PRELIMINARY SITE INVESTIGATION REPORT

I-80 WESTBOUND MEDIAN UPGRADE PROJECT
SOLANO COUNTY, CALIFORNIA

PREPARED FOR:
CALIFORNIA DEPARTMENT OF TRANSPORTATION
DISTRICT 4
OFFICE OF ENVIRONMENTAL ENGINEERING
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GEOCON PROJECT NO. E8560-06-22
CALTRANS EA 04-4A0101

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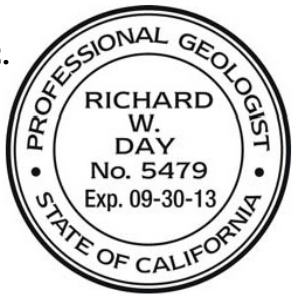
REPORT LIMITATIONS

This report has been prepared exclusively for the State of California Department of Transportation (Caltrans) District 4. The information contained herein is only valid as of the date of the report and will require an update to reflect additional information obtained.

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

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

GEOCON CONSULTANTS, INC.



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PRELIMINARY SITE INVESTIGATION REPORT

1.0 INTRODUCTION

This Preliminary Site Investigation Report for the Interstate 80 (I-80) Westbound Median Upgrades project was prepared by Geocon Consultants, Inc. under California Department of Transportation (Caltrans) Contract No. 04A3578 and Task Order No. 22 (TO-22), EA 04-4A0101.

1.1 Project Description and Proposed Improvements

The project location consists of Caltrans right-of-way (ROW) along a portion of the westbound shoulder of I-80 between the Leisure Town Road Overcrossing in Vacaville and the Pedrick Road Overcrossing in Dixon in Solano County, California. The investigation was conducted prior to restoring and resurfacing the existing PCC pavement along a portion of I-80. The proposed project will crack-seal and overlay the existing pavement, replace dual k-rail barrier with type 60 barrier. The median is 36 feet wide and with both paved and partially-paved 10-foot median shoulders. The existing shoulders are partially paved and portions are covered with rock and gravel. The unpaved portion has a downward slope of a maximum 10:1 ratio toward the paved shoulder. The unpaved portion will be paved, which will require soil excavation and generation of surplus soil. The project location is depicted on the Vicinity Map, Figure 1.

1.2 General Objectives

The purpose of the site investigation was to evaluate concentrations of California Assessment Manual (CAM) 17 metals, including aerially deposited lead (ADL), in soil at the project location. Groundwater is not expected to be encountered during the proposed construction activities; therefore, no groundwater samples were collected.

ADL may be present at the project location primarily due to historic leaded fuel emissions from automobile exhausts. Lead poses risks related to inhalation, ingestion, and dermal contact with the material.

The information obtained from this investigation will be used by Caltrans to evaluate soil disposal costs and identify health and safety concerns.

2.0 BACKGROUND

2.1 Hazardous Waste Determination Criteria

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

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

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

2.2 DTSC Variance

The DTSC issued a statewide Variance effective July 1, 2009, regarding the management 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 five 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 Variance is presented as Appendix A.

Caltrans Type Y-1: ADL soil exhibiting a total lead concentration less than or equal to 1,411 milligrams per kilogram (mg/kg), a DI-WET (WET using deionized water as extractant) lead concentration less than or equal to 1.5 milligrams per liter (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 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 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 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 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 lead concentration greater than or equal to 5 mg/l is not eligible for reuse under the Variance and must be disposed of as a RCRA hazardous waste.

2.3 Environmental Screening Levels

The San Francisco Bay Regional Water Quality Control Board (SFRWQCB) has prepared a technical report entitled *Screening For Environmental Concerns At Sites With Contaminated Soil and Groundwater, Interim Final* (May 2008), which presents Environmental Screening Levels (ESLs) for soil, groundwater, soil gas, and surface water, to assist in evaluating sites impacted by releases of hazardous chemicals. The ESLs are conservative values for more than 100 commonly detected contaminants, which may be used to compare with environmental data collected at a site. ESLs are strictly risk assessment tools and "not regulatory clean up standards." The presence of a chemical at concentrations in excess of an ESL does not necessarily indicate that adverse impacts to human health or the environment are occurring; this simply indicates that a potential for adverse risk may exist and that additional evaluation is or "may be" warranted (SFRWQCB, 2008).

The most conservative ESL table was used for this characterization: Table A – Shallow Soil (≤3 meters below ground surface; bgs) – Groundwater is a Current or Potential Source of Drinking Water. The respective ESLs are listed at the end of Table 3 for comparative purposes.

3.0 SCOPE OF SERVICES

The scope of services requested by Caltrans under TO-22, EA 04-4S0101 included the following:

3.1 Pre-field Activities

- Prepared a site-specific *Health and Safety Plan* to provide guidelines on the use of personal protective equipment and the health and safety procedures implemented during the field activities.
- Provided a minimum of 48-hours notice to the local public utilities via Underground Service Alert prior to job site mobilization.
- Retained the services of Advanced Technology Laboratories (ATL), a Caltrans-approved and California-certified analytical laboratory, to perform the chemical analyses of soil samples.

3.2 Field Activities

The field investigation was performed on May 3, 2011, by Geocon staff. The following field activities were performed during the sampling efforts:

- Advanced eleven soil borings along the westbound median of I-80 at the project location using hand-auger techniques. The borings were advanced to a maximum depth of 2.0 feet.
- Collected 22 soil samples for selected analysis of CAM 17 metals and total lead
- Transported samples to California-certified environmental laboratories for analysis under standard chain-of-custody (COC) documentation.

4.0 INVESTIGATIVE METHODS

4.1 Sampling Procedures

Soil samples were collected from eleven boring locations identified by the Caltrans TO Manager. Geocon recorded the boring locations using Differential Global Positioning System (DGPS) equipment. Boring coordinates are presented on Table 1 and boring locations are shown on the Site Plan, Figure 2.

The soil samples for analysis of CAM 17 metals were collected in new stainless steel tubes sealed with Teflon tape and plastic end-caps. Soil samples for total lead analysis were collected into new resealable plastic bags. Sample containers were labeled and transported to Caltrans-approved, certified environmental laboratories using standard COC documentation. Soil borings were backfilled to surface with soil cuttings.

Geocon provided QA/QC procedures during the field activities. These procedures included washing the sampling equipment with a Liqui-Nox® solution followed by a double rinse with deionized water. Decontamination water was disposed of to the ground surface within Caltrans right-of-way in a manner not to create runoff, away from drain inlets or potential water bodies.

4.2 Laboratory Analyses

Laboratory analyses were performed by ATL under an expedited 48-hour turnaround-time (TAT). The laboratory reports and COC documentation are included in Appendix B.

The soil samples were analyzed as follows:

- 14 samples for total lead using Environmental Protection Agency (EPA) Test Method 6010 ICAP
- 8 samples for CAM 17 metals according to Title 22 CCR, EPA Test Methods 6010 ICAP and 7471A
- 11 samples with total lead concentrations exceeding 50 milligrams per kilograms (mg/kg) (i.e. ten times the STLC of 5.0 milligrams per liter, mg/l), were further analyzed for WET lead.
- 11 samples with total lead concentrations exceeding 100 mg/kg and WET lead concentrations exceeding the STLC of 5.0 mg/l were further analyzed for TCLP and DI-WET lead.
- 8 samples with total chromium concentrations exceeding ten times the STLC of 5.0 mg/l for hexavalent chromium were further analyzed for WET chromium.
- 4 samples with total nickel concentrations exceeding 200 mg/kg (i.e. ten times the STLC of 20 mg/kg) were further analyzed for WET nickel.

4.3 Laboratory QA/QC

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

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

Prior to submitting the samples to the laboratory, the COC documentation was reviewed for accuracy and completeness.

5.0 INVESTIGATIVE RESULTS

5.1 Subsurface Conditions

Observations during field activities indicated that surface soil at the project location generally consists of brown, gravelly sand and silt. Groundwater was not encountered during the advancement of the soil borings.

5.2 Laboratory Analytical Results

The analytical results are summarized in Tables 2 and 3 and are summarized below:

- The following metals were not detected above their respective laboratory reporting limits: beryllium, molybdenum, selenium, silver, and thallium.
- Total lead was reported at concentrations ranging from 5.8 to 3,100 mg/kg.
- WET lead was reported at concentrations ranging from 3.1 to 83 mg/l.
- TCLP lead was reported at concentrations ranging from 0.37 to 1.2 mg/l.
- DI-WET lead was reported at concentrations ranging from <0.25 to 0.73 mg/l.
- Total chromium was reported at concentrations ranging from 81 to 190 mg/kg.
- WET chromium was not detected above the laboratory reporting limit of 1.0 mg/l.
- Total nickel was reported at concentrations ranging from 130 to 240 mg/kg.
- WET nickel was reported at concentrations ranging from 1.7 to 2.8 mg/l.
- Remaining CAM 17 metals were reported in the samples at total concentrations below ten times their respective STLCs.

5.3 Laboratory Quality Assurance/Quality Control

We reviewed the QA/QC results provided with the laboratory analytical reports. The data indicate non-detect results for the method blanks. All samples and internal laboratory QA/QC samples showed acceptable recoveries and relative percent differences (RPDs). Based on this limited data review, no additional qualifications of the soil data are necessary, and the data are of sufficient quality for the purposes of this report.

5.4 Statistical Evaluation for Lead Detected in Soil Samples

Statistical methods were applied to the total lead data to evaluate: 1) the upper confidence limits (UCLs) of the arithmetic means of the total lead concentrations for each sampling depth; and 2) if an acceptable correlation between total and WET lead concentrations exists that would allow the prediction of WET lead concentrations based on calculated UCLs. The lead data for the site were treated as a single sample population for statistical evaluation, which consisted of samples from borings B1 to B11 collected along the westbound shoulder of I-80.

5.4.1 Calculating the UCLs for the Arithmetic Mean

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

Non-parametric bootstrap techniques were used to calculate the UCLs. For those samples in which total lead was not detected, a value equal to one-half of the detection limit was used in the UCL calculation. The bootstrap test results are included in Appendix C. The following table presents the calculated UCLs and statistics for the data set.

Borings B1 to B11

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 to 0.5	1,300	1,390	984.5	430	3,100
1.5 to 2.0	24.9	26.0	19.3	5.8	61

5.4.2 Correlation of Total and WET Lead

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

To estimate the degree of interrelation between total and corresponding WET lead values (x and y, respectively), the *correlation coefficient [r]* is used. The correlation coefficient is a ratio that ranges from +1 to –1. A *correlation coefficient* of +1 indicates a perfect direct relationship between two variables; a *correlation coefficient* of –1 indicates that one variable changes inversely with relation to the other. Between the two extremes is a spectrum of less-than-perfect relationships, including zero, which indicates the lack of any sort of linear relationship at all. The *correlation coefficient* was calculated for the twelve (x, y) data points (i.e., soil samples analyzed for both total lead [x] and WET lead [y]). The resulting *coefficient of determination* (r^2) equaled 0.773, which yields a corresponding *correlation coefficient* (r) of 0.879. To achieve an acceptable correlation, the two data points with the highest squared residual WET lead values were not included in the regression.

For the *correlation coefficient* that indicates a linear relationship between total and WET lead concentrations, it is possible to compute the line of dependence or a best-fit line between the two variables. A least squares method was used to find the equation of a best-fit line (regression line) by forcing the y-intercept equal to zero since that is a known point. The equation of the regression line was determined to be $y = 0.0673(x)$, where x represents total lead concentrations and y represents predicted WET lead concentrations.

This equation was used to estimate the expected WET lead concentrations for the total lead UCLs for the data set (see Section 5.4.1). Regression analysis results and a scatter plot depicting the (x, y) data points along with the regression line are included in Appendix C. The predicted WET lead concentrations are summarized in Table 4.

6.0 CONCLUSIONS

6.1 Lead in Soil

The following table summarizes the predicted waste classification for excavated soil based on the calculated weighted averages of the total lead UCLs and predicted WET lead concentrations for data collected at the Site. Weighted averages are calculated by using the total lead concentration for each 0.5-foot depth interval as the value for the underlying 0.5-foot depth interval (unless a sample was collected from the underlying depth interval). The total and WET lead calculations are summarized below and in Table 4.

