2K0218	11/10/2012	11/12/12 16:27	
1203954-03	1190-108-2.0	**16**	mg/kg	1.0	0.18	1	B2K0218	11/10/2012	11/12/12 16:28	
1203954-04	1190-108-4.5	**17**	mg/kg	1.0	0.18	1	B2K0218	11/10/2012	11/12/12 16:31	
1203954-05	1190-109-0.0	**72**	mg/kg	1.0	0.18	1	B2K0218	11/10/2012	11/12/12 16:31	
1203954-06	1190-109-1.0	**100**	mg/kg	1.0	0.18	1	B2K0218	11/10/2012	11/12/12 16:32	
1203954-07	1190-109-2.0	**50**	mg/kg	1.0	0.18	1	B2K0218	11/10/2012	11/12/12 16:32	
1203954-08	1190-109-3.0	**48**	mg/kg	1.0	0.18	1	B2K0218	11/10/2012	11/12/12 16:33	
1203954-09	1190-110-0.0	**130**	mg/kg	1.0	0.18	1	B2K0218	11/10/2012	11/12/12 16:33	
1203954-10	1190-110-1.0	**110**	mg/kg	1.0	0.18	1	B2K0218	11/10/2012	11/12/12 16:34	
1203954-11	1190-110-2.0	**6.2**	mg/kg	1.0	0.18	1	B2K0218	11/10/2012	11/12/12 16:34	
1203954-12	1190-110-4.5	**47**	mg/kg	1.0	0.18	1	B2K0218	11/10/2012	11/12/12 16:35	
1203954-13	1190-111-0.0	**350**	mg/kg	1.0	0.18	1	B2K0218	11/10/2012	11/12/12 16:36	
1203954-14	1190-111-1.0	**220**	mg/kg	1.0	0.18	1	B2K0257	11/10/2012	11/12/12 16:40	
1203954-15	1190-111-2.0	**15**	mg/kg	1.0	0.18	1	B2K0257	11/10/2012	11/12/12 16:41	
1203954-16	1190-111-4.5	**41**	mg/kg	1.0	0.18	1	B2K0257	11/10/2012	11/12/12 16:41	
1203954-17	1190-112-0.0	**90**	mg/kg	1.0	0.18	1	B2K0257	11/10/2012	11/12/12 17:14	
1203954-18	1190-112-1.0	**79**	mg/kg	1.0	0.18	1	B2K0257	11/10/2012	11/12/12 17:15	
1203954-19	1190-112-2.0	**7.1**	mg/kg	1.0	0.18	1	B2K0257	11/10/2012	11/12/12 17:16	
1203954-20	1190-112-4.5	**5.5**	mg/kg	1.0	0.18	1	B2K0257	11/10/2012	11/12/12 17:16	
1203954-21	1190-113-0.0	**150**	mg/kg	1.0	0.18	1	B2K0257	11/10/2012	11/12/12 17:17	
1203954-22	1190-113-1.0	**88**	mg/kg	1.0	0.18	1	B2K0257	11/10/2012	11/12/12 17:17	
1203954-23	1190-113-2.0	**33**	mg/kg	1.0	0.18	1	B2K0257	11/10/2012	11/12/12 17:18	
1203954-24	1190-113-4.5	**60**	mg/kg	1.0	0.18	1	B2K0257	11/10/2012	11/12/12 17:19	
1203954-25	1190-114-0.0	**42**	mg/kg	1.0	0.18	1	B2K0257	11/10/2012	11/12/12 17:21	
1203954-26	1190-114-1.0	**11**	mg/kg	1.0	0.18	1	B2K0257	11/10/2012	11/12/12 17:22	
1203954-27	1190-114-2.0	**7.5**	mg/kg	1.0	0.18	1	B2K0257	11/10/2012	11/12/12 17:22	
1203954-28	1190-114-4.5	**17**	mg/kg	1.0	0.18	1	B2K0257	11/10/2012	11/12/12 17:23	

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100		Report To :	Mike Conkle
Burbank , CA 91504		Reported :	11/21/2012

Lead by ICP-AES EPA 6010B

Analyte: Lead **Analyst: PT**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203954-29	1190-EB-4	**ND**	mg/L	0.0050	0.0028	1	B2K0362	11/14/2012	11/14/12 16:55	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/21/2012

STLC Lead by AA (Direct Aspiration) by EPA 7420

Analyte: Lead **Analyst: SB**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203954-01	1190-108-0.0	**24**	mg/L	2.5	1.3	5	B2K0282	11/12/2012	11/12/12 15:35	
1203954-02	1190-108-1.0	**30**	mg/L	2.5	1.3	5	B2K0282	11/12/2012	11/12/12 15:36	
1203954-03	1190-108-2.0	**1.3**	mg/L	0.50	0.26	1	B2K0282	11/12/2012	11/12/12 15:37	
1203954-04	1190-108-4.5	**0.87**	mg/L	0.50	0.26	1	B2K0283	11/12/2012	11/12/12 15:41	
1203954-05	1190-109-0.0	**3.6**	mg/L	0.50	0.26	1	B2K0283	11/12/2012	11/12/12 15:41	
1203954-06	1190-109-1.0	**6.4**	mg/L	0.50	0.26	1	B2K0283	11/12/2012	11/12/12 15:41	
1203954-07	1190-109-2.0	**3.1**	mg/L	0.50	0.26	1	B2K0283	11/12/2012	11/12/12 15:42	
1203954-08	1190-109-3.0	**2.9**	mg/L	0.50	0.26	1	B2K0283	11/12/2012	11/12/12 15:42	
1203954-09	1190-110-0.0	**8.4**	mg/L	0.50	0.26	1	B2K0283	11/12/2012	11/12/12 15:42	
1203954-10	1190-110-1.0	**8.2**	mg/L	0.50	0.26	1	B2K0283	11/12/2012	11/12/12 15:43	
1203954-11	1190-110-2.0	**0.71**	mg/L	0.50	0.26	1	B2K0283	11/12/2012	11/12/12 15:43	
1203954-12	1190-110-4.5	**3.7**	mg/L	0.50	0.26	1	B2K0283	11/12/2012	11/12/12 15:44	
1203954-13	1190-111-0.0	**21**	mg/L	2.5	1.3	5	B2K0283	11/12/2012	11/12/12 15:46	
1203954-14	1190-111-1.0	**11**	mg/L	1.0	0.52	2	B2K0283	11/12/2012	11/12/12 15:49	
1203954-15	1190-111-2.0	**0.94**	mg/L	0.50	0.26	1	B2K0283	11/12/2012	11/12/12 15:49	
1203954-16	1190-111-4.5	**2.7**	mg/L	0.50	0.26	1	B2K0283	11/12/2012	11/12/12 15:50	
1203954-17	1190-112-0.0	**3.9**	mg/L	0.50	0.26	1	B2K0283	11/12/2012	11/12/12 15:50	
1203954-18	1190-112-1.0	**4.2**	mg/L	0.50	0.26	1	B2K0283	11/12/2012	11/12/12 15:51	
1203954-19	1190-112-2.0	**0.61**	mg/L	0.50	0.26	1	B2K0283	11/12/2012	11/12/12 15:51	
1203954-20	1190-112-4.5	**0.51**	mg/L	0.50	0.26	1	B2K0283	11/12/2012	11/13/12 15:48	
1203954-21	1190-113-0.0	**9.0**	mg/L	0.50	0.26	1	B2K0283	11/12/2012	11/13/12 15:48	
1203954-22	1190-113-1.0	**5.0**	mg/L	0.50	0.26	1	B2K0283	11/12/2012	11/13/12 15:49	
1203954-23	1190-113-2.0	**1.4**	mg/L	0.50	0.26	1	B2K0283	11/12/2012	11/13/12 15:49	
1203954-24	1190-113-4.5	**3.2**	mg/L	0.50	0.26	1	B2K0284	11/12/2012	11/12/12 14:24	
1203954-25	1190-114-0.0	**1.8**	mg/L	0.50	0.26	1	B2K0284	11/12/2012	11/12/12 14:24	
1203954-26	1190-114-1.0	**0.51**	mg/L	0.50	0.26	1	B2K0284	11/12/2012	11/12/12 14:25	
1203954-27	1190-114-2.0	**0.30**	mg/L	0.50	0.26	1	B2K0284	11/12/2012	11/12/12 14:25	J
1203954-28	1190-114-4.5	**0.86**	mg/L	0.50	0.26	1	B2K0284	11/12/2012	11/12/12 14:26	

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100		Report To :	Mike Conkle
Burbank , CA 91504		Reported :	11/21/2012

STLC-DI Lead by AA (Direct Aspiration) EPA 7420

Analyte: Lead **Analyst: VV**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203954-01	1190-108-0.0	**ND**	mg/L	0.50	0.26	1	B2K0561	11/21/2012	11/21/12 13:11	
1203954-02	1190-108-1.0	**ND**	mg/L	0.50	0.26	1	B2K0561	11/21/2012	11/21/12 13:11	
1203954-06	1190-109-1.0	**ND**	mg/L	0.50	0.26	1	B2K0561	11/21/2012	11/21/12 13:12	
1203954-09	1190-110-0.0	**ND**	mg/L	0.50	0.26	1	B2K0561	11/21/2012	11/21/12 13:12	
1203954-10	1190-110-1.0	**ND**	mg/L	0.50	0.26	1	B2K0561	11/21/2012	11/21/12 13:12	
1203954-13	1190-111-0.0	**0.44**	mg/L	0.50	0.26	1	B2K0561	11/21/2012	11/21/12 13:13	J
1203954-14	1190-111-1.0	**ND**	mg/L	0.50	0.26	1	B2K0561	11/21/2012	11/21/12 13:13	
1203954-21	1190-113-0.0	**ND**	mg/L	0.50	0.26	1	B2K0561	11/21/2012	11/21/12 13:14	
1203954-22	1190-113-1.0	**ND**	mg/L	0.50	0.26	1	B2K0561	11/21/2012	11/21/12 13:17	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/21/2012

QUALITY CONTROL SECTION

Lead by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0218 - EPA 3050 Modified									
Blank (B2K0218-BLK1)					Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	0.427783	1.0			NR				J
Blank (B2K0218-BLK2)					Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	0.308781	1.0			NR				J
LCS (B2K0218-BS1)					Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	50.5103	1.0	50.0000		101	80 - 120			
Duplicate (B2K0218-DUP1)		**Source: 1203954-13**			Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	317.408	1.0		350.645	NR		9.95	20	
Duplicate (B2K0218-DUP2)		**Source: 1203954-03**			Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	68.7810	1.0		16.1791	NR		124	20	R
Matrix Spike (B2K0218-MS1)		**Source: 1203954-13**			Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	508.880	1.0	250.000	350.645	63.3	46 - 116			
Matrix Spike (B2K0218-MS2)		**Source: 1203954-03**			Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	243.860	1.0	250.000	16.1791	91.1	46 - 116			
Matrix Spike Dup (B2K0218-MSD1)		**Source: 1203954-13**			Prepared: 11/9/2012 Analyzed: 11/12/2012				
Lead	507.864	1.0	250.000	350.645	62.9	46 - 116	0.200	20	
Batch B2K0257 - EPA 3050 Modified									
Blank (B2K0257-BLK1)					Prepared: 11/10/2012 Analyzed: 11/12/2012				
Lead	0.565064	1.0			NR				J
Blank (B2K0257-BLK2)					Prepared: 11/10/2012 Analyzed: 11/12/2012				
Lead	0.566448	1.0			NR				J
LCS (B2K0257-BS1)					Prepared: 11/10/2012 Analyzed: 11/12/2012				
Lead	46.3578	1.0	50.0000		92.7	80 - 120			
Duplicate (B2K0257-DUP1)		**Source: 1203954-28**			Prepared: 11/10/2012 Analyzed: 11/12/2012				
Lead	17.0998	1.0		16.8846	NR		1.27	20	
Duplicate (B2K0257-DUP2)		**Source: 1203954-23**			Prepared: 11/10/2012 Analyzed: 11/12/2012				
Lead	26.7344	1.0		33.0174	NR		21.0	20	R
Matrix Spike (B2K0257-MS1)		**Source: 1203954-28**			Prepared: 11/10/2012 Analyzed: 11/12/2012				
Lead	241.016	1.0	250.000	16.8846	89.7	46 - 116			
Matrix Spike (B2K0257-MS2)		**Source: 1203954-23**			Prepared: 11/10/2012 Analyzed: 11/12/2012				
Lead	247.775	1.0	250.000	33.0174	85.9	46 - 116			

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/21/2012

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

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0257 - EPA 3050 Modified (continued)									
Matrix Spike Dup (B2K0257-MSD1)		**Source: 1203954-28**			Prepared: 11/10/2012 Analyzed: 11/12/2012				
Lead	220.114	1.0	250.000	16.8846	81.3	46 - 116	9.07	20	
Batch B2K0362 - EPA 3010A									
Blank (B2K0362-BLK1)					Prepared: 11/14/2012 Analyzed: 11/14/2012				
Lead	ND	0.0050			NR				
LCS (B2K0362-BS1)					Prepared: 11/14/2012 Analyzed: 11/14/2012				
Lead	0.950572	0.0050	1.00000		95.1	80 - 120			
Duplicate (B2K0362-DUP1)		**Source: 1203940-21**			Prepared: 11/14/2012 Analyzed: 11/14/2012				
Lead	ND	0.0050		ND	NR			20	
Matrix Spike (B2K0362-MS1)		**Source: 1203940-21**			Prepared: 11/14/2012 Analyzed: 11/14/2012				
Lead	2.21654	0.0050	2.50000	ND	88.7	78 - 117			
Matrix Spike Dup (B2K0362-MSD1)		**Source: 1203940-21**			Prepared: 11/14/2012 Analyzed: 11/14/2012				
Lead	2.32832	0.0050	2.50000	ND	93.1	78 - 117	4.92	20	
Batch S2K0174 - B2K0216									
Instrument Blank (S2K0174-IBL1)					Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	ND	1.0			NR				
Batch S2K0212 - B2K0327									
Instrument Blank (S2K0212-IBL1)					Prepared: 11/14/2012 Analyzed: 11/14/2012				
Lead	ND	1.0			NR				

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/21/2012

STLC Lead by AA (Direct Aspiration) by EPA 7420 - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0282 - STLC Extraction									
Blank (B2K0282-BLK1)					Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	ND	0.50			NR				
Blank (B2K0282-BLK2)					Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	ND	0.50			NR				
LCS (B2K0282-BS1)					Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	5.64824	0.05	5.00000		113	80 - 120			
Duplicate (B2K0282-DUP1)		**Source: 1203922-09**			Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	111.240	10		111.936	NR		0.624	20	
Duplicate (B2K0282-DUP2)		**Source: 1203954-03**			Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	1.30009	0.50		1.32488	NR		1.89	20	
Matrix Spike (B2K0282-MS1)		**Source: 1203922-09**			Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	122.080	1.0	5.00000	111.936	203	80 - 120			M1
Matrix Spike (B2K0282-MS2)		**Source: 1203954-03**			Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	6.48245	0.05	5.00000	1.32488	103	80 - 120			
Matrix Spike Dup (B2K0282-MSD1)		**Source: 1203922-09**			Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	120.551	1.0	5.00000	111.936	172	80 - 120	1.26	20	M1
Batch B2K0283 - STLC Extraction									
Blank (B2K0283-BLK1)					Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	ND	0.50			NR				
Blank (B2K0283-BLK2)					Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	ND	0.50			NR				
LCS (B2K0283-BS1)					Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	5.75797	0.05	5.00000		115	80 - 120			
Duplicate (B2K0283-DUP1)		**Source: 1203954-13**			Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	22.1076	2.5		21.1809	NR		4.28	20	
Duplicate (B2K0283-DUP2)		**Source: 1203954-23**			Prepared: 11/12/2012 Analyzed: 11/13/2012				
Lead	1.45900	0.50		1.44128	NR		1.22	20	
Matrix Spike (B2K0283-MS1)		**Source: 1203954-13**			Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	26.3901	0.25	5.00000	21.1809	104	80 - 120			
Matrix Spike (B2K0283-MS2)		**Source: 1203954-23**			Prepared: 11/12/2012 Analyzed: 11/13/2012				
Lead	6.66265	0.05	5.00000	1.44128	104	80 - 120			
Matrix Spike Dup (B2K0283-MSD1)		**Source: 1203954-13**			Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	26.4250	0.25	5.00000	21.1809	105	80 - 120	0.132	20	
Batch B2K0284 - STLC Extraction									