Excavation Depth	**90% UCL Total Lead (mg/kg)**	**90% UCL Predicted WET Lead (mg/l)**	**95% UCL Total Lead (mg/kg)**	**Waste Classification**
0 to 1.5 ft	1,300	**88**	1,390	**Hazardous**
Underlying soil (1.5 to 2 ft)	*25*	*1.7*	*26*	*Non-Hazardous*
0 to 2 ft	981	**66**	1,049	**Hazardous**

90% UCL applicable for waste classification and onsite reuse; 95% UCL applicable for risk assessment and offsite disposal

Based on the data presented in the above table, soil excavated from the project site to a depth of 1.5 feet would be classified as California hazardous waste since the predicted WET lead concentration is greater than the lead STLC of 5.0 mg/l. Based on the TCLP results, excavated soil would not be considered a RCRA hazardous waste. Based on the DI-WET results, excavated soil may be reused onsite under the DTSC Variance by placing it beneath one foot of clean soil and/or pavement. Underlying soil (i.e., deeper than 1.5 feet) would be classified as non-hazardous based on lead content.

6.2 Other CAM 17 Metals in Soil

The CAM 17 metals concentrations in site soil, other than lead, were compared to ESLs (Table A, SFRWQCB, May 2008). Arsenic, mercury, nickel, and vanadium were reported with concentrations greater than their respective ESL values in the soil samples collected at the site. Arsenic was detected in the samples at concentrations ranging from 2.3 to 15 mg/kg, exceeding the residential land use ESL of 0.39 mg/kg and the commercial/industrial land use ESL of 1.6 mg/kg for shallow soil (≤3 meters; SFRWQCB, Table A). Mercury was reported at concentrations ranging from less than the laboratory reporting limit of 0.10 mg/kg to 1.6 mg/kg, exceeding the residential land use ESL of 1.3 mg/kg. Nickel was reported at concentrations ranging from 130 to 240 mg/kg, exceeding the residential and commercial/industrial land use ESLs of 150 mg/kg. Vanadium was reported at concentrations between 38 and 48 mg/kg, exceeding the residential land use ESL of 16 mg/kg for shallow soil.

Upper one-sided 95% Upper Confidence Limits (UCLs) were calculated for the full set of arsenic and vanadium concentrations. Non-parametric bootstrap techniques were used to calculate the UCLs. For those samples in which arsenic was not detected, a value equal to one-half of the detection limit was used in the UCL calculation. The UCLs were compared with the residential and commercial/industrial land use ESLs and with 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). The bootstrap results are included in Appendix C. The calculated standard bootstrap UCLs, ESLs and published background concentrations are summarized in the table below:

Metal	95% UCL	RESIDENTIAL ESL	COMMERCIAL/ INDUSTRIAL ESL	PUBLISHED BACKGROUND MEAN[1]	PUBLISHED BACKGROUND RANGE [1]
Arsenic	8.4	0.39	1.6	3.5	0.6 to 11.0
Mercury	0.68	1.3	10	0.26	0.05 to 0.90
Nickel	204.6	150	150	57	9 to 509
Vanadium	44.6	16	200	112	39 to 288

Concentrations reported in milligrams per kilogram (mg/kg)

[1] Kearney Foundation of Soil Science, March 1996

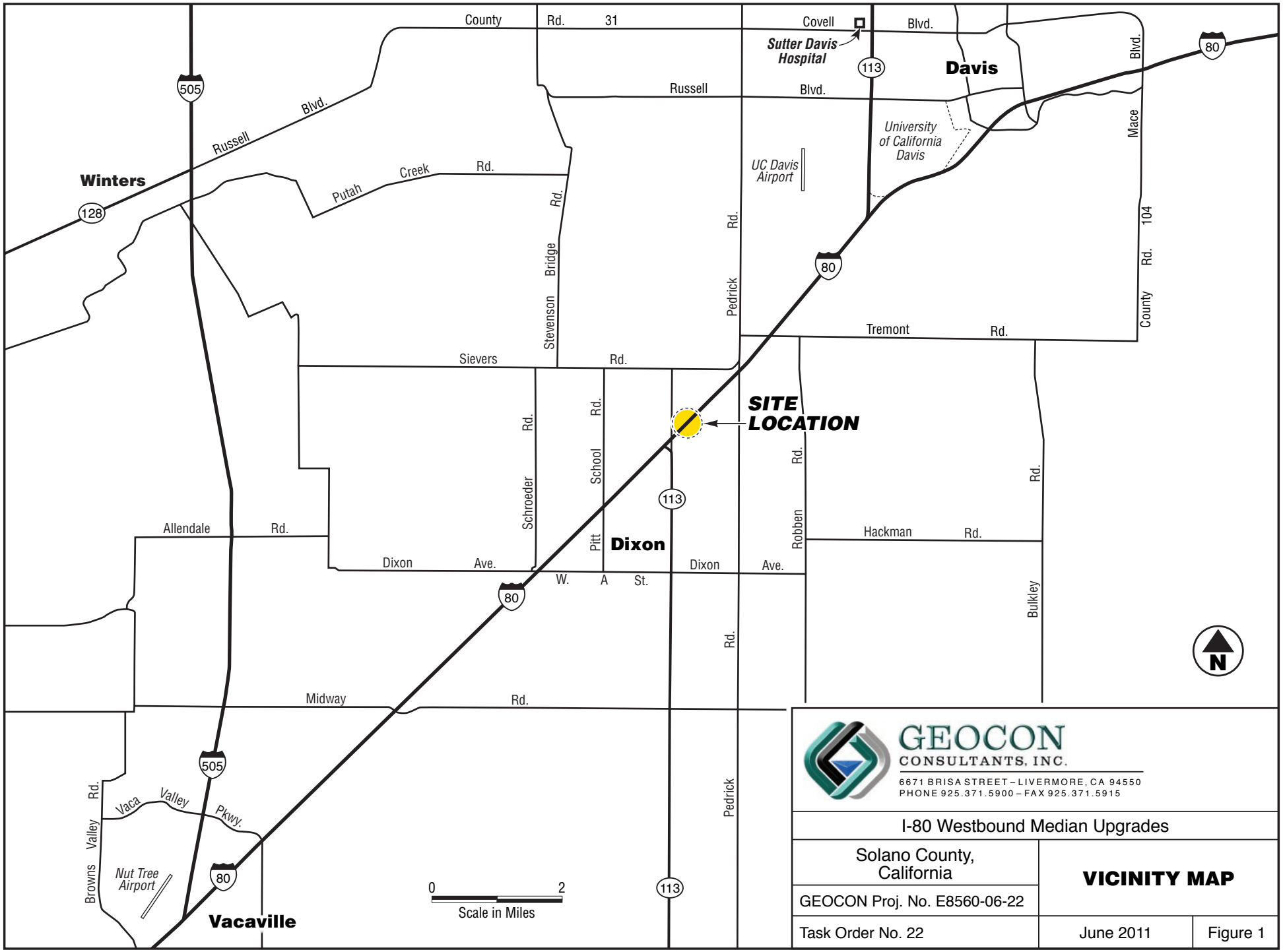
The 95% UCL value for arsenic in the soil samples collected at the Site is greater than the residential and commercial/industrial land use ESLs and within the published background range. The SFRWQCB *November 2007 Update to Environmental Screening Levels (ESLs) Technical Document* states that ambient background concentrations of arsenic typically exceed risk-based screening levels. In such instances, it may be more appropriate to compare site data to regionally specific established background levels.

The 95% UCL for mercury is less than the ESLs and is within the published background range. The 95% UCL for nickel is greater than the ESLs; however, it is within the published background range. The 95% UCL value for vanadium in the soil samples collected at the site is greater than the residential land use ESL. However, the 95% UCL for vanadium is less than the commercial/industrial land use ESL and within the published background range.

Based on the reported arsenic, nickel, and vanadium results, there may be restrictions on reuse and/or disposal options for excavated soil.

6.3 Worker Protection

The contractor(s) should prepare a project-specific health and safety plan to prevent or minimize worker exposure to metals in soil and groundwater. The plan should include protocols for environmental and personnel monitoring, requirements for personal protective equipment, and other health and safety protocols and procedures for the handling of metals in soil and groundwater.



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I-80 Westbound Median Upgrades

Solano County, California

GEOCON Proj. No. E8560-06-22

VICINITY MAP

Task Order No. 22 | June 2011 | Figure 1

Aerial Photo: Google Earth, 9/24/09

LEGEND:

B1 ⊗ Approximate Boring Location

0 100
Scale in Feet

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I-80 Westbound Median Upgrades		
Solano County, California	**SITE PLAN**	
GEOCON Proj. No. E8560-06-22		
Task Order No. 22	June 2011	Figure 2

TABLE 1
BORING COORDINATES
I-80 Westbound Median between
Leisure Town Road and Pedrick Road Overcrossings
Solano County, California

Boring	Latitude	Longitude
B1	38.475110	-121.821065
B2	38.475421	-121.820688
B3	38.475700	-121.820328
B4	38.475978	-121.819960
B5	38.476314	-121.819538
B6	38.476590	-121.819188
B7	38.476902	-121.818828
B8	38.477189	-121.818456
B9	38.477493	-121.818079
B10	38.477746	-121.817734
B11	38.478078	-121.817287

TABLE 2
Summary of Lead, Chromium, Nickel and pH Results
I-80 Westbound Median between Leisure Town Road and Pedrick Road Overcrossings
Solano County, California

Sample ID	Sample Depth (feet)	Total Lead (mg/kg)	WET Lead (mg/l)	DI-WET Lead (mg/l)	TCLP Lead (mg/l)	Total Chromium (mg/kg)	WET Chromium (mg/l)	Total Nickel (mg/kg)	WET Nickel (mg/l)
B1-0.0	0	520	27	<0.25	0.47	---	---	---	---
B1-1.5	1.5	21	---	---	---	---	---	---	---
B2-0.0	0	660	43	<0.25	0.50	---	---	---	---
B2-1.5	1.5	7.9	---	---	---	100	<1.0	200	2.8
B3-0.0	0	670	66	0.42	0.50	96	<1.0	130	---
B3-1.5	1.5	13	---	---	---	---	---	---	---
B4-0.0	0	710	42	0.38	0.64	---	---	---	---
B4-1.5	1.5	22	---	---	---	110	<1.0	210	2.0
B5-0.0	0	510	39	0.73	0.39	81	<1.0	130	---
B5-1.5	1.5	5.8	---	---	---	---	---	---	---
B6-0.0	0	470	34	<0.25	0.42	82	<1.0	130	---
B6-1.5	1.5	15	---	---	---	---	---	---	---
B7-0.0	0	630	40	0.35	0.73	190	<1.0	240	1.7
B7-1.5	1.5	61	3.1	---	---	---	---	---	---
B8-0.0	0	930	61	0.37	1.0	---	---	---	---
B8-1.5	1.5	24	---	---	---	100	<1.0	170	---
B9-0.0	0	3,100	83	0.54	1.2	---	---	---	---
B9-1.5	1.5	15	---	---	---	---	---	---	---
B10-0.0	0	2,200	35	<0.25	0.44	---	---	---	---
B10-1.5	1.5	13	---	---	---	130	<1.0	230	2.1
B11-0.0	0	430	17	<0.25	0.37	---	---	---	---
B11-1.5	1.5	14	---	---	---	---	---	---	---

Notes:

<5.0 = Not detected above the laboratory reporting limit
WET = Waste Extraction Test using citric acid as the extraction fluid
DI-WET = Waste Extraction Test using deionized water as the extraction fluid
TCLP = Toxicity Characteristic Leaching Procedure

TABLE 3
Summary of CAM17 Metals Results
I-80 Westbound Median between Leisure Town Road and Pedrick Road Overcrossings
Solano County, California

Sample ID	Sample Depth (ft)	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
B2-1.5	1.5	2.4	3.5	120	<1.0	<1.0	100	17	25	7.9	<0.10	<1.0	200	<1.0	<1.0	<1.0	48	50
B3-0.0	0	2.5	6.7	160	<1.0	1.4	96	12	38	670	<0.10	<1.0	130	<1.0	<1.0	<1.0	40	250
B4-1.5	1.5	2.4	3.2	100	<1.0	<1.0	110	17	21	22	1.6	<1.0	210	<1.0	<1.0	<1.0	42	54
B5-0.0	0	2.5	15	160	<1.0	1.3	81	14	39	510	0.17	<1.0	130	<1.0	<1.0	<1.0	42	240
B6-0.0	0	2.7	5.5	150	<1.0	1.3	82	14	48	470	0.17	<1.0	130	<1.0	<1.0	<1.0	42	260
B7-0.0	0	4.1	8.0	130	<1.0	1.4	190	19	39	630	0.60	<1.0	240	<1.0	<1.0	<1.0	48	140
B8-1.5	1.5	2.4	5.0	130	<1.0	<1.0	100	16	23	24	0.31	<1.0	170	<1.0	<1.0	<1.0	41	49
B10-1.5	1.5	2.6	2.3	86	<1.0	<1.0	130	16	18	13	0.23	<1.0	230	<1.0	<1.0	<1.0	38	42
ESLs																		
Residential Land Use		6.3	0.39	750	4.0	1.7	750	40	230	200	1.3	40	150	10	20	1.3	16	600
Comm/Ind Land Use		40	1.6	1500	8.0	7.4	750	80	230	750	10	40	150	10	40	16	200	600
Construction Exposure		310	15	2,600	98	39	1,200,000	94	310,000	750	58	3,900	260	3,900	3,900	62	770	230,000

Notes:

Results are shown in milligrams per kilogram (mg/kg).