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/21/2012

STLC Lead by AA (Direct Aspiration) by EPA 7420 - Quality Control (cont'd)

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Blank (B2K0284-BLK1)					Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	ND	0.50			NR				
LCS (B2K0284-BS1)					Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	4.80273	0.05	5.00000		96.1	80 - 120			
Duplicate (B2K0284-DUP1)		**Source: 1203954-28**			Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	0.768563	0.50		0.861950	NR		11.5	20	
Matrix Spike (B2K0284-MS1)		**Source: 1203954-28**			Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	5.88325	0.05	5.00000	0.861950	100	80 - 120			
Matrix Spike Dup (B2K0284-MSD1)		**Source: 1203954-28**			Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	5.90326	0.05	5.00000	0.861950	101	80 - 120	0.340	20	
Batch S2K0170 - B2K0214									
Instrument Blank (S2K0170-IBL1)					Prepared: 11/12/2012 Analyzed: 11/12/2012				
Lead	ND	0.50			NR				
Batch S2K0189 - B2K0213									
Instrument Blank (S2K0189-IBL1)					Prepared: 11/13/2012 Analyzed: 11/13/2012				
Lead	ND	0.50			NR				

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 11/21/2012

STLC-DI Lead by AA (Direct Aspiration) EPA 7420 - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0561 - STLC DI Extraction									
Blank (B2K0561-BLK1)					Prepared: 11/21/2012 Analyzed: 11/21/2012				
Lead	ND	0.50			NR				
LCS (B2K0561-BS1)					Prepared: 11/21/2012 Analyzed: 11/21/2012				
Lead	4.95144	0.05	5.00000		99.0	80 - 120			
Duplicate (B2K0561-DUP1)		**Source: 1203954-22**			Prepared: 11/21/2012 Analyzed: 11/21/2012				
Lead	ND	0.50		ND	NR			20	
Matrix Spike (B2K0561-MS1)		**Source: 1203954-22**			Prepared: 11/21/2012 Analyzed: 11/21/2012				
Lead	4.96092	0.05	5.00000	ND	99.2	80 - 120			
Matrix Spike Dup (B2K0561-MSD1)		**Source: 1203954-22**			Prepared: 11/21/2012 Analyzed: 11/21/2012				
Lead	5.02432	0.05	5.00000	ND	100	80 - 120	1.27	20	
Batch S2K0329 - B2K0561									
Instrument Blank (S2K0329-IBL1)					Prepared: 11/21/2012 Analyzed: 11/21/2012				
Lead	ND	0.50			NR				

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100		Report To :	Mike Conkle
Burbank , CA 91504		Reported :	11/21/2012

Notes and Definitions

R	RPD value outside acceptance criteria. Calculation is based on raw values.
M1	Matrix spike recovery outside of acceptance limit. The analytical batch was validated by the laboratory control sample.
J	Analyte detected below the Practical Quantitation Limit but above or equal to the Method Detection Limit. Result is an estimated concentration.
ND	Analyte not detected at or above reporting limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA1	CA-NELAP (CDPH)
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

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

CHAIN OF CUSTODY RECORD

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

Client: Geocon
Attention: Mike Conkle
Address: 3303 North San Fernando Blvd Suite 100
City: Burbank State: CA Zip Code: 91504
Tel: 818-841-8388
Fax: 818-841-1704

Project Name: Los Angeles Route 2 Project #: S9475-06-22 Sampler: Mike Hecht (Signature)

Relinquished by: (Signature and Printed Name)	Mike Hecht	Date: 11/8/12	Time: 1511	Received by: (Signature and Printed Name)	[illegible]	Date: 11/8/12	Time: 1511
Relinquished by: (Signature and Printed Name)	[illegible]	Date: 11/8/12	Time: 1638	Received by: (Signature and Printed Name)	[illegible]	Date: 11/8/12	Time: 1638
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: Mike Conkle 11/8/12
Print Name Date
Mike Conkle
Signature

Send Report To:
Attn: Mike Conkle
Co: Geocon Consultants Inc.
Addr: 3303 North San Fernando Blvd Suite 100
City: Burbank State: CA Zip: 91504

Bill To:
Attn: Mike Conkle
Co: Geocon Consultants Inc.
Addr: 3303 North San Fernando Blvd Suite 100
City: Burbank State: CA Zip: 91504

Special Instructions/Comments:
CT Contract 07A2729
Run samples for total lead and STLC. STLC results greater than 5.0 mg/l will be analyze with the soluble lead test by WET using de-ionized water (DI-WET) as the extractant. Report MDLs and PQLs. Filter and preserve water samples at the Lab.

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: RTNE ☐ CT ☐ SWRCB ☐ Logcode _____ OTHER _____

ITEM	LAB USE ONLY: Lab No.	Sample Description: Sample ID / Location	Date	Time	Total Lead by EPA Method 6010	STLC by (WET) Method	Soluble Lead Test by (DI-WET) Meth	Title 22 metals	SVOC by 8270 SIM	SOIL	WATER	GROUND WATER	WASTEWATER	TAT	Container(s) #	Type	REMARKS
	12039 SY-1	1190 - 108 - 0.0	11/7/12	1436	x					x				E	1	G J	
	-2	1190 - 108 - 1.0	11/7/12	1439	x					x				E	1	G J	
	-3	1190 - 108 - 2.0	11/7/12	1442	x					x				E	1	G J	
	-4	1190 - 108 - 4.5	11/7/12	1447	x					x				E	1	G J	
	-5	1190 - 109 - 0.0	11/8/12	0852	x					x				E	1	G J	
	-6	1190 - 109 - 1.0		0900	x					x				E	1	G J	
	-7	1190 - 109 - 2.0		0915	x					x				E	1	G J	
	-8	1190 - 109 - 3.0		0922	x					x				E	1	G J	
	-9	1190 - 110 - 0.0		0956	x					x				E	1	G J	
	-10	1190 - 110 - 1.0		0958	x					x				E	1	G J	
	-11	1190 - 110 - 2.0		1003	x					x				E	1	G J	
	-12	1190 - 110 - 4.5		1015	x					x				E	1	G J	
	-13	1190 - 111 - 0.0		1039	x					x				E	1	G J	
	-14	1190 - 111 - 1.0		1041	x					x				E	1	G J	
	-15	1190 - 111 - 2.0		1045	x					x				E	1	G J	
	-16	1190 - 111 - 4.5		1100	x					x				E	1	G J	
	-17	1190 - 112 - 0.0		1210	x					x				E	1	G J	
	-18	1190 - 112 - 1.0		1212	x					x				E	1	G J	
	-19	1190 - 112 - 2.0		1215	x					x				E	1	G J	
	-20	1190 - 112 - 4.5	↓	1222	x					x				E	1	G J	

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

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

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

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

CHAIN OF CUSTODY RECORD

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

FOR LABORATORY USE ONLY

P.O. #: _____
Logged By: _____ Date: _____

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other: _____

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

Client: Geocon
Address: 3303 North San Fernando Blvd Suite 100
Tel: 818-841-8388
Attention: Mike Conkle
City: Burbank State: CA Zip Code: 91504
Fax: 818-841-1704
Project Name: Los Angeles Route 2
Project #: S9475-06-22
Sampler: (Signature)

Relinquished by: (Signature and Printed Name)	Mike Conkle	Date: 11/8/12	Time: 1511	Received by: (Signature and Printed Name)	ANGELA MANGRUM	Date: 11/8/12	Time: 1511
Relinquished by: (Signature and Printed Name)	ANGELA MANGRUM	Date: 11/8/12	Time: 1638	Received by: (Signature and Printed Name)	FEDEX	Date: 11/8/12	Time: 1638
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: Mike Conkle 11/8/12
Print Name Date
Mike Conkle
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- Records: $1 /ATL workorder /mo (after 1 year)

Circle or Add Analysis(es) Requested: Total Lead by EPA Method 6010 | STLC by (WET) Method | Soluble Lead Test by (DI-WET) Meth | Title 22 metals | SVOC by 8270 SIM

SPECIFY APPROPRIATE MATRIX: SOIL | WATER | GROUND WATER | WASTEWATER

PRESERVATION: QA/QC RTNE ☐ CT ☐ SWRCB ☐ Logcode _____ OTHER _____

ITEM	LAB USE ONLY: Lab No.	Sample Description: Sample ID / Location	Date	Time	TAT	Container(s) #	Container(s) Type	REMARKS
	1203954-21	1190-113-0.0	11/8/12	1117	E	1	G J	
	-22	1190-113-1.0		1119	E	1	G J	
	-23	1190-113-2.0		1122	E	1	G J	
	-24	1190-113-4.5		1130	E	1	G J	
	-25	1190-114-0.0		1135	E	1	G J	
	-26	1190-114-1.0		1137	E	1	G J	
	-27	1190-114-2.0		1138	E	1	G J	
	-28	1190-114-4.5		1148	E	1	G J	
	-29	1190-EB-4	"	1230	E	1	P J	
					E	1	G J	
					E	1	G J	
					E	1	G J	
					E	1	G J	
					E	1	G J	
					E	1	G J	
					E	1	G J	
					E	1	G J	
					E	1	G J	
					E	1	G J	
					E	1	G J	
					E	1	G J	
					E	1	G J	
					E	1	G J	

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

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

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

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

ADVANCED TECHNOLOGY LABORATORIES

December 05, 2012

ELAP No.: 1838
NELAP No.: 02107CA
CSDLAC No.: 10196
ORELAP No.: CA300003
TCEQ No.: T104704502

Mike Conkle
Geocon Consultants, Inc.
3303 N. San Fernando Blvd., Suite 100
Burbank, CA 91504
Tel: (818) 841-8388
Fax:(818) 841-1704

Re: ATL Work Order Number : 1203954

Client Reference : Los Angeles Route 2, S9475-06-22

Enclosed are the results for sample(s) received on November 08, 2012 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

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

Sincerely,

Eddie Rodriguez
Laboratory Director

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100		Report To :	Mike Conkle
Burbank , CA 91504		Reported :	12/05/2012

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
1190-108-0.0	1203954-01	Soil	11/07/12 14:36	11/08/12 15:11
1190-108-1.0	1203954-02	Soil	11/07/12 14:39	11/08/12 15:11
1190-111-0.0	1203954-13	Soil	11/08/12 10:39	11/08/12 15:11
1190-111-1.0	1203954-14	Soil	11/08/12 10:41	11/08/12 15:11
1190-113-0.0	1203954-21	Soil	11/08/12 11:17	11/08/12 15:11

CASE NARRATIVE

Results were J-flagged. "J" is used to flag those results that are between the PQL (Practical Quantitation Limit) and the calculated MDL (Method Detection Limit). Results that are "J" flagged are estimated values since it becomes difficult to accurately quantitate the analyte near the MDL.

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 12/05/2012

TCLP Lead by AA (Direct Aspiration) EPA 7420

Analyte: Lead **Analyst: VV**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203954-01	1190-108-0.0	**0.52**	mg/L	0.50	0.26	1	B2K0692	11/30/2012	11/30/12 15:48	
1203954-02	1190-108-1.0	**0.49**	mg/L	0.50	0.26	1	B2K0692	11/30/2012	11/30/12 15:48	J
1203954-13	1190-111-0.0	**0.38**	mg/L	0.50	0.26	1	B2K0692	11/30/2012	11/30/12 15:50	J
1203954-14	1190-111-1.0	**0.33**	mg/L	0.50	0.26	1	B2K0692	11/30/2012	11/30/12 15:50	J
1203954-21	1190-113-0.0	**0.34**	mg/L	0.50	0.26	1	B2K0692	11/30/2012	11/30/12 15:53	J

Mercury by AA (Cold Vapor) EPA 7471

Analyte: Mercury **Analyst: VV**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203954-01	1190-108-0.0	**0.12**	mg/kg	0.10	0.008	1	B2K0676	11/29/2012	11/29/12 13:36	
1203954-13	1190-111-0.0	**0.12**	mg/kg	0.10	0.008	1	B2K0676	11/29/2012	11/29/12 13:42	

pH by EPA 9045C

Analyte: pH **Analyst: LA**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1203954-01	1190-108-0.0	**7.0**	pH Units	0.10	0.10	1	B2K0680	11/29/2012	11/29/12 15:21	
1203954-02	1190-108-1.0	**7.2**	pH Units	0.10	0.10	1	B2K0680	11/29/2012	11/29/12 15:21	
1203954-13	1190-111-0.0	**6.7**	pH Units	0.10	0.10	1	B2K0680	11/29/2012	11/29/12 15:21	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 12/05/2012

Client Sample ID 1190-108-0.0
Lab ID: 1203954-01

Title 22 Metals by ICP-AES EPA 6010B — **Analyst: PT**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	**0.41**	2.0	0.35	1	B2K0605	11/26/2012	11/27/12 09:17	J
Arsenic	**2.8**	1.0	0.14	1	B2K0605	11/26/2012	11/27/12 09:17	
Barium	**170**	1.0	0.15	1	B2K0605	11/26/2012	11/27/12 09:17	
Beryllium	ND	1.0	0.06	1	B2K0605	11/26/2012	11/27/12 09:17	
Cadmium	**1.0**	1.0	0.03	1	B2K0605	11/26/2012	11/27/12 09:17	
Chromium	**12**	1.0	0.20	1	B2K0605	11/26/2012	11/27/12 09:17	
Cobalt	**5.2**	1.0	0.03	1	B2K0605	11/26/2012	11/27/12 09:17	
Copper	**29**	2.0	0.28	1	B2K0605	11/26/2012	11/27/12 09:17	
Molybdenum	**0.40**	1.0	0.05	1	B2K0605	11/26/2012	11/27/12 09:17	J
Nickel	**12**	1.0	0.19	1	B2K0605	11/26/2012	11/27/12 09:17	
Selenium	ND	1.0	0.38	1	B2K0605	11/26/2012	11/27/12 09:17	
Silver	ND	1.0	0.08	1	B2K0605	11/26/2012	11/27/12 09:17	
Thallium	ND	1.0	0.30	1	B2K0605	11/26/2012	11/27/12 09:17	
Vanadium	**17**	1.0	0.10	1	B2K0605	11/26/2012	11/27/12 09:17	
Zinc	**290**	1.0	0.74	1	B2K0605	11/26/2012	11/27/12 09:17	

Client Sample ID 1190-111-0.0
Lab ID: 1203954-13

Title 22 Metals by ICP-AES EPA 6010B — **Analyst: PT**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	0.35	1	B2K0605	11/26/2012	11/27/12 09:19	
Arsenic	**2.7**	1.0	0.14	1	B2K0605	11/26/2012	11/27/12 09:19	
Barium	**110**	1.0	0.15	1	B2K0605	11/26/2012	11/27/12 09:19	
Beryllium	ND	1.0	0.06	1	B2K0605	11/26/2012	11/27/12 09:19	
Cadmium	**1.2**	1.0	0.03	1	B2K0605	11/26/2012	11/27/12 09:19	
Chromium	**12**	1.0	0.20	1	B2K0605	11/26/2012	11/27/12 09:19	
Cobalt	**5.6**	1.0	0.03	1	B2K0605	11/26/2012	11/27/12 09:19	
Copper	**29**	2.0	0.28	1	B2K0605	11/26/2012	11/27/12 09:19	
Molybdenum	**0.92**	1.0	0.05	1	B2K0605	11/26/2012	11/27/12 09:19	J
Nickel	**15**	1.0	0.19	1	B2K0605	11/26/2012	11/27/12 09:19	
Selenium	ND	1.0	0.38	1	B2K0605	11/26/2012	11/27/12 09:19	
Silver	ND	1.0	0.08	1	B2K0605	11/26/2012	11/27/12 09:19	
Thallium	ND	1.0	0.30	1	B2K0605	11/26/2012	11/27/12 09:19	
Vanadium	**21**	1.0	0.10	1	B2K0605	11/26/2012	11/27/12 09:19	
Zinc	**240**	1.0	0.74	1	B2K0605	11/26/2012	11/27/12 09:19	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 12/05/2012