< = Analyte was not detected above the laboratory reporting limit.

Values listed for chromium are for Chromium III, as there is no standard for total chromium.

ESLs = Environmental Screening Levels, Tables A and K-3, SFRWQCB, Revised May 2008.

TABLE 4
Summary of Predicted WET Lead Results
I-80 Westbound Median between Leisure Town Road and Pedrick Road Overcrossings
Solano County, California

TOTAL LEAD UCLs

	Total Lead (mg/kg)	
	90% UCL	**95% UCL**
0 to 0.5 ft	1,300	1,390
1.5 to 2 ft	24.9	26.0

EXCAVATION SCENARIOS

	Weighted Average 90% UCL		Weighted Average 95% UCL	
Excavation Depth	**Total Lead (mg/kg)**	**WET Lead* (mg/l)**	**Total Lead (mg/kg)**	**WET Lead* (mg/l)**
0 to 1.5 ft	1,300	88	1,390	94
Underlying Soil (1.5 to 2 ft)	*25*	*1.7*	*26*	*1.8*
0 to 2 ft	981	66	1,049	71

Notes:

UCL = Upper Confidence Limit (90% UCL is applicable for waste classificattion; 95% UCL applicable for risk assessment)

mg/kg = milligrams per kilogram

mg/l = milligrams per liter

* = WET lead concentrations are predicted using slope of regression line,
where y = predicted WET lead and x = total lead.

Regression Line Slope: y = 0.0673 x

Weighted average values are based upon calculated UCLs for each depth interval.

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

May 06, 2011

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

Workorder No.: 117671

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

TEL: (925) 371-5900
FAX: (925) 371-5915

RE: Solano-80/Pedrick Road, E8560-06-22

Attention: Rick Day

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

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

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

Sincerely,

Eddie F. Rodriguez
Laboratory Director

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

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

Advanced Technology Laboratories

Date: 5/6/2011

ANALYTICAL RESULTS

LEAD BY ICP
EPA 6010B

CLIENT:	Geocon Consultants, Inc.	**Lab Order:**	117671
Project:	Solano-80/Pedrick Road, E8560-06-22	**Date Received:**	5/4/2011 8:26:00 AM
Project No:		**Matrix:**	Soil
Analyte:	Lead	**Analyst:**	IL

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
117671-001A	B11-0.0	430	mg/Kg	72663	5.0	1	5/3/2011	5/5/2011
117671-002A	B11-1.5	14	mg/Kg	72663	5.0	1	5/3/2011	5/5/2011
117671-003A	B10-0.0	2200	mg/Kg	72663	5.0	1	5/3/2011	5/5/2011
117671-005A	B9-0.0	3100	mg/Kg	72663	5.0	1	5/3/2011	5/5/2011
117671-006A	B9-1.5	15	mg/Kg	72663	5.0	1	5/3/2011	5/5/2011
117671-007A	B8-0.0	930	mg/Kg	72663	5.0	1	5/3/2011	5/5/2011
117671-010A	B7-1.5	61	mg/Kg	72663	5.0	1	5/3/2011	5/5/2011
117671-012A	B6-1.5	15	mg/Kg	72663	5.0	1	5/3/2011	5/5/2011
117671-014A	B5-1.5	5.8	mg/Kg	72663	5.0	1	5/3/2011	5/5/2011
117671-015A	B4-0.0	710	mg/Kg	72663	5.0	1	5/3/2011	5/5/2011
117671-018A	B3-1.5	13	mg/Kg	72663	5.0	1	5/3/2011	5/5/2011
117671-019A	B2-0.0	660	mg/Kg	72663	5.0	1	5/3/2011	5/5/2011
117671-021A	B1-0.0	520	mg/Kg	72663	5.0	1	5/3/2011	5/5/2011
117671-022A	B1-1.5	21	mg/Kg	72663	5.0	1	5/3/2011	5/5/2011

Qualifiers:

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

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *06-May-11*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	B10-1.5
Lab Order:	117671	**Collection Date:**	5/3/2011 9:25:00 AM
Project:	Solano-80/Pedrick Road, E8560-06-22	**Matrix:**	SOIL
Lab ID:	117671-004A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS						
	EPA 3050B			**EPA 6010B**		
RunID: ICP8_110505A	QC Batch: 72667			PrepDate:	5/5/2011	Analyst: **SRB**
Antimony	2.6	2.0		mg/Kg	1	5/5/2011 12:08 PM
Arsenic	2.3	1.0		mg/Kg	1	5/5/2011 12:08 PM
Barium	86	1.0		mg/Kg	1	5/5/2011 12:08 PM
Beryllium	ND	1.0		mg/Kg	1	5/5/2011 12:08 PM
Cadmium	ND	1.0		mg/Kg	1	5/5/2011 12:08 PM
Chromium	130	1.0		mg/Kg	1	5/5/2011 12:08 PM
Cobalt	16	1.0		mg/Kg	1	5/5/2011 12:08 PM
Copper	18	2.0		mg/Kg	1	5/5/2011 12:08 PM
Lead	13	1.0		mg/Kg	1	5/5/2011 12:08 PM
Molybdenum	ND	1.0		mg/Kg	1	5/5/2011 12:08 PM
Nickel	230	1.0		mg/Kg	1	5/5/2011 12:08 PM
Selenium	ND	1.0		mg/Kg	1	5/5/2011 12:08 PM
Silver	ND	1.0		mg/Kg	1	5/5/2011 12:08 PM
Thallium	ND	1.0		mg/Kg	1	5/5/2011 12:08 PM
Vanadium	38	1.0		mg/Kg	1	5/5/2011 12:08 PM
Zinc	42	1.0		mg/Kg	1	5/5/2011 12:08 PM
MERCURY BY COLD VAPOR TECHNIQUE						
				EPA 7471A		
RunID: AA1_110505A	QC Batch: 72668			PrepDate:	5/5/2011	Analyst: **VV**
Mercury	0.23	0.10		mg/Kg	1	5/5/2011 12:32 PM

Qualifiers:

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

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *06-May-11*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	B8-1.5
Lab Order:	117671	**Collection Date:**	5/3/2011 9:50:00 AM
Project:	Solano-80/Pedrick Road, E8560-06-22	**Matrix:**	SOIL
Lab ID:	117671-008A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS						
	EPA 3050B			**EPA 6010B**		
RunID: ICP8_110505A	QC Batch: 72667			PrepDate:	5/5/2011	Analyst: **SRB**
Antimony	2.4	2.0		mg/Kg	1	5/5/2011 12:11 PM
Arsenic	5.0	1.0		mg/Kg	1	5/5/2011 12:11 PM
Barium	130	1.0		mg/Kg	1	5/5/2011 12:11 PM
Beryllium	ND	1.0		mg/Kg	1	5/5/2011 12:11 PM
Cadmium	ND	1.0		mg/Kg	1	5/5/2011 12:11 PM
Chromium	100	1.0		mg/Kg	1	5/5/2011 12:11 PM
Cobalt	16	1.0		mg/Kg	1	5/5/2011 12:11 PM
Copper	23	2.0		mg/Kg	1	5/5/2011 12:11 PM
Lead	24	1.0		mg/Kg	1	5/5/2011 12:11 PM
Molybdenum	ND	1.0		mg/Kg	1	5/5/2011 12:11 PM
Nickel	170	1.0		mg/Kg	1	5/5/2011 12:11 PM
Selenium	ND	1.0		mg/Kg	1	5/5/2011 12:11 PM
Silver	ND	1.0		mg/Kg	1	5/5/2011 12:11 PM
Thallium	ND	1.0		mg/Kg	1	5/5/2011 12:11 PM
Vanadium	41	1.0		mg/Kg	1	5/5/2011 12:11 PM
Zinc	49	1.0		mg/Kg	1	5/5/2011 12:11 PM
MERCURY BY COLD VAPOR TECHNIQUE						
				EPA 7471A		
RunID: AA1_110505A	QC Batch: 72668			PrepDate:	5/5/2011	Analyst: **VV**
Mercury	0.31	0.10		mg/Kg	1	5/5/2011 12:38 PM

Qualifiers:

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

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *06-May-11*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	B7-0.0
Lab Order:	117671	**Collection Date:**	5/3/2011 9:58:00 AM
Project:	Solano-80/Pedrick Road, E8560-06-22	**Matrix:**	SOIL
Lab ID:	117671-009A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS						
	EPA 3050B			**EPA 6010B**		
RunID: ICP8_110505A	QC Batch: 72667			PrepDate:	5/5/2011	Analyst: **SRB**
Antimony	4.1	2.0		mg/Kg	1	5/5/2011 12:21 PM
Arsenic	8.0	1.0		mg/Kg	1	5/5/2011 12:21 PM
Barium	130	1.0		mg/Kg	1	5/5/2011 12:21 PM
Beryllium	ND	1.0		mg/Kg	1	5/5/2011 12:21 PM
Cadmium	1.4	1.0		mg/Kg	1	5/5/2011 12:21 PM
Chromium	190	1.0		mg/Kg	1	5/5/2011 12:21 PM
Cobalt	19	1.0		mg/Kg	1	5/5/2011 12:21 PM
Copper	39	2.0		mg/Kg	1	5/5/2011 12:21 PM
Lead	630	1.0		mg/Kg	1	5/5/2011 12:21 PM
Molybdenum	ND	1.0		mg/Kg	1	5/5/2011 12:21 PM
Nickel	240	1.0		mg/Kg	1	5/5/2011 12:21 PM
Selenium	ND	1.0		mg/Kg	1	5/5/2011 12:21 PM
Silver	ND	1.0		mg/Kg	1	5/5/2011 12:21 PM
Thallium	ND	1.0		mg/Kg	1	5/5/2011 12:21 PM
Vanadium	48	1.0		mg/Kg	1	5/5/2011 12:21 PM
Zinc	140	1.0		mg/Kg	1	5/5/2011 12:21 PM
MERCURY BY COLD VAPOR TECHNIQUE						
				EPA 7471A		
RunID: AA1_110505A	QC Batch: 72668			PrepDate:	5/5/2011	Analyst: **VV**
Mercury	0.60	0.10		mg/Kg	1	5/5/2011 12:40 PM

Qualifiers:

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

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *06-May-11*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	B6-0.0
Lab Order:	117671	**Collection Date:**	5/3/2011 10:15:00 AM
Project:	Solano-80/Pedrick Road, E8560-06-22	**Matrix:**	SOIL
Lab ID:	117671-011A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS						
	EPA 3050B			**EPA 6010B**		
RunID: ICP8_110505A	QC Batch: 72667			PrepDate:	5/5/2011	Analyst: **SRB**
Antimony	2.7	2.0		mg/Kg	1	5/5/2011 12:25 PM
Arsenic	5.5	1.0		mg/Kg	1	5/5/2011 12:25 PM
Barium	150	1.0		mg/Kg	1	5/5/2011 12:25 PM
Beryllium	ND	1.0		mg/Kg	1	5/5/2011 12:25 PM
Cadmium	1.3	1.0		mg/Kg	1	5/5/2011 12:25 PM
Chromium	82	1.0		mg/Kg	1	5/5/2011 12:25 PM
Cobalt	14	1.0		mg/Kg	1	5/5/2011 12:25 PM
Copper	48	2.0		mg/Kg	1	5/5/2011 12:25 PM
Lead	470	1.0		mg/Kg	1	5/5/2011 12:25 PM
Molybdenum	ND	1.0		mg/Kg	1	5/5/2011 12:25 PM
Nickel	130	1.0		mg/Kg	1	5/5/2011 12:25 PM
Selenium	ND	1.0		mg/Kg	1	5/5/2011 12:25 PM
Silver	ND	1.0		mg/Kg	1	5/5/2011 12:25 PM
Thallium	ND	1.0		mg/Kg	1	5/5/2011 12:25 PM
Vanadium	42	1.0		mg/Kg	1	5/5/2011 12:25 PM
Zinc	260	1.0		mg/Kg	1	5/5/2011 12:25 PM
MERCURY BY COLD VAPOR TECHNIQUE						
				EPA 7471A		
RunID: AA1_110505A	QC Batch: 72668			PrepDate:	5/5/2011	Analyst: **VV**
Mercury	0.17	0.10		mg/Kg	1	5/5/2011 12:42 PM

Qualifiers:

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

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *06-May-11*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	B5-0.0
Lab Order:	117671	**Collection Date:**	5/3/2011 10:24:00 AM
Project:	Solano-80/Pedrick Road, E8560-06-22	**Matrix:**	SOIL
Lab ID:	117671-013A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS						
	EPA 3050B			**EPA 6010B**		
RunID: ICP8_110505A	QC Batch: 72667			PrepDate:	5/5/2011	Analyst: **SRB**
Antimony	2.5	2.0		mg/Kg	1	5/5/2011 12:28 PM
Arsenic	15	1.0		mg/Kg	1	5/5/2011 12:28 PM
Barium	160	1.0		mg/Kg	1	5/5/2011 12:28 PM
Beryllium	ND	1.0		mg/Kg	1	5/5/2011 12:28 PM
Cadmium	1.3	1.0		mg/Kg	1	5/5/2011 12:28 PM
Chromium	81	1.0		mg/Kg	1	5/5/2011 12:28 PM
Cobalt	14	1.0		mg/Kg	1	5/5/2011 12:28 PM
Copper	39	2.0		mg/Kg	1	5/5/2011 12:28 PM
Lead	510	1.0		mg/Kg	1	5/5/2011 12:28 PM
Molybdenum	ND	1.0		mg/Kg	1	5/5/2011 12:28 PM
Nickel	130	1.0		mg/Kg	1	5/5/2011 12:28 PM
Selenium	ND	1.0		mg/Kg	1	5/5/2011 12:28 PM
Silver	ND	1.0		mg/Kg	1	5/5/2011 12:28 PM
Thallium	ND	1.0		mg/Kg	1	5/5/2011 12:28 PM
Vanadium	42	1.0		mg/Kg	1	5/5/2011 12:28 PM
Zinc	240	1.0		mg/Kg	1	5/5/2011 12:28 PM
MERCURY BY COLD VAPOR TECHNIQUE						
				EPA 7471A		
RunID: AA1_110505A	QC Batch: 72668			PrepDate:	5/5/2011	Analyst: **VV**
Mercury	0.17	0.10		mg/Kg	1	5/5/2011 12:44 PM

Qualifiers:

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

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *06-May-11*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	B4-1.5
Lab Order:	117671	**Collection Date:**	5/3/2011 10:40:00 AM
Project:	Solano-80/Pedrick Road, E8560-06-22	**Matrix:**	SOIL
Lab ID:	117671-016A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS						
	EPA 3050B			**EPA 6010B**		
RunID: ICP8_110505A	QC Batch: 72667			PrepDate:	5/5/2011	Analyst: **SRB**
Antimony	2.4	2.0		mg/Kg	1	5/5/2011 12:31 PM
Arsenic	3.2	1.0		mg/Kg	1	5/5/2011 12:31 PM
Barium	100	1.0		mg/Kg	1	5/5/2011 12:31 PM
Beryllium	ND	1.0		mg/Kg	1	5/5/2011 12:31 PM
Cadmium	ND	1.0		mg/Kg	1	5/5/2011 12:31 PM
Chromium	110	1.0		mg/Kg	1	5/5/2011 12:31 PM
Cobalt	17	1.0		mg/Kg	1	5/5/2011 12:31 PM
Copper	21	2.0		mg/Kg	1	5/5/2011 12:31 PM
Lead	22	1.0		mg/Kg	1	5/5/2011 12:31 PM
Molybdenum	ND	1.0		mg/Kg	1	5/5/2011 12:31 PM
Nickel	210	1.0		mg/Kg	1	5/5/2011 12:31 PM
Selenium	ND	1.0		mg/Kg	1	5/5/2011 12:31 PM
Silver	ND	1.0		mg/Kg	1	5/5/2011 12:31 PM
Thallium	ND	1.0		mg/Kg	1	5/5/2011 12:31 PM
Vanadium	42	1.0		mg/Kg	1	5/5/2011 12:31 PM
Zinc	54	1.0		mg/Kg	1	5/5/2011 12:31 PM
MERCURY BY COLD VAPOR TECHNIQUE						
				EPA 7471A		
RunID: AA1_110505A	QC Batch: 72668			PrepDate:	5/5/2011	Analyst: **VV**
Mercury	1.6	0.10		mg/Kg	1	5/5/2011 12:46 PM

Qualifiers:

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

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *06-May-11*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	B3-0.0
Lab Order:	117671	**Collection Date:**	5/3/2011 10:48:00 AM
Project:	Solano-80/Pedrick Road, E8560-06-22	**Matrix:**	SOIL
Lab ID:	117671-017A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS						
	EPA 3050B			**EPA 6010B**		
RunID: ICP8_110505A	QC Batch: 72667			PrepDate:	5/5/2011	Analyst: **SRB**
Antimony	2.5	2.0		mg/Kg	1	5/5/2011 12:35 PM
Arsenic	6.7	1.0		mg/Kg	1	5/5/2011 12:35 PM
Barium	160	1.0		mg/Kg	1	5/5/2011 12:35 PM
Beryllium	ND	1.0		mg/Kg	1	5/5/2011 12:35 PM
Cadmium	1.4	1.0		mg/Kg	1	5/5/2011 12:35 PM
Chromium	96	1.0		mg/Kg	1	5/5/2011 12:35 PM
Cobalt	12	1.0		mg/Kg	1	5/5/2011 12:35 PM
Copper	38	2.0		mg/Kg	1	5/5/2011 12:35 PM
Lead	670	1.0		mg/Kg	1	5/5/2011 12:35 PM
Molybdenum	ND	1.0		mg/Kg	1	5/5/2011 12:35 PM
Nickel	130	1.0		mg/Kg	1	5/5/2011 12:35 PM
Selenium	ND	1.0		mg/Kg	1	5/5/2011 12:35 PM
Silver	ND	1.0		mg/Kg	1	5/5/2011 12:35 PM
Thallium	ND	1.0		mg/Kg	1	5/5/2011 12:35 PM
Vanadium	40	1.0		mg/Kg	1	5/5/2011 12:35 PM
Zinc	250	1.0		mg/Kg	1	5/5/2011 12:35 PM
MERCURY BY COLD VAPOR TECHNIQUE						
				EPA 7471A		
RunID: AA1_110505A	QC Batch: 72668			PrepDate:	5/5/2011	Analyst: **VV**
Mercury	ND	0.10		mg/Kg	1	5/5/2011 12:48 PM

Qualifiers:

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

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *06-May-11*

CLIENT:	Geocon Consultants, Inc.	**Client Sample ID:**	B2-1.5
Lab Order:	117671	**Collection Date:**	5/3/2011 11:15:00 AM
Project:	Solano-80/Pedrick Road, E8560-06-22	**Matrix:**	SOIL
Lab ID:	117671-020A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS						
	EPA 3050B			**EPA 6010B**		
RunID: ICP8_110505A	QC Batch: 72667			PrepDate:	5/5/2011	Analyst: **SRB**
Antimony	2.4	2.0		mg/Kg	1	5/5/2011 11:47 AM
Arsenic	3.5	1.0		mg/Kg	1	5/5/2011 11:47 AM
Barium	120	1.0		mg/Kg	1	5/5/2011 11:47 AM
Beryllium	ND	1.0		mg/Kg	1	5/5/2011 11:47 AM
Cadmium	ND	1.0		mg/Kg	1	5/5/2011 11:47 AM
Chromium	100	1.0		mg/Kg	1	5/5/2011 11:47 AM
Cobalt	17	1.0		mg/Kg	1	5/5/2011 11:47 AM
Copper	25	2.0		mg/Kg	1	5/5/2011 11:47 AM
Lead	7.9	1.0		mg/Kg	1	5/5/2011 11:47 AM
Molybdenum	ND	1.0		mg/Kg	1	5/5/2011 11:47 AM
Nickel	200	1.0		mg/Kg	1	5/5/2011 11:47 AM
Selenium	ND	1.0		mg/Kg	1	5/5/2011 11:47 AM
Silver	ND	1.0		mg/Kg	1	5/5/2011 11:47 AM
Thallium	ND	1.0		mg/Kg	1	5/5/2011 11:47 AM
Vanadium	48	1.0		mg/Kg	1	5/5/2011 11:47 AM
Zinc	50	1.0		mg/Kg	1	5/5/2011 11:47 AM
MERCURY BY COLD VAPOR TECHNIQUE						
				EPA 7471A		
RunID: AA1_110505A	QC Batch: 72668			PrepDate:	5/5/2011	Analyst: **VV**
Mercury	ND	0.10		mg/Kg	1	5/5/2011 12:21 PM

Qualifiers:

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

Advanced Technology Laboratories

3275 Walnut Avenue, Signal Hill, CA 90755 Tel: 562. 989.4045 Fax: 562.989.4040

CLIENT: Geocon Consultants, Inc.
Work Order: 117671
Project: Solano-80/Pedrick Road, E8560-06-22

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID: **MB-72667**	SampType: **MBLK**	TestCode: **6010_S**	Units: **mg/Kg**	Prep Date: **5/5/2011**	RunNo: **132640**
Client ID: **PBS**	Batch ID: **72667**	TestNo: **EPA 6010B**	**EPA 3050B**	Analysis Date: **5/5/2011**	SeqNo: **2161586**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	2.0									
Arsenic	ND	1.0									
Barium	ND	1.0									
Beryllium	ND	1.0									
Cadmium	ND	1.0									
Chromium	ND	1.0									
Cobalt	ND	1.0									
Copper	ND	2.0									
Lead	ND	1.0									
Molybdenum	ND	1.0									
Nickel	ND	1.0									
Selenium	ND	1.0									
Silver	ND	1.0									
Thallium	ND	1.0									
Vanadium	ND	1.0									
Zinc	0.143	1.0									

Sample ID: **LCS-72667**	SampType: **LCS**	TestCode: **6010_S**	Units: **mg/Kg**	Prep Date: **5/5/2011**	RunNo: **132640**
Client ID: **LCSS**	Batch ID: **72667**	TestNo: **EPA 6010B**	**EPA 3050B**	Analysis Date: **5/5/2011**	SeqNo: **2161587**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	49.296	2.0	50.00	0	98.6	80	120				
Arsenic	47.693	1.0	50.00	0	95.4	80	120				
Barium	50.570	1.0	50.00	0	101	80	120				
Beryllium	50.005	1.0	50.00	0	100	80	120				
Cadmium	48.774	1.0	50.00	0	97.5	80	120				
Chromium	45.861	1.0	50.00	0	91.7	80	120				
Cobalt	49.160	1.0	50.00	0	98.3	80	120				