QUALITY CONTROL SECTION

Title 22 Metals by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0605 - EPA 3050B									
Blank (B2K0605-BLK1)					Prepared: 11/26/2012 Analyzed: 11/27/2012				
Antimony	ND	2.0			NR				
Arsenic	ND	1.0			NR				
Barium	0.325204	1.0			NR				J
Beryllium	ND	1.0			NR				
Cadmium	ND	1.0			NR				
Chromium	0.258350	1.0			NR				J
Cobalt	ND	1.0			NR				
Copper	ND	2.0			NR				
Molybdenum	ND	1.0			NR				
Nickel	ND	1.0			NR				
Selenium	ND	1.0			NR				
Silver	ND	1.0			NR				
Thallium	ND	1.0			NR				
Vanadium	ND	1.0			NR				
Zinc	ND	1.0			NR				
LCS (B2K0605-BS1)					Prepared: 11/26/2012 Analyzed: 11/27/2012				
Antimony	44.1885	2.0	50.0000		88.4	80 - 120			
Arsenic	44.4662	1.0	50.0000		88.9	80 - 120			
Barium	46.3774	1.0	50.0000		92.8	80 - 120			
Beryllium	46.1350	1.0	50.0000		92.3	80 - 120			
Cadmium	46.3020	1.0	50.0000		92.6	80 - 120			
Chromium	48.0556	1.0	50.0000		96.1	80 - 120			
Cobalt	47.7002	1.0	50.0000		95.4	80 - 120			
Copper	47.2455	2.0	50.0000		94.5	80 - 120			
Molybdenum	48.4604	1.0	50.0000		96.9	80 - 120			
Nickel	46.8758	1.0	50.0000		93.8	80 - 120			
Selenium	40.6497	1.0	50.0000		81.3	80 - 120			
Silver	44.6569	1.0	50.0000		89.3	80 - 120			
Thallium	48.8054	1.0	50.0000		97.6	80 - 120			
Vanadium	46.0809	1.0	50.0000		92.2	80 - 120			
Zinc	48.4848	1.0	50.0000		97.0	80 - 120			
Duplicate (B2K0605-DUP1)		**Source: 1203892-05**			Prepared: 11/26/2012 Analyzed: 11/27/2012				
Antimony	0.397804	2.0		0.442755	NR		10.7	20	J
Arsenic	2.61041	1.0		2.75090	NR		5.24	20	
Barium	139.858	1.0		125.968	NR		10.5	20	
Beryllium	ND	1.0		ND	NR			20	
Cadmium	0.881814	1.0		0.876010	NR		0.660	20	J
Chromium	13.8612	1.0		14.4266	NR		4.00	20	
Cobalt	5.22795	1.0		5.45003	NR		4.16	20	
Copper	29.2441	2.0		30.1842	NR		3.16	20	
Molybdenum	1.32078	1.0		1.51793	NR		13.9	20	

Certificate of Analysis

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Burbank , CA 91504	Reported : 12/05/2012

Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0605 - EPA 3050B (continued)									
Duplicate (B2K0605-DUP1) - Continued		**Source: 1203892-05**			Prepared: 11/26/2012 Analyzed: 11/27/2012				
Nickel	12.8927	1.0		13.5417	NR		4.91	20	
Selenium	ND	1.0		ND	NR			20	
Silver	ND	1.0		ND	NR			20	
Thallium	ND	1.0		ND	NR			20	
Vanadium	21.2902	1.0		21.4223	NR		0.619	20	
Zinc	159.945	1.0		156.375	NR		2.26	20	
Matrix Spike (B2K0605-MS1)		**Source: 1203892-05**			Prepared: 11/26/2012 Analyzed: 11/27/2012				
Antimony	59.3561	2.0	125.000	0.442755	47.1	44 - 105			
Arsenic	94.5318	1.0	125.000	2.75090	73.4	57 - 103			
Barium	225.465	1.0	125.000	125.968	79.6	36 - 134			
Beryllium	92.0519	1.0	125.000	ND	73.6	64 - 106			
Cadmium	88.7390	1.0	125.000	0.876010	70.3	58 - 102			
Chromium	109.936	1.0	125.000	14.4266	76.4	55 - 105			
Cobalt	97.7604	1.0	125.000	5.45003	73.8	59 - 105			
Copper	130.496	2.0	125.000	30.1842	80.2	64 - 117			
Molybdenum	93.8405	1.0	125.000	1.51793	73.9	59 - 108			
Nickel	104.796	1.0	125.000	13.5417	73.0	52 - 109			
Selenium	87.9875	1.0	125.000	ND	70.4	56 - 100			
Silver	83.0114	1.0	125.000	ND	66.4	65 - 107			
Thallium	84.2978	1.0	125.000	ND	67.4	47 - 100			
Vanadium	115.567	1.0	125.000	21.4223	75.3	64 - 110			
Zinc	253.727	1.0	125.000	156.375	77.9	37 - 123			
Matrix Spike Dup (B2K0605-MSD1)		**Source: 1203892-05**			Prepared: 11/26/2012 Analyzed: 11/27/2012				
Antimony	59.7259	2.0	125.000	0.442755	47.4	44 - 105	0.621	20	
Arsenic	92.3206	1.0	125.000	2.75090	71.7	57 - 103	2.37	20	
Barium	217.269	1.0	125.000	125.968	73.0	36 - 134	3.70	20	
Beryllium	90.5090	1.0	125.000	ND	72.4	64 - 106	1.69	20	
Cadmium	89.2368	1.0	125.000	0.876010	70.7	58 - 102	0.559	20	
Chromium	108.494	1.0	125.000	14.4266	75.3	55 - 105	1.32	20	
Cobalt	97.3074	1.0	125.000	5.45003	73.5	59 - 105	0.464	20	
Copper	127.732	2.0	125.000	30.1842	78.0	64 - 117	2.14	20	
Molybdenum	91.8146	1.0	125.000	1.51793	72.2	59 - 108	2.18	20	
Nickel	103.911	1.0	125.000	13.5417	72.3	52 - 109	0.848	20	
Selenium	86.7395	1.0	125.000	ND	69.4	56 - 100	1.43	20	
Silver	80.7485	1.0	125.000	ND	64.6	65 - 107	2.76	20	M1
Thallium	83.3012	1.0	125.000	ND	66.6	47 - 100	1.19	20	
Vanadium	112.780	1.0	125.000	21.4223	73.1	64 - 110	2.44	20	
Zinc	240.506	1.0	125.000	156.375	67.3	37 - 123	5.35	20	
Batch S2K0360 - B2K0603									
Instrument Blank (S2K0360-IBL1)					Prepared: 11/27/2012 Analyzed: 11/27/2012				
Antimony	ND	2.0			NR				
Arsenic	ND	1.0			NR				
Barium	ND	1.0			NR				

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 12/05/2012

Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch S2K0360 - B2K0603 (continued)									
Instrument Blank (S2K0360-IBL1) - Continued					Prepared: 11/27/2012 Analyzed: 11/27/2012				
Beryllium	ND	1.0			NR				
Cadmium	ND	1.0			NR				
Chromium	ND	1.0			NR				
Cobalt	ND	1.0			NR				
Copper	ND	2.0			NR				
Lead	ND	1.0			NR				
Molybdenum	ND	1.0			NR				
Nickel	ND	1.0			NR				
Selenium	ND	1.0			NR				
Silver	ND	1.0			NR				
Thallium	ND	1.0			NR				
Vanadium	ND	1.0			NR				
Zinc	ND	1.0			NR				

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 12/05/2012

TCLP Lead by AA (Direct Aspiration) EPA 7420 - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0692 - EPA 3010A_SOIL									
Blank (B2K0692-BLK1)					Prepared: 11/30/2012 Analyzed: 11/30/2012				
Lead	ND	0.50			NR				
Blank (B2K0692-BLK2)					Prepared: 11/30/2012 Analyzed: 11/30/2012				
Lead	ND	0.50			NR				
LCS (B2K0692-BS1)					Prepared: 11/30/2012 Analyzed: 11/30/2012				
Lead	1.02989	0.50	1.00000		103	80 - 120			
Duplicate (B2K0692-DUP1)		**Source: 1203954-02**			Prepared: 11/30/2012 Analyzed: 11/30/2012				
Lead	0.450165	0.50		0.487183	NR		7.90	20	J
Matrix Spike (B2K0692-MS1)		**Source: 1203954-02**			Prepared: 11/30/2012 Analyzed: 11/30/2012				
Lead	3.08856	0.50	2.50000	0.487183	104	80 - 120			
Matrix Spike Dup (B2K0692-MSD1)		**Source: 1203954-02**			Prepared: 11/30/2012 Analyzed: 11/30/2012				
Lead	3.19982	0.50	2.50000	0.487183	109	80 - 120	3.54	20	
Batch S2K0426 - B2K0692									
Instrument Blank (S2K0426-IBL1)					Prepared: 11/30/2012 Analyzed: 11/30/2012				
Lead	ND	0.50			NR				

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 12/05/2012

Mercury by AA (Cold Vapor) EPA 7471 - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0676 - EPA 7471									
Blank (B2K0676-BLK1)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Mercury	ND	0.10			NR				
LCS (B2K0676-BS1)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Mercury	0.860874	0.10	0.833333		103	80 - 120			
Duplicate (B2K0676-DUP1)		**Source: 1203892-05**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Mercury	0.164644	0.10		0.165772	NR		0.683	20	
Matrix Spike (B2K0676-MS1)		**Source: 1203892-05**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Mercury	0.880898	0.10	0.833333	0.165772	85.8	70 - 130			
Matrix Spike (B2K0676-MS2)		**Source: 1203892-05**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Mercury	0.007162		5.00000E-3	0.001989	103	70 - 130			
Matrix Spike Dup (B2K0676-MSD1)		**Source: 1203892-05**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
Mercury	0.878486	0.10	0.833333	0.165772	85.5	70 - 130	0.274	20	
Batch S2K0406 - B2K0676									
Instrument Blank (S2K0406-IBL1)					Prepared: 11/29/2012 Analyzed: 11/29/2012				
Mercury	ND	0.10			NR				

Certificate of Analysis

Geocon Consultants, Inc.	Project Number : Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 12/05/2012

pH by EPA 9045C - Quality Control

Analyte	Result (pH Units)	PQL (pH Units)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0680 - Prep_WC_1_S									
Duplicate (B2K0680-DUP1)		**Source: 1203924-22**			Prepared: 11/29/2012 Analyzed: 11/29/2012				
pH	6.80000	0.10		6.98000	NR		2.61	20	

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Los Angeles Route 2, S9475-06-22
3303 N. San Fernando Blvd., Suite 100		Report To :	Mike Conkle
Burbank , CA 91504		Reported :	12/05/2012

Notes and Definitions

M1	Matrix spike recovery outside of acceptance limit. The analytical batch was validated by the laboratory control sample.
J	Analyte detected below the Practical Quantitation Limit but above or equal to the Method Detection Limit. Result is an estimated concentration.
ND	Analyte not detected at or above reporting limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA1	CA-NELAP (CDPH)
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

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

Diane Galvan

From: Mike Conkle [conkle@geoconinc.com]
Sent: Wednesday, November 21, 2012 2:39 PM
To: Diane Galvan
Subject: FW: geocon project number S9475-06-22 - additional analysis
Attachments: S9475-06-22 ATL Add Analysis.xlsx

Hi Diane,
We would like to run the test indicated with an "X" on the attached table. These samples are for Geocon project number S9475-06-22. ATL work order nos. 1203892, 1203893, 1203922, and 1203954.

Let me know if you have questions.

Michael P. Conkle, PG | *Senior Geologist*
Geocon
3303 N. San Fernando Blvd. Suite 100, Burbank, CA 91504
Tel 818.841.8388 Fax 818.841.1704 Cell 213.503.7841
http://www.geoconinc.com

SAMPLE ID	SAMPLE DATE	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	WET-DI LEAD (mg/l)	TCLP LEAD (mg/l)	pH (pH units)	METALS
1190-101-0.0	11/6/2012	52	4.1				
1190-101-1.0	11/6/2012	42	2.8				
1190-101-2.0	11/6/2012	13	0.96				
1190-101-3.0	11/6/2012	9.7	0.55				
1190-102-0.0	11/6/2012	380	24	<0.26	X	X	X
1190-102-1.0	11/6/2012	44	2.5				
1190-102-2.0	11/6/2012	29	1.8				
1190-102-4.0	11/6/2012	170	9.1	<0.26			
1190-103-0	11/6/2012	150	16	<0.26			
1190-103-1	11/6/2012	4.3	0.30 J				
1190-103-2	11/6/2012	14	1.2				
1190-103-4.5	11/6/2012	8.7	0.74				
1190-104-0.0	11/6/2012	350	24	<0.26	X		
1190-104-1.0	11/6/2012	380	27	<0.26	X		
1190-104-2.0	11/6/2012	130	11	<0.26			
1190-104-4.0	11/6/2012	200	14	<0.26			
1190-105-0.0	11/6/2012	570	47	<0.26	X	X	X
1190-105-1.0	11/6/2012	280	27	<0.26			
1190-105-2.0	11/6/2012	150	9.1	<0.26			
1190-105-3.5	11/6/2012	400	20	<0.26	X	X	
1190-106-0.0	11/6/2012	87	8.9	<0.26			
1190-106-1.0	11/6/2012	200	19	<0.26			
1190-106-2.0	11/6/2012	150	13	<0.26			
1190-106-3.5	11/6/2012	99	7.0	<0.26			
1190-107-0.0	11/6/2012	18	1.0				
1190-107-1.0	11/6/2012	7.0	0.44 J				
1190-107-2.0	11/6/2012	15	0.55				
1190-107-4.5	11/6/2012	22	0.98				
DRAFT: 1190-108-0.0	11/7/2012	340	24	X	X	X	X
DRAFT: 1190-108-1.0	11/7/2012	200	30	X	X	X	
DRAFT: 1190-108-2.0	11/7/2012	16	1.3				
DRAFT: 1190-108-4.5	11/7/2012	17	0.87				
DRAFT: 1190-109-0.0	11/8/2012	72	3.6				
DRAFT: 1190-109-1.0	11/8/2012	100	6.4	X			
DRAFT: 1190-109-2.0	11/8/2012	50	3.1				
DRAFT: 1190-109-3.0	11/8/2012	48	2.9				
DRAFT: 1190-110-0.0	11/8/2012	130	8.4	X			
DRAFT: 1190-110-1.0	11/8/2012	110	8.2	X			
DRAFT: 1190-110-2.0	11/8/2012	6.2	0.71				
DRAFT: 1190-110-4.5	11/8/2012	47	3.7				