Qualifiers:

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

CLIENT: Geocon Consultants, Inc.
Work Order: 117671
Project: Solano-80/Pedrick Road, E8560-06-22

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID: **LCS-72667** SampType: **LCS** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **5/5/2011** RunNo: **132640**
Client ID: **LCSS** Batch ID: **72667** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **5/5/2011** SeqNo: **2161587**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	50.578	2.0	50.00	0	101	80	120				
Lead	48.981	1.0	50.00	0	98.0	80	120				
Molybdenum	50.463	1.0	50.00	0	101	80	120				
Nickel	48.794	1.0	50.00	0	97.6	80	120				
Selenium	45.196	1.0	50.00	0	90.4	80	120				
Silver	47.984	1.0	50.00	0	96.0	80	120				
Thallium	47.038	1.0	50.00	0	94.1	80	120				
Vanadium	50.616	1.0	50.00	0	101	80	120				
Zinc	48.408	1.0	50.00	0.1428	96.5	80	120				

Sample ID: **117671-020A-DUP** SampType: **DUP** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **5/5/2011** RunNo: **132640**
Client ID: **B2-1.5** Batch ID: **72667** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **5/5/2011** SeqNo: **2161589**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	1.998	2.0						2.360	0	20	
Arsenic	3.273	1.0						3.527	7.49	20	
Barium	108.840	1.0						124.4	13.3	20	
Beryllium	ND	1.0						0	0	20	
Cadmium	0.706	1.0						0.7763	0	20	
Chromium	89.070	1.0						101.8	13.4	20	
Cobalt	15.688	1.0						17.39	10.3	20	
Copper	23.211	2.0						25.26	8.44	20	
Lead	7.546	1.0						7.896	4.53	20	
Molybdenum	ND	1.0						0	0	20	
Nickel	173.062	1.0						195.6	12.2	20	
Selenium	ND	1.0						0	0	20	
Silver	ND	1.0						0	0	20	
Thallium	ND	1.0						0	0	20	
Vanadium	41.893	1.0						47.94	13.5	20	
Zinc	44.257	1.0						49.73	11.7	20	

Qualifiers:

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

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

CLIENT: Geocon Consultants, Inc.
Work Order: 117671
Project: Solano-80/Pedrick Road, E8560-06-22

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID: **117671-020A-MS** SampType: **MS** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **5/5/2011** RunNo: **132640**
Client ID: **B2-1.5** Batch ID: **72667** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **5/5/2011** SeqNo: **2161596**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	94.540	2.0	125.0	2.360	73.7	32	105				
Arsenic	104.243	1.0	125.0	3.527	80.6	49	106				
Barium	228.812	1.0	125.0	124.4	83.5	31	133				
Beryllium	106.237	1.0	125.0	0	85.0	56	106				
Cadmium	98.607	1.0	125.0	0.7763	78.3	51	103				
Chromium	189.038	1.0	125.0	101.8	69.8	45	114				
Cobalt	115.504	1.0	125.0	17.39	78.5	52	106				
Copper	139.287	2.0	125.0	25.26	91.2	54	125				
Lead	104.385	1.0	125.0	7.896	77.2	34	126				
Molybdenum	101.587	1.0	125.0	0	81.3	54	106				
Nickel	274.368	1.0	125.0	195.6	63.0	45	111				
Selenium	96.021	1.0	125.0	0	76.8	47	104				
Silver	107.444	1.0	125.0	0	86.0	56	112				
Thallium	92.739	1.0	125.0	0	74.2	46	101				
Vanadium	149.939	1.0	125.0	47.94	81.6	54	114				
Zinc	139.884	1.0	125.0	49.73	72.1	28	125				

Sample ID: **117671-020A-MSD** SampType: **MSD** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **5/5/2011** RunNo: **132640**
Client ID: **B2-1.5** Batch ID: **72667** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **5/5/2011** SeqNo: **2161597**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	90.966	2.0	125.0	2.360	70.9	32	105	94.54	3.85	20	
Arsenic	99.574	1.0	125.0	3.527	76.8	49	106	104.2	4.58	20	
Barium	216.558	1.0	125.0	124.4	73.7	31	133	228.8	5.50	20	
Beryllium	100.171	1.0	125.0	0	80.1	56	106	106.2	5.88	20	
Cadmium	93.810	1.0	125.0	0.7763	74.4	51	103	98.61	4.99	20	
Chromium	210.712	1.0	125.0	101.8	87.1	45	114	189.0	10.8	20	
Cobalt	112.580	1.0	125.0	17.39	76.1	52	106	115.5	2.56	20	
Copper	135.467	2.0	125.0	25.26	88.2	54	125	139.3	2.78	20	
Lead	99.801	1.0	125.0	7.896	73.5	34	126	104.4	4.49	20	

Qualifiers:

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

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

CLIENT: Geocon Consultants, Inc.
Work Order: 117671
Project: Solano-80/Pedrick Road, E8560-06-22

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID: **117671-020A-MSD** SampType: **MSD** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **5/5/2011** RunNo: **132640**
Client ID: **B2-1.5** Batch ID: **72667** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **5/5/2011** SeqNo: **2161597**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	96.399	1.0	125.0	0	77.1	54	106	101.6	5.24	20	
Nickel	326.675	1.0	125.0	195.6	105	45	111	274.4	17.4	20	
Selenium	90.914	1.0	125.0	0	72.7	47	104	96.02	5.46	20	
Silver	103.035	1.0	125.0	0	82.4	56	112	107.4	4.19	20	
Thallium	87.691	1.0	125.0	0	70.2	46	101	92.74	5.60	20	
Vanadium	146.840	1.0	125.0	47.94	79.1	54	114	149.9	2.09	20	
Zinc	135.756	1.0	125.0	49.73	68.8	28	125	139.9	3.00	20	

Qualifiers:

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

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

CLIENT: Geocon Consultants, Inc.
Work Order: 117671
Project: Solano-80/Pedrick Road, E8560-06-22

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID: **MB-72663A** SampType: **MBLK** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **5/5/2011** RunNo: **132647**
Client ID: **PBS** Batch ID: **72663** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **5/5/2011** SeqNo: **2161791**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.311	5.0									

Sample ID: **LCS-72663** SampType: **LCS** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **5/5/2011** RunNo: **132647**
Client ID: **LCSS** Batch ID: **72663** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **5/5/2011** SeqNo: **2161792**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	297.237	5.0	250.0	0.3107	119	80	120				

Sample ID: **117671-012A-DUP** SampType: **DUP** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **5/5/2011** RunNo: **132647**
Client ID: **B6-1.5** Batch ID: **72663** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **5/5/2011** SeqNo: **2161803**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	17.714	5.0						15.49	13.4	20	

Sample ID: **117671-012A-MS** SampType: **MS** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **5/5/2011** RunNo: **132647**
Client ID: **B6-1.5** Batch ID: **72663** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **5/5/2011** SeqNo: **2161804**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	223.795	5.0	250.0	15.49	83.3	34	126				

Sample ID: **MB-72663B** SampType: **MBLK** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **5/5/2011** RunNo: **132647**
Client ID: **PBS** Batch ID: **72663** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **5/5/2011** SeqNo: **2161805**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.170	5.0									

Qualifiers:

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

CLIENT: Geocon Consultants, Inc.
Work Order: 117671
Project: Solano-80/Pedrick Road, E8560-06-22

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID: **117671-022A-DUP** SampType: **DUP** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **5/5/2011** RunNo: **132647**
Client ID: **B1-1.5** Batch ID: **72663** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **5/5/2011** SeqNo: **2161815**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	22.113	5.0						21.04	4.98	20	

Sample ID: **117671-022A-MS** SampType: **MS** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **5/5/2011** RunNo: **132647**
Client ID: **B1-1.5** Batch ID: **72663** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **5/5/2011** SeqNo: **2161816**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	237.559	5.0	250.0	21.04	86.6	34	126				

Sample ID: **117671-022A-MSD** SampType: **MSD** TestCode: **6010_SPB** Units: **mg/Kg** Prep Date: **5/5/2011** RunNo: **132647**
Client ID: **B1-1.5** Batch ID: **72663** TestNo: **EPA 6010B** **EPA 3050M** Analysis Date: **5/5/2011** SeqNo: **2161817**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	220.500	5.0	250.0	21.04	79.8	34	126	237.6	7.45	20	

Qualifiers:

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

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

CLIENT: Geocon Consultants, Inc.
Work Order: 117671
Project: Solano-80/Pedrick Road, E8560-06-22

ANALYTICAL QC SUMMARY REPORT

TestCode: 7471_S

Sample ID: **MB-72668** SampType: **MBLK** TestCode: **7471_S** Units: **mg/Kg** Prep Date: **5/5/2011** RunNo: **132642**
Client ID: **PBS** Batch ID: **72668** TestNo: **EPA 7471A** Analysis Date: **5/5/2011** SeqNo: **2161736**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.10									

Sample ID: **LCS-72668** SampType: **LCS** TestCode: **7471_S** Units: **mg/Kg** Prep Date: **5/5/2011** RunNo: **132642**
Client ID: **LCSS** Batch ID: **72668** TestNo: **EPA 7471A** Analysis Date: **5/5/2011** SeqNo: **2161737**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.803	0.10	0.8300	0	96.8	80	120				

Sample ID: **117671-020A-MS** SampType: **MS** TestCode: **7471_S** Units: **mg/Kg** Prep Date: **5/5/2011** RunNo: **132642**
Client ID: **B2-1.5** Batch ID: **72668** TestNo: **EPA 7471A** Analysis Date: **5/5/2011** SeqNo: **2161738**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.801	0.10	0.8300	0.08437	86.4	70	130				

Sample ID: **117671-020A-MSD** SampType: **MSD** TestCode: **7471_S** Units: **mg/Kg** Prep Date: **5/5/2011** RunNo: **132642**
Client ID: **B2-1.5** Batch ID: **72668** TestNo: **EPA 7471A** Analysis Date: **5/5/2011** SeqNo: **2161739**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.798	0.10	0.8300	0.08437	86.0	70	130	0.8014	0.445	20	

Sample ID: **117671-020A-DUP** SampType: **DUP** TestCode: **7471_S** Units: **mg/Kg** Prep Date: **5/5/2011** RunNo: **132642**
Client ID: **B2-1.5** Batch ID: **72668** TestNo: **EPA 7471A** Analysis Date: **5/5/2011** SeqNo: **2161741**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.083	0.10						0.08437	0	20	

Qualifiers:

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

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

Pg 1 of 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: 5/4/11

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

Sample Condition Upon Receipt:
1. CHILLED 6.0 Y ☑ N ☐
2. HEADSPACE (VOA) Y ☐ N/A N ☐
3. CONTAINER INTACT Y ☑ N ☐
4. SEALED Y ☐ N ☑
5. # OF SPLS MATCH COC Y ☑ N ☐
6. PRESERVED Y ☐ N ☑

Client: GEOCON Consultants, Inc
Attention: Rick Day
Address: 6671 Brisa Street
City: Livermore State: CA Zip Code: 94550
Tel: 925.371.5900
Fax: 925.371.5915

Project Name: Solano-80/Pedrick Road
Project #: E8560-06-22
Sampler: (Printed Name) Rich Brown (Signature) [signature]

Relinquished by: (Signature and Printed Name)	Date	Time	Received by: (Signature and Printed Name)	Date	Time
Rich Brown [signature]	5/3/11	1600	OnTrac	5/3/11	1600
			[signature]	5/4/11	8:26

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter: REBECCA SILVA 5/3/11
Print Name Date
Signature [signature]

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

Bill To:
Attn:
Co: SAME AS ABOVE
Addr:
City: State: Zip:

Special Instructions/Comments:
Caltrans Contract 04A3578

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

QA/QC: RTNE ☐ CT ☑ SWRCB Logcode ____ OTHER ____

ITEM	LAB USE ONLY: Batch #: / Lab No.	Sample Description: Sample ID / Location	Date	Time	8081A (Pesticides)	8082 (PCB)	8260B (Volatiles)	8270C (BNA)	6010B (Total Metal)	8015B (GRO) / 8020 (BTEX)	8015B (DRO)	8021 (BTEX)	TITLE 22 / CAM 17 (6010 / 7000)	Lead (6010B)	pH (9045)	SOIL	WATER	GROUND WATER	WASTEWATER	CARBON	TAT	Container(s) #	Container(s) Type	PRESERVATION	REMARKS
	117671-007	B11-0.0	5/3/11	0915										X		X					C	1	B	C	
2		B11-1.5		0920										X											
3		B10-0.0		0923										X											
4		B10-1.5		0925								X													
5		B9-0.0		0936										X											
6		B9-1.5		0946										X											
7		B8-0.0		0948										X											
8	B6	B8-1.5		0950								X													
9	B7	~~B9~~-0.0		0958								X													
10	B7 B9	~~B9~~-1.5		1010										X											

- 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~~ BTG 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=$Na_2S_2O_3$

Pg 2 of 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 ☐
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 Consultants, Inc
Attention: Rick Day
Address: 6671 Brisa Street
City: Livermore State: CA Zip Code: 94550
Tel: 925.371.5900
Fax: 925.371.5915

Project Name: Solano-80/Pedrick Road
Project #: E8560-06-22
Sampler: (Printed Name) Rich Brown (Signature) [signature]

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Rich Brown [signature]	5/3/11	1600	OnTrac	5/3/11	1600
			[signature]	5/4/11	826

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter: REBECCA SILVA 5/3/11
Print Name Date
[signature]
Signature

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

Bill To:
Attn:
Co: SAME AS ABOVE
Addr:
City: State: Zip:

Special Instructions/Comments:
Caltrans Contract 04A3578

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

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

ITEM	LAB USE ONLY: Batch #: / Lab No.	Sample Description: Sample ID / Location	Date	Time	8081A (Pesticides)	8082 (PCB)	8260B (Volatiles)	8270C (BNA)	6010B (Total Metal)	8015B (GRO) / 8020 (BTEX)	8015B (DRO)	8021 (BTEX)	TITLE 22 CAM 17 (6010 / 7000)	Lead (6010B)	pH (9045)	SOIL	WATER	GROUND WATER	WASTEWATER	CARBON	TAT	Container(s) #	Container(s) Type	PRESERVATION	REMARKS
	1176710 11	B6-0.0	5/3/11	1015								X				X					C	1	B	C	
	12	B6-1.5		1018										X											
	13	B5-0.0		1024								X													
	14	B5-1.5		1030										X											
	15	B4-0.0		1035										X											
	16	B4-1.5		1040								X													
	17	B3-0.0		1048								X													
	18	B3-1.5		1100										X											
	19	B2-0.0		1105										X											
	20	B2-1.5		1115								X													

- 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~~ BAG 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 ☐
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 Consultants, Inc
Attention: Rick Day
Address: 6671 Brisa Street
City: Livermore State: CA Zip Code: 94550
Tel: 925.371.5900
Fax: 925.371.5915

Project Name: Solano-80/Pedrick Road
Project #: E8560-06-22
Sampler: (Printed Name) Rich Brown (Signature) [signature]

Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Rich Brown [signature]	5/3/11	1600	OnTrac	5/3/11	1600
			[signature]	5/4/11	8:26

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter: REBECCA SILVA 5/3/11
Print Name Date
[signature]
Signature

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

Bill To:
Attn:
Co: SAME AS ABOVE
Addr:
City: State: Zip:

Special Instructions/Comments:
Caltrans Contract 04A3578

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

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

ITEM	LAB USE ONLY: Batch #: / Lab No.	Sample Description: Sample ID / Location	Date	Time	8081A (Pesticides)	8082 (PCB)	8260B (Volatiles)	8270C (BNA)	6010B (Total Metal)	8015B (GRO) / 8020 (BTEX)	8015B (DRO)	8021 (BTEX)	TITLE 22 / CAM 17 (6010 / 7000)	Lead (6010B)	pH (9045)	SOIL	WATER	GROUND WATER	WASTEWATER	CARBON	TAT	Container(s) #	Container(s) Type	PRESERVATION	REMARKS
	117671-21	B1-0.0	5/3/11	1117										X		X					C	1	B	C	
	22	B1-1.5	5/3/11	1123										X		X					C	1	B	C	

RS 5/3/11

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

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Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=~~Tedlar~~ Bag 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=$Na_2S_2O_3$

May 12, 2011

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

Workorder No.: 117671

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

TEL: (925) 371-5900
FAX: (925) 371-5915

RE: Solano-80/Pedrick Road, E8560-06-22

Attention: Rick Day

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

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

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

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

Sincerely,

Eddie F. Rodriguez
Laboratory Director

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

CLIENT: Geocon Consultants, Inc.
Project: Solano-80/Pedrick Road, E8560-06-22
Lab Order: 117671

CASE NARRATIVE

Analytical Comments for Method 6010

Dilution was necessary for samples 117671-001A, 117671-003A, 117671-004A, 117671-005A, 117671-007A, 117671-008A, 117671-009A, 117671-010A, 117671-011A, 117671-013A, 117671-015A, 117671-016A, 117671-017A, 117671-019A, 117671-020A and 117671-021A, due to sample matrix.

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Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *12-May-11*

CLIENT: Geocon Consultants, Inc.
Project: Solano-80/Pedrick Road, E8560-06-22
Lab Order: 117671

Lab ID: 117671-001 **Collection Date:** 5/3/2011 9:15:00 AM
Client Sample ID: B11-0.0 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS BY STLC						
			WET/ EPA 6010B			
RunID: ICP8_110512E	QC Batch: R132890			PrepDate:		Analyst: **IL**
Lead	17	1.0		mg/L	20	5/12/2011 01:31 PM

Lab ID: 117671-003 **Collection Date:** 5/3/2011 9:23:00 AM
Client Sample ID: B10-0.0 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS BY STLC						
			WET/ EPA 6010B			
RunID: ICP8_110512E	QC Batch: R132890			PrepDate:		Analyst: **IL**
Lead	35	1.0		mg/L	20	5/12/2011 01:34 PM

Lab ID: 117671-004 **Collection Date:** 5/3/2011 9:25:00 AM
Client Sample ID: B10-1.5 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS BY STLC						
			WET/ EPA 6010B			
RunID: ICP8_110512E	QC Batch: R132890			PrepDate:		Analyst: **IL**
Chromium	ND	1.0		mg/L	20	5/12/2011 01:38 PM

Lab ID: 117671-005 **Collection Date:** 5/3/2011 9:36:00 AM
Client Sample ID: B9-0.0 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS BY STLC						
			WET/ EPA 6010B			
RunID: ICP8_110512E	QC Batch: R132890			PrepDate:		Analyst: **IL**
Lead	83	1.0		mg/L	20	5/12/2011 01:41 PM

Qualifiers:

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

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

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *12-May-11*

CLIENT: Geocon Consultants, Inc.
Project: Solano-80/Pedrick Road, E8560-06-22
Lab Order: 117671

Lab ID: 117671-007 **Collection Date:** 5/3/2011 9:48:00 AM
Client Sample ID: B8-0.0 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS BY STLC						
WET/ EPA 6010B						
RunID: ICP8_110512E QC Batch: R132890 PrepDate: Analyst: **IL**						
Lead	61	1.0		mg/L	20	5/12/2011 01:44 PM

Lab ID: 117671-008 **Collection Date:** 5/3/2011 9:50:00 AM
Client Sample ID: B8-1.5 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS BY STLC						
WET/ EPA 6010B						
RunID: ICP8_110512E QC Batch: R132890 PrepDate: Analyst: **IL**						
Chromium	ND	1.0		mg/L	20	5/12/2011 01:48 PM

Lab ID: 117671-009 **Collection Date:** 5/3/2011 9:58:00 AM
Client Sample ID: B7-0.0 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS BY STLC						
WET/ EPA 6010B						
RunID: ICP8_110512E QC Batch: R132890 PrepDate: Analyst: **IL**						
Chromium	ND	1.0		mg/L	20	5/12/2011 01:51 PM
Lead	40	1.0		mg/L	20	5/12/2011 01:51 PM

Lab ID: 117671-010 **Collection Date:** 5/3/2011 10:10:00 AM
Client Sample ID: B7-1.5 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS BY STLC						
WET/ EPA 6010B						
RunID: ICP8_110512E QC Batch: R132890 PrepDate: Analyst: **IL**						
Lead	3.1	1.0		mg/L	20	5/12/2011 01:54 PM

Qualifiers:

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

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *12-May-11*

CLIENT: Geocon Consultants, Inc. **Lab Order:** 117671
Project: Solano-80/Pedrick Road, E8560-06-22

Lab ID: 117671-011 **Collection Date:** 5/3/2011 10:15:00 AM
Client Sample ID: B6-0.0 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS BY STLC						
WET/ EPA 6010B						
RunID: ICP8_110512E QC Batch: R132890 PrepDate: Analyst: **IL**						
Chromium	ND	1.0		mg/L	20	5/12/2011 01:58 PM
Lead	34	1.0		mg/L	20	5/12/2011 01:58 PM

Lab ID: 117671-013 **Collection Date:** 5/3/2011 10:24:00 AM
Client Sample ID: B5-0.0 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS BY STLC						
WET/ EPA 6010B						
RunID: ICP8_110512E QC Batch: R132890 PrepDate: Analyst: **IL**						
Chromium	ND	1.0		mg/L	20	5/12/2011 02:01 PM
Lead	39	1.0		mg/L	20	5/12/2011 02:01 PM

Lab ID: 117671-015 **Collection Date:** 5/3/2011 10:35:00 AM
Client Sample ID: B4-0.0 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS BY STLC						
WET/ EPA 6010B						
RunID: ICP8_110512E QC Batch: R132890 PrepDate: Analyst: **IL**						
Lead	42	1.0		mg/L	20	5/12/2011 02:24 PM

Lab ID: 117671-016 **Collection Date:** 5/3/2011 10:40:00 AM
Client Sample ID: B4-1.5 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS BY STLC						
WET/ EPA 6010B						
RunID: ICP8_110512E QC Batch: R132890 PrepDate: Analyst: **IL**						
Chromium	ND	1.0		mg/L	20	5/12/2011 02:28 PM

Qualifiers:

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

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *12-May-11*

CLIENT: Geocon Consultants, Inc. **Lab Order:** 117671
Project: Solano-80/Pedrick Road, E8560-06-22

Lab ID: 117671-017 **Collection Date:** 5/3/2011 10:48:00 AM
Client Sample ID: B3-0.0 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS BY STLC						
WET/ EPA 6010B						
RunID: ICP8_110512E QC Batch: R132890 PrepDate: Analyst: **IL**						
Chromium	ND	1.0		mg/L	20	5/12/2011 02:31 PM
Lead	66	1.0		mg/L	20	5/12/2011 02:31 PM

Lab ID: 117671-019 **Collection Date:** 5/3/2011 11:05:00 AM
Client Sample ID: B2-0.0 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS BY STLC						
WET/ EPA 6010B						
RunID: ICP8_110512E QC Batch: R132890 PrepDate: Analyst: **IL**						
Lead	43	1.0		mg/L	20	5/12/2011 02:34 PM

Lab ID: 117671-020 **Collection Date:** 5/3/2011 11:15:00 AM
Client Sample ID: B2-1.5 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS BY STLC						
WET/ EPA 6010B						
RunID: ICP8_110512E QC Batch: R132890 PrepDate: Analyst: **IL**						
Chromium	ND	1.0		mg/L	20	5/12/2011 02:38 PM

Lab ID: 117671-021 **Collection Date:** 5/3/2011 11:17:00 AM
Client Sample ID: B1-0.0 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS BY STLC						
WET/ EPA 6010B						
RunID: ICP8_110512E QC Batch: R132890 PrepDate: Analyst: **IL**						
Lead	27	1.0		mg/L	20	5/12/2011 02:41 PM

Qualifiers:

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

CLIENT: Geocon Consultants, Inc.
Work Order: 117671
Project: Solano-80/Pedrick Road, E8560-06-22

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_ST

Sample ID: **MB-72748A** SampType: **MBLK** TestCode: **6010_ST** Units: **mg/L** Prep Date: RunNo: **132890**
Client ID: **PBS** Batch ID: **R132890** TestNo: **WET/ EPA 60** Analysis Date: **5/12/2011** SeqNo: **2166766**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	0.050									
Lead	0.000909	0.050									