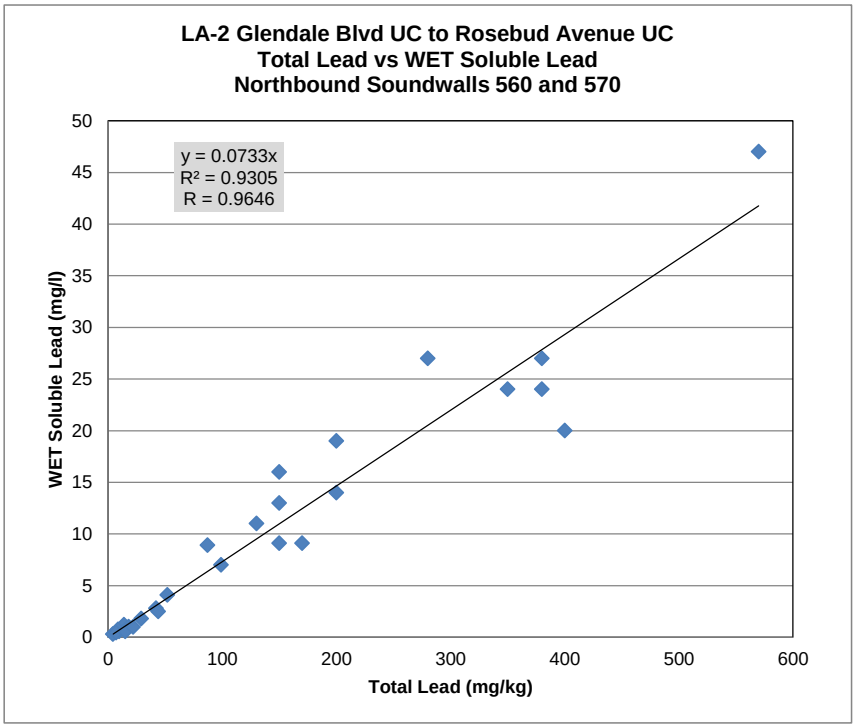
DRAFT: 1190-111-0.0	11/8/2012	350	21	X	X	X	X
DRAFT: 1190-111-1.0	11/8/2012	220	11	X	X		
DRAFT: 1190-111-2.0	11/8/2012	15	0.94				
DRAFT: 1190-111-4.5	11/8/2012	41	2.7				
DRAFT: 1190-112-0.0	11/8/2012	90	3.9				
DRAFT: 1190-112-1.0	11/8/2012	79	4.2				
DRAFT: 1190-112-2.0	11/8/2012	7.1	0.61				
DRAFT: 1190-112-4.5	11/8/2012	5.5	0.51				
DRAFT: 1190-113-0.0	11/8/2012	150	9.0	X	X		
DRAFT: 1190-113-1.0	11/8/2012	88	5.0	X			
DRAFT: 1190-113-2.0	11/8/2012	33	1.4				
DRAFT: 1190-113-4.5	11/8/2012	60	3.2				
DRAFT: 1190-114-0.0	11/8/2012	42	1.8				
DRAFT: 1190-114-1.0	11/8/2012	11	0.51				
DRAFT: 1190-114-2.0	11/8/2012	7.5	0.3				
DRAFT: 1190-114-4.5	11/8/2012	17	0.86				
1190-115-0	11/6/2012	530	41	<0.26	X		
1190-115-1	11/6/2012	34	2.2				
1190-115-2	11/6/2012	6.5	0.54				
1190-115-4.5	11/6/2012	9.6	0.63				
DRAFT: 1190-116-0.0	11/7/2012	3,700	230	X	X	X	X
DRAFT: 1190-116-1.0	11/7/2012	250	19	X			
DRAFT: 1190-116-2.0	11/7/2012	31	1.4				
DRAFT: 1190-116-3.5	11/7/2012	110	6.7	X			
DRAFT: 1190-117-0.0	11/7/2012	3,200	160	X	X	X	
DRAFT: 1190-117-1.0	11/7/2012	250	11	X			
DRAFT: 1190-117-2.0	11/7/2012	740	30	X			
DRAFT: 1190-117-4.5	11/7/2012	180	13	X			
DRAFT: 1190-118-0.0	11/7/2012	1,500	110	X	X		
DRAFT: 1190-118-1.0	11/7/2012	250	11	X			
DRAFT: 1190-118-2.0	11/7/2012	430	39	X			
DRAFT: 1190-118-4.5	11/7/2012	110	7.5	X			
DRAFT: 1190-119-0.0	11/7/2012	950	63	X	X		
DRAFT: 1190-119-1.0	11/7/2012	31	1.6				
DRAFT: 1190-119-2.0	11/7/2012	18	0.48				
DRAFT: 1190-119-4.5	11/7/2012	12	0.9				

APPENDIX D

State Route 2 Glendale Blvd UC to Rosebud Avenue UC
S9475-06-22

Northbound Soundwalls 560 and 570

Sample ID	Total Lead	WET Lead
1190-101-0.0	52	4.1
1190-101-1.0	42	2.8
1190-101-2.0	13	0.96
1190-101-3.0	9.7	0.55
1190-102-0.0	380	24
1190-102-1.0	44	2.5
1190-102-2.0	29	1.8
1190-102-4.0	170	9.1
1190-103-0	150	16
1190-103-1	4.3	0.30
1190-103-2	14	1.2
1190-103-4.5	8.7	0.74
1190-104-0.0	350	24
1190-104-1.0	380	27
1190-104-2.0	130	11
1190-104-4.0	200	14
1190-105-0.0	570	47
1190-105-1.0	280	27
1190-105-2.0	150	9.1
1190-105-3.5	400	20
1190-106-0.0	87	8.9
1190-106-1.0	200	19
1190-106-2.0	150	13
1190-106-3.5	99	7.0
1190-107-0.0	18	1.0
1190-107-1.0	7.0	0.44
1190-107-2.0	15	0.55
1190-107-4.5	22	0.98



Project Name:	**Los Angeles Route 2 (LA-2) Glendale Blvd UC to Rosebud Avenue UC**
Geocon Project No.:	**S9475-06-22**
Location:	**Northbound Soundwalls (SW 560 and SW 570)**

Lead - 0.0 to 0.5 ft	
Number of Valid Observations	7
Number of Distinct Observations	7
Minimum	18
Maximum	570
Mean	229.6
Geometric Mean	137.4
Median	150
SD	206.5
Variance	42663
Std. Error of Mean	78.07
Coefficient of Variation	0.9
Skewness	0.692
Mean of log data	4.923
SD of log data	1.24
90% Standard Bootstrap UCL	**321.8**
95% Standard Bootstrap UCL	**348.0**

Lead - 1.0 to 1.5 ft	
Number of Valid Observations	7
Number of Distinct Observations	7
Minimum	4.3
Maximum	380
Mean	136.8
Geometric Mean	53.06
Median	44
SD	150.4
Variance	22608
Std. Error of Mean	56.83
Coefficient of Variation	1.099
Skewness	0.784
Mean of log data	3.971
SD of log data	1.775
90% Standard Bootstrap UCL	**204.0**
95% Standard Bootstrap UCL	**223.7**

Lead - 2.0 to 2.5 ft	
Number of Valid Observations	7
Number of Distinct Observations	6
Minimum	13
Maximum	150
Mean	71.57
Geometric Mean	42.03
Median	29
SD	67.67
Variance	4579
Std. Error of Mean	25.58
Coefficient of Variation	0.945
Skewness	0.387
Mean of log data	3.738
SD of log data	1.176
90% Standard Bootstrap UCL	**101.1**
95% Standard Bootstrap UCL	**110.5**

Lead - 3.0 to 5.0 ft	
Number of Valid Observations	7
Number of Distinct Observations	7
Minimum	8.7
Maximum	400
Mean	129.9
Geometric Mean	59.04
Median	99
SD	142.1
Variance	20202
Std. Error of Mean	53.72
Coefficient of Variation	1.094
Skewness	1.244
Mean of log data	4.078
SD of log data	1.551
90% Standard Bootstrap UCL	**194.9**
95% Standard Bootstrap UCL	**211.1**

SUMMARY OF STATISTICAL ANALYSIS

EA 07-205521

ROUTE 2 GLENDALE BOULEVARD UC TO ROSEBUD AVENUE UC

LOS ANGELES COUNTY, CALIFORNIA

NORTHBOUND SOUNDWALLS 560 AND 570

Borings 1190-101 through 1190-107

	90% UCL		95% UCL	
Sample Interval (feet)	Total Lead (mg/kg)	Soluble (WET) Lead * (mg/l)	Total Lead (mg/kg)	Soluble (WET) Lead * (mg/l)
0.0 to 0.5	321.8	23.6	348.0	25.5
1.0 to 1.5	204.0	15.0	223.7	16.4
2.0 to 2.5	101.1	7.4	110.5	8.1
3.0 to 5.0	194.9	14.3	211.1	15.5

Excavation Scenarios

	90% UCL		95% UCL	
Excavation Depth	Total Lead (mg/kg)	Soluble (WET) Lead * (mg/l)	Total Lead (mg/kg)	Soluble (WET) Lead * (mg/l)
0.0 to 0.5 foot	321.8	23.6	348.0	25.5
Underlying Soil (0.5 to 5.0 feet)	190.2	13.9	206.8	15.2
0.0 to 1.5 feet	282.5	20.7	306.6	22.5
Underlying Soil (1.5 to 5.0 feet)	169.4	12.4	184.2	13.5
0.0 to 2.5 feet	230.5	16.9	250.8	18.4
Underlying Soil (2.5 to 5.0 feet)	176.1	12.9	191.0	14.0
0.0 to 5.0 feet	203.3	14.9	220.9	16.2

Notes:

UCL = Upper Confidence Level

90% UCL applicable for waste classification and onsite reuse

95% UCL applicable for risk assessment and offsite disposal

mg/kg = milligrams per kilogram

mg/l = milligrams per liter

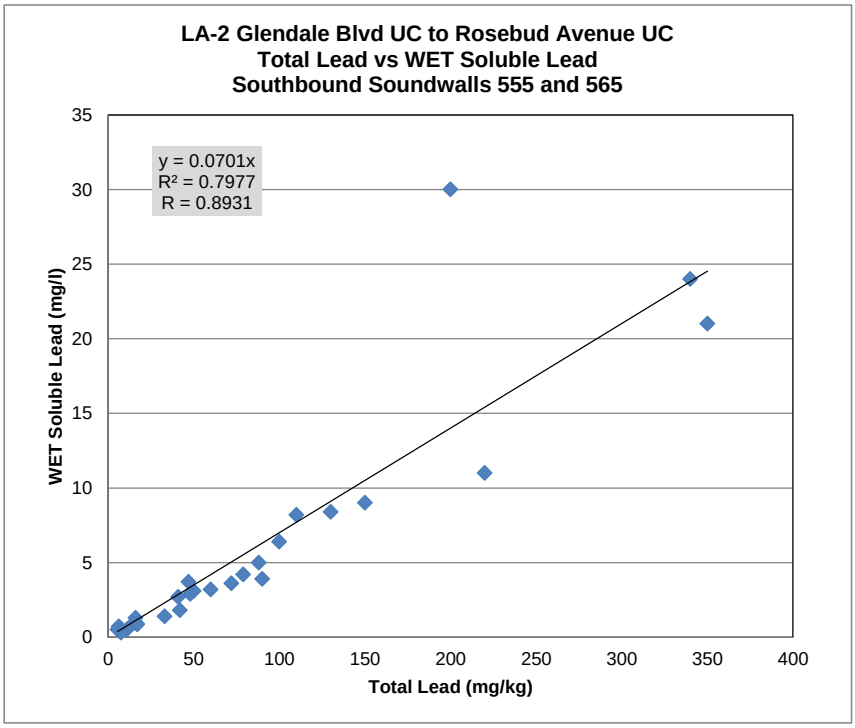
* = Soluble (WET) lead concentrations were predicted using slope of the regression line,
where y = predicted soluble (WET) lead and x = total lead

Regression Line Slope: $y = 0.0733\ x$

State Route 2 Glendale Blvd UC to Rosebud Avenue UC
S9475-06-22

Southbound Soundwalls 555 and 565

Sample ID	Total Lead	WET Lead
1190-108-0.0	340	24
1190-108-1.0	200	30
1190-108-2.0	16	1.3
1190-108-4.5	17	0.87
1190-109-0.0	72	3.6
1190-109-1.0	100	6.4
1190-109-2.0	50	3.1
1190-109-3.0	48	2.9
1190-110-0.0	130	8.4
1190-110-1.0	110	8.2
1190-110-2.0	6.2	0.71
1190-110-4.5	47	3.7
1190-111-0.0	350	21
1190-111-1.0	220	11
1190-111-2.0	15	0.94
1190-111-4.5	41	2.7
1190-112-0.0	90	3.9
1190-112-1.0	79	4.2
1190-112-2.0	7.1	0.61
1190-112-4.5	5.5	0.51
1190-113-0.0	150	9.0
1190-113-1.0	88	5.0
1190-113-2.0	33	1.4
1190-113-4.5	60	3.2
1190-114-0.0	42	1.8
1190-114-1.0	11	0.51
1190-114-2.0	7.5	0.3
1190-114-4.5	17	0.86



Project Name:	**Los Angeles Route 2 (LA-2) Glendale Blvd UC to Rosebud Avenue UC**
Geocon Project No.:	**S9475-06-22**
Location:	**Southbound Soundwalls (SW 555 and SW 565)**

Lead - 0.0 to 0.5 ft	
Number of Valid Observations	7
Number of Distinct Observations	7
Minimum	42
Maximum	350
Mean	167.7
Geometric Mean	130.1
Median	130
SD	126.3
Variance	15942
Std. Error of Mean	47.72
Coefficient of Variation	0.753
Skewness	0.902
Mean of log data	4.868
SD of log data	0.784
90% Standard Bootstrap UCL	**224.5**
95% Standard Bootstrap UCL	**239.3**

Lead - 1.0 to 1.5 ft	
Number of Valid Observations	7
Number of Distinct Observations	7
Minimum	11
Maximum	220
Mean	115.4
Geometric Mean	86.76
Median	100
SD	72.27
Variance	5223
Std. Error of Mean	27.32
Coefficient of Variation	0.626
Skewness	0.332
Mean of log data	4.463
SD of log data	0.993
90% Standard Bootstrap UCL	**147.2**
95% Standard Bootstrap UCL	**156.2**

Lead - 2.0 to 2.5 ft	
Number of Valid Observations	7
Number of Distinct Observations	7
Minimum	6.2
Maximum	50
Mean	19.26
Geometric Mean	14.44
Median	15
SD	16.43
Variance	269.9
Std. Error of Mean	6.209
Coefficient of Variation	0.853
Skewness	1.363
Mean of log data	2.67
SD of log data	0.805
90% Standard Bootstrap UCL	**26.6**
95% Standard Bootstrap UCL	**28.8**

Lead - 4.5 to 5.0 ft	
Number of Valid Observations	6
Number of Distinct Observations	5
Minimum	5.5
Maximum	60
Mean	31.25
Geometric Mean	23.84
Median	29
SD	21.16
Variance	447.8
Std. Error of Mean	8.639
Coefficient of Variation	0.677
Skewness	0.182
Mean of log data	3.172
SD of log data	0.893
90% Standard Bootstrap UCL	**41.3**
95% Standard Bootstrap UCL	**44.0**

SUMMARY OF STATISTICAL ANALYSIS

EA 07-205521

ROUTE 2 GLENDALE BOULEVARD UC TO ROSEBUD AVENUE UC

LOS ANGELES COUNTY, CALIFORNIA

SOUTHBOUND SOUNDWALLS 555 AND 565

Borings 1190-108 through 1190-114

	90% UCL		95% UCL	
Sample Interval (feet)	Total Lead (mg/kg)	Soluble (WET) Lead * (mg/l)	Total Lead (mg/kg)	Soluble (WET) Lead * (mg/l)
0.0 to 0.5	224.5	15.7	239.3	16.8
1.0 to 1.5	147.2	10.3	156.2	10.9
2.0 to 2.5	26.6	1.9	28.8	2.0
4.5 to 5.0	41.3	2.9	44.0	3.1

Excavation Scenarios

	90% UCL		95% UCL	
Excavation Depth	Total Lead (mg/kg)	Soluble (WET) Lead * (mg/l)	Total Lead (mg/kg)	Soluble (WET) Lead * (mg/l)
0.0 to 0.5 foot	224.5	15.7	239.3	16.8
Underlying Soil (0.5 to 5.0 feet)	77.0	5.4	82.2	5.8
0.0 to 1.0 foot	224.5	15.7	239.3	16.8
Underlying Soil (1.0 to 5.0 feet)	58.6	4.1	62.6	4.4
0.0 to 1.5 feet	198.7	13.9	211.6	14.8
Underlying Soil (1.5 to 5.0 feet)	45.9	3.2	49.2	3.4
0.0 to 2.5 feet	154.0	10.8	164.0	11.5
Underlying Soil (2.5 to 5.0 feet)	29.5	2.1	31.8	2.2
0.0 to 5.0 feet	91.8	6.4	97.9	6.9

Notes:

UCL = Upper Confidence Level

90% UCL applicable for waste classification and onsite reuse

95% UCL applicable for risk assessment and offsite disposal

mg/kg = milligrams per kilogram

mg/l = milligrams per liter

* = Soluble (WET) lead concentrations were predicted using slope of the regression line,
where y = predicted soluble (WET) lead and x = total lead

Regression Line Slope: $y = 0.0701\ x$