Sample ID: **MB-72748A STLC** SampType: **MBLK** TestCode: **6010_ST** Units: **mg/L** Prep Date: RunNo: **132890**
Client ID: **PBS** Batch ID: **R132890** TestNo: **WET/ EPA 60** Analysis Date: **5/12/2011** SeqNo: **2166767**

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

Sample ID: **LCS-72748** SampType: **LCS** TestCode: **6010_ST** Units: **mg/L** Prep Date: RunNo: **132890**
Client ID: **LCSS** Batch ID: **R132890** TestNo: **WET/ EPA 60** Analysis Date: **5/12/2011** SeqNo: **2166768**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.939	0.050	1.000	0	93.9	85	115				
Lead	1.058	0.050	1.000	0.0009088	106	85	115				

Sample ID: **117671-013A-DUP** SampType: **DUP** TestCode: **6010_ST** Units: **mg/L** Prep Date: RunNo: **132890**
Client ID: **B5-0.0** Batch ID: **R132890** TestNo: **WET/ EPA 60** Analysis Date: **5/12/2011** SeqNo: **2166779**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.299	1.0						0.2945	0	20	
Lead	40.093	1.0						39.14	2.40	20	

Sample ID: **117671-013A-MS** SampType: **MS** TestCode: **6010_ST** Units: **mg/L** Prep Date: RunNo: **132890**
Client ID: **B5-0.0** Batch ID: **R132890** TestNo: **WET/ EPA 60** Analysis Date: **5/12/2011** SeqNo: **2166780**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:

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

CLIENT: Geocon Consultants, Inc.
Work Order: 117671
Project: Solano-80/Pedrick Road, E8560-06-22

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_ST

Sample ID: **117671-013A-MS** SampType: **MS** TestCode: **6010_ST** Units: **mg/L** Prep Date: RunNo: **132890**
Client ID: **B5-0.0** Batch ID: **R132890** TestNo: **WET/ EPA 60** Analysis Date: **5/12/2011** SeqNo: **2166780**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	2.535	1.0	2.500	0.2945	89.6	78	115				
Lead	36.189	1.0	2.500	39.14	-118	80	118				S

Sample ID: **MB-72748B** SampType: **MBLK** TestCode: **6010_ST** Units: **mg/L** Prep Date: RunNo: **132890**
Client ID: **PBS** Batch ID: **R132890** TestNo: **WET/ EPA 60** Analysis Date: **5/12/2011** SeqNo: **2166781**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	0.050									
Lead	0.001	0.050									

Sample ID: **MB-72748B STLC** SampType: **MBLK** TestCode: **6010_ST** Units: **mg/L** Prep Date: RunNo: **132890**
Client ID: **PBS** Batch ID: **R132890** TestNo: **WET/ EPA 60** Analysis Date: **5/12/2011** SeqNo: **2166782**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									
Lead	0.020	1.0									

Sample ID: **117671-021A-DUP** SampType: **DUP** TestCode: **6010_ST** Units: **mg/L** Prep Date: RunNo: **132890**
Client ID: **B1-0.0** Batch ID: **R132890** TestNo: **WET/ EPA 60** Analysis Date: **5/12/2011** SeqNo: **2166789**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.371	1.0						0.3660	0	20	
Lead	28.326	1.0						27.30	3.68	20	

Sample ID: **117671-021A-MS** SampType: **MS** TestCode: **6010_ST** Units: **mg/L** Prep Date: RunNo: **132890**
Client ID: **B1-0.0** Batch ID: **R132890** TestNo: **WET/ EPA 60** Analysis Date: **5/12/2011** SeqNo: **2166790**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	2.554	1.0	2.500	0.3660	87.5	78	115				

Qualifiers:

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

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

CLIENT: Geocon Consultants, Inc.
Work Order: 117671
Project: Solano-80/Pedrick Road, E8560-06-22

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_ST

Sample ID: **117671-021A-MS** SampType: **MS** TestCode: **6010_ST** Units: **mg/L** Prep Date: RunNo: **132890**
Client ID: **B1-0.0** Batch ID: **R132890** TestNo: **WET/ EPA 60** Analysis Date: **5/12/2011** SeqNo: **2166790**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	28.997	1.0	2.500	27.30	67.8	80	118				S

Sample ID: **117671-021A-MSD** SampType: **MSD** TestCode: **6010_ST** Units: **mg/L** Prep Date: RunNo: **132890**
Client ID: **B1-0.0** Batch ID: **R132890** TestNo: **WET/ EPA 60** Analysis Date: **5/12/2011** SeqNo: **2166791**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	2.547	1.0	2.500	0.3660	87.2	78	115	2.554	0.255	20	
Lead	28.834	1.0	2.500	27.30	61.2	80	118	29.00	0.566	20	S

Qualifiers:

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

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

Diane Galvan

From: Lauren Vigliotti [vigliotti@geoconinc.com]
Sent: Monday, May 09, 2011 10:51 AM
To: Diane Galvan
Subject: WO117671

HI Diane:
Please analyze the following samples as indicated, expedited TAT. Thank you!

WET Lead
B7-1.5 B11-0.0 B6-0.0 B5-0.0 B1-0.0 B7-0.0 B2-0.0 B3-0.0
B4-0.0 B8-0.0 B10-0.0 B9-0.0

WET Chromium
B10-1.5 B8-1.5 B7-0.0 B6-0.0 B5-0.0 B4-1.5 B3-0.0 B2-1.5

Lauren Vigliotti, PG | *Project Geologist*
Geocon Consultants, Inc.
6671 Brisa Street, Livermore, California 94550
Tel 925.371.5900 Fax 925.371.5915
www.geoconinc.com

May 16, 2011

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

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

TEL: (925) 371-5900
FAX: (925) 371-5915

Workorder No.: 117671

RE: Solano-80/Pedrick Road, E8560-06-22

Attention: Rick Day

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

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

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

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

Sincerely,

Eddie F. Rodriguez
Laboratory Director

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

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

Advanced Technology Laboratories

Date: 5/16/2011

ANALYTICAL RESULTS

LEAD BY ATOMIC ABSORPTION
WET DI/ EPA 7420

CLIENT:	Geocon Consultants, Inc.	**Lab Order:**	117671
Project:	Solano-80/Pedrick Road, E8560-06-22	**Date Received**	5/4/2011 8:26:00 AM
Project No:		**Matrix:**	Soil
Analyte:	Lead	**Analyst:**	VV

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
117671-001A	B11-0.0	ND	mg/L	72882	0.25	1	5/3/2011	5/16/2011
117671-003A	B10-0.0	ND	mg/L	72882	0.25	1	5/3/2011	5/16/2011
117671-005A	B9-0.0	0.54	mg/L	72882	0.25	1	5/3/2011	5/16/2011
117671-007A	B8-0.0	0.37	mg/L	72882	0.25	1	5/3/2011	5/16/2011
117671-009A	B7-0.0	0.35	mg/L	72882	0.25	1	5/3/2011	5/16/2011
117671-011A	B6-0.0	ND	mg/L	72882	0.25	1	5/3/2011	5/16/2011
117671-013A	B5-0.0	0.73	mg/L	72882	0.25	1	5/3/2011	5/16/2011
117671-015A	B4-0.0	0.38	mg/L	72882	0.25	1	5/3/2011	5/16/2011
117671-017A	B3-0.0	0.42	mg/L	72882	0.25	1	5/3/2011	5/16/2011
117671-019A	B2-0.0	ND	mg/L	72882	0.25	1	5/3/2011	5/16/2011
117671-021A	B1-0.0	ND	mg/L	72882	0.25	1	5/3/2011	5/16/2011

Qualifiers:

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

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

Advanced Technology Laboratories

Date: 5/16/2011

ANALYTICAL RESULTS

LEAD BY ATOMIC ABSORPTION (TCLP)
EPA 1311/ 7420

CLIENT:	Geocon Consultants, Inc.	**Lab Order:**	117671
Project:	Solano-80/Pedrick Road, E8560-06-22	**Date Received**	5/4/2011 8:26:00 AM
Project No:		**Matrix:**	Soil
Analyte:	Lead	**Analyst:**	VV

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
117671-001A	B11-0.0	0.37	mg/L	72894	0.25	1	5/3/2011	5/16/2011
117671-003A	B10-0.0	0.44	mg/L	72894	0.25	1	5/3/2011	5/16/2011
117671-005A	B9-0.0	1.2	mg/L	72894	0.25	1	5/3/2011	5/16/2011
117671-007A	B8-0.0	1.0	mg/L	72894	0.25	1	5/3/2011	5/16/2011
117671-009A	B7-0.0	0.73	mg/L	72894	0.25	1	5/3/2011	5/16/2011
117671-011A	B6-0.0	0.42	mg/L	72894	0.25	1	5/3/2011	5/16/2011
117671-013A	B5-0.0	0.39	mg/L	72894	0.25	1	5/3/2011	5/16/2011
117671-015A	B4-0.0	0.64	mg/L	72894	0.25	1	5/3/2011	5/16/2011
117671-017A	B3-0.0	0.50	mg/L	72894	0.25	1	5/3/2011	5/16/2011
117671-019A	B2-0.0	0.50	mg/L	72894	0.25	1	5/3/2011	5/16/2011
117671-021A	B1-0.0	0.47	mg/L	72894	0.25	1	5/3/2011	5/16/2011

Qualifiers:

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

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

CLIENT: Geocon Consultants, Inc.
Work Order: 117671
Project: Solano-80/Pedrick Road, E8560-06-22

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI_GEOCON

Sample ID: **MB-72882** SampType: **MBLK** TestCode: **7420_DI_GEO** Units: **mg/L** Prep Date: **5/14/2011** RunNo: **132962**
Client ID: **PBS** Batch ID: **72882** TestNo: **WET DI/ EPA WET** Analysis Date: **5/16/2011** SeqNo: **2168530**

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

Sample ID: **LCS-72882** SampType: **LCS** TestCode: **7420_DI_GEO** Units: **mg/L** Prep Date: **5/14/2011** RunNo: **132962**
Client ID: **LCSS** Batch ID: **72882** TestNo: **WET DI/ EPA WET** Analysis Date: **5/16/2011** SeqNo: **2168531**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	4.969	0.25	5.000	0	99.4	80	120				

Sample ID: **117671-019A-MS** SampType: **MS** TestCode: **7420_DI_GEO** Units: **mg/L** Prep Date: **5/14/2011** RunNo: **132962**
Client ID: **B2-0.0** Batch ID: **72882** TestNo: **WET DI/ EPA WET** Analysis Date: **5/16/2011** SeqNo: **2168543**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	4.978	0.25	5.000	0	99.6	70	130				

Sample ID: **MB-72882B** SampType: **MBLK** TestCode: **7420_DI_GEO** Units: **mg/L** Prep Date: **5/14/2011** RunNo: **132962**
Client ID: **PBS** Batch ID: **72882** TestNo: **WET DI/ EPA WET** Analysis Date: **5/16/2011** SeqNo: **2168544**

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

Sample ID: **117671-021A-DUP** SampType: **DUP** TestCode: **7420_DI_GEO** Units: **mg/L** Prep Date: **5/14/2011** RunNo: **132962**
Client ID: **B1-0.0** Batch ID: **72882** TestNo: **WET DI/ EPA WET** Analysis Date: **5/16/2011** SeqNo: **2168546**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.25						0	0	20	

Qualifiers:

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

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

CLIENT: Geocon Consultants, Inc.
Work Order: 117671
Project: Solano-80/Pedrick Road, E8560-06-22

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI_GEOCON

Sample ID: **117671-021A-MS** SampType: **MS** TestCode: **7420_DI_GEO** Units: **mg/L** Prep Date: **5/14/2011** RunNo: **132962**
Client ID: **B1-0.0** Batch ID: **72882** TestNo: **WET DI/ EPA WET** Analysis Date: **5/16/2011** SeqNo: **2168547**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	4.964	0.25	5.000	0	99.3	70	130				

Sample ID: **117671-021A-MSD** SampType: **MSD** TestCode: **7420_DI_GEO** Units: **mg/L** Prep Date: **5/14/2011** RunNo: **132962**
Client ID: **B1-0.0** Batch ID: **72882** TestNo: **WET DI/ EPA WET** Analysis Date: **5/16/2011** SeqNo: **2168548**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	4.967	0.25	5.000	0	99.3	70	130	4.964	0.0644	20	

Sample ID: **117671-019A-DUP** SampType: **DUP** TestCode: **7420_DI_GEO** Units: **mg/L** Prep Date: **5/14/2011** RunNo: **132962**
Client ID: **B2-0.0** Batch ID: **72882** TestNo: **WET DI/ EPA WET** Analysis Date: **5/16/2011** SeqNo: **2168550**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.25						0	0	20	

Qualifiers:

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

CLIENT: Geocon Consultants, Inc.
Work Order: 117671
Project: Solano-80/Pedrick Road, E8560-06-22

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_TC

Sample ID: **MB-72894A** SampType: **MBLK** TestCode: **7420_TC** Units: **mg/L** Prep Date: **5/16/2011** RunNo: **132968**
Client ID: **PBS** Batch ID: **72894** TestNo: **EPA 1311/ 74 EPA3010A** Analysis Date: **5/16/2011** SeqNo: **2168731**

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

Sample ID: **MB-72883A TCLP** SampType: **MBLK** TestCode: **7420_TC** Units: **mg/L** Prep Date: **5/16/2011** RunNo: **132968**
Client ID: **PBS** Batch ID: **72894** TestNo: **EPA 1311/ 74 EPA3010A** Analysis Date: **5/16/2011** SeqNo: **2168732**

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

Sample ID: **LCS-72894** SampType: **LCS** TestCode: **7420_TC** Units: **mg/L** Prep Date: **5/16/2011** RunNo: **132968**
Client ID: **LCSS** Batch ID: **72894** TestNo: **EPA 1311/ 74 EPA3010A** Analysis Date: **5/16/2011** SeqNo: **2168733**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.980	0.25	1.000	0	98.0	80	120				

Sample ID: **117671-019A-DUP** SampType: **DUP** TestCode: **7420_TC** Units: **mg/L** Prep Date: **5/16/2011** RunNo: **132968**
Client ID: **B2-0.0** Batch ID: **72894** TestNo: **EPA 1311/ 74 EPA3010A** Analysis Date: **5/16/2011** SeqNo: **2168744**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.525	0.25						0.5037	4.11	20	

Sample ID: **117671-019A-MS** SampType: **MS** TestCode: **7420_TC** Units: **mg/L** Prep Date: **5/16/2011** RunNo: **132968**
Client ID: **B2-0.0** Batch ID: **72894** TestNo: **EPA 1311/ 74 EPA3010A** Analysis Date: **5/16/2011** SeqNo: **2168745**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	2.532	0.25	2.500	0.5037	81.1	70	130				

Qualifiers:

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

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

CLIENT: Geocon Consultants, Inc.
Work Order: 117671
Project: Solano-80/Pedrick Road, E8560-06-22

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_TC

Sample ID: **MB-72894B** SampType: **MBLK** TestCode: **7420_TC** Units: **mg/L** Prep Date: **5/16/2011** RunNo: **132968**
Client ID: **PBS** Batch ID: **72894** TestNo: **EPA 1311/ 74 EPA3010A** Analysis Date: **5/16/2011** SeqNo: **2168746**

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

Sample ID: **MB-72883B TCLP** SampType: **MBLK** TestCode: **7420_TC** Units: **mg/L** Prep Date: **5/16/2011** RunNo: **132968**
Client ID: **PBS** Batch ID: **72894** TestNo: **EPA 1311/ 74 EPA3010A** Analysis Date: **5/16/2011** SeqNo: **2168747**

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

Sample ID: **117671-021A-DUP** SampType: **DUP** TestCode: **7420_TC** Units: **mg/L** Prep Date: **5/16/2011** RunNo: **132968**
Client ID: **B1-0.0** Batch ID: **72894** TestNo: **EPA 1311/ 74 EPA3010A** Analysis Date: **5/16/2011** SeqNo: **2168749**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.443	0.25						0.4704	6.00	20	

Sample ID: **117671-021A-MS** SampType: **MS** TestCode: **7420_TC** Units: **mg/L** Prep Date: **5/16/2011** RunNo: **132968**
Client ID: **B1-0.0** Batch ID: **72894** TestNo: **EPA 1311/ 74 EPA3010A** Analysis Date: **5/16/2011** SeqNo: **2168750**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	2.607	0.25	2.500	0.4704	85.5	70	130				

Sample ID: **117671-021A-MSD** SampType: **MSD** TestCode: **7420_TC** Units: **mg/L** Prep Date: **5/16/2011** RunNo: **132968**
Client ID: **B1-0.0** Batch ID: **72894** TestNo: **EPA 1311/ 74 EPA3010A** Analysis Date: **5/16/2011** SeqNo: **2168751**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	2.600	0.25	2.500	0.4704	85.2	70	130	2.607	0.253	20	

Qualifiers:

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

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

Diane Galvan

From: Lauren Vigliotti [vigliotti@geoconinc.com]
Sent: Friday, May 13, 2011 12:20 PM
To: Diane Galvan
Cc: 'Rick Day'
Subject: WO117671

Hi Diane:
Please analyze the following samples for TCLP and DI-WET lead, expedited TAT. thanks!

B11-0.0
B1-0.0
B6-0.0
B10-0.0
B5-0.0
B7-0.0
B4-0.0
B2-0.0
B8-0.0
B3-0.0
B9-0.0

Lauren Vigliotti, PG | *Project Geologist*
Geocon Consultants, Inc.
6671 Brisa Street, Livermore, California 94550
Tel 925.371.5900 Fax 925.371.5915
www.geoconinc.com

May 19, 2011

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

Workorder No.: 117671

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

TEL: (925) 371-5900
FAX: (925) 371-5915

RE: Solano-80/Pedrick Road, E8560-06-22

Attention: Rick Day

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

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

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

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

Sincerely,

Eddie F. Rodriguez
Laboratory Director

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

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

CLIENT: Geocon Consultants, Inc.
Project: Solano-80/Pedrick Road, E8560-06-22
Lab Order: 117671

CASE NARRATIVE

Analytical Comments for Method 6010

Dilution was necessary for samples 117671-004A, 117671-009A, 117671-016A and 117671-020A, due to sample matrix.

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

Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: *19-May-11*

CLIENT: Geocon Consultants, Inc.
Project: Solano-80/Pedrick Road, E8560-06-22

Lab Order: 117671

Lab ID: 117671-004 **Collection Date:** 5/3/2011 9:25:00 AM
Client Sample ID: B10-1.5 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS BY STLC						
WET/ EPA 6010B						
RunID: ICP8_110512E QC Batch: R132890 PrepDate: Analyst: **IL**						
Nickel	2.1	1.0		mg/L	20	5/12/2011 01:38 PM

Lab ID: 117671-009 **Collection Date:** 5/3/2011 9:58:00 AM
Client Sample ID: B7-0.0 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS BY STLC						
WET/ EPA 6010B						
RunID: ICP8_110512E QC Batch: R132890 PrepDate: Analyst: **IL**						
Nickel	1.7	1.0		mg/L	20	5/12/2011 01:51 PM

Lab ID: 117671-016 **Collection Date:** 5/3/2011 10:40:00 AM
Client Sample ID: B4-1.5 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS BY STLC						
WET/ EPA 6010B						
RunID: ICP8_110512E QC Batch: R132890 PrepDate: Analyst: **IL**						
Nickel	2.0	1.0		mg/L	20	5/12/2011 02:28 PM

Lab ID: 117671-020 **Collection Date:** 5/3/2011 11:15:00 AM
Client Sample ID: B2-1.5 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
ICP METALS BY STLC						
WET/ EPA 6010B						
RunID: ICP8_110512E QC Batch: R132890 PrepDate: Analyst: **IL**						
Nickel	2.8	1.0		mg/L	20	5/12/2011 02:38 PM

Qualifiers:

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

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

CLIENT: Geocon Consultants, Inc.
Work Order: 117671
Project: Solano-80/Pedrick Road, E8560-06-22

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_ST

Sample ID: **MB-72748A** SampType: **MBLK** TestCode: **6010_ST** Units: **mg/L** Prep Date: RunNo: **132890**
Client ID: **PBS** Batch ID: **R132890** TestNo: **WET/ EPA 60** Analysis Date: **5/12/2011** SeqNo: **2166766**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	ND	0.050									

Sample ID: **MB-72748A STLC** SampType: **MBLK** TestCode: **6010_ST** Units: **mg/L** Prep Date: RunNo: **132890**
Client ID: **PBS** Batch ID: **R132890** TestNo: **WET/ EPA 60** Analysis Date: **5/12/2011** SeqNo: **2166767**

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

Sample ID: **LCS-72748** SampType: **LCS** TestCode: **6010_ST** Units: **mg/L** Prep Date: RunNo: **132890**
Client ID: **LCSS** Batch ID: **R132890** TestNo: **WET/ EPA 60** Analysis Date: **5/12/2011** SeqNo: **2166768**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	1.024	0.050	1.000	0	102	85	115				

Sample ID: **117671-013A-DUP** SampType: **DUP** TestCode: **6010_ST** Units: **mg/L** Prep Date: RunNo: **132890**
Client ID: **B5-0.0** Batch ID: **R132890** TestNo: **WET/ EPA 60** Analysis Date: **5/12/2011** SeqNo: **2166779**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	1.691	1.0						1.665	1.54	20	

Sample ID: **117671-013A-MS** SampType: **MS** TestCode: **6010_ST** Units: **mg/L** Prep Date: RunNo: **132890**
Client ID: **B5-0.0** Batch ID: **R132890** TestNo: **WET/ EPA 60** Analysis Date: **5/12/2011** SeqNo: **2166780**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	3.756	1.0	2.500	1.665	83.7	78	120				

Qualifiers:

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

CLIENT: Geocon Consultants, Inc.
Work Order: 117671
Project: Solano-80/Pedrick Road, E8560-06-22

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_ST

Sample ID: **MB-72748B** SampType: **MBLK** TestCode: **6010_ST** Units: **mg/L** Prep Date: RunNo: **132890**
Client ID: **PBS** Batch ID: **R132890** TestNo: **WET/ EPA 60** Analysis Date: **5/12/2011** SeqNo: **2166781**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	ND	0.050									

Sample ID: **MB-72748B STLC** SampType: **MBLK** TestCode: **6010_ST** Units: **mg/L** Prep Date: RunNo: **132890**
Client ID: **PBS** Batch ID: **R132890** TestNo: **WET/ EPA 60** Analysis Date: **5/12/2011** SeqNo: **2166782**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	0.033	1.0									

Sample ID: **117671-021A-DUP** SampType: **DUP** TestCode: **6010_ST** Units: **mg/L** Prep Date: RunNo: **132890**
Client ID: **B1-0.0** Batch ID: **R132890** TestNo: **WET/ EPA 60** Analysis Date: **5/12/2011** SeqNo: **2166789**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	1.754	1.0						1.703	2.92	20	

Sample ID: **117671-021A-MS** SampType: **MS** TestCode: **6010_ST** Units: **mg/L** Prep Date: RunNo: **132890**
Client ID: **B1-0.0** Batch ID: **R132890** TestNo: **WET/ EPA 60** Analysis Date: **5/12/2011** SeqNo: **2166790**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	3.949	1.0	2.500	1.703	89.8	78	120				

Sample ID: **117671-021A-MSD** SampType: **MSD** TestCode: **6010_ST** Units: **mg/L** Prep Date: RunNo: **132890**
Client ID: **B1-0.0** Batch ID: **R132890** TestNo: **WET/ EPA 60** Analysis Date: **5/12/2011** SeqNo: **2166791**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	3.788	1.0	2.500	1.703	83.4	78	120	3.949	4.16	20	

Qualifiers:

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

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

Diane Galvan

From: Lauren Vigliotti [vigliotti@geoconinc.com]
Sent: Wednesday, May 18, 2011 3:01 PM
To: Diane Galvan
Cc: 'Rick Day'
Subject: WO117671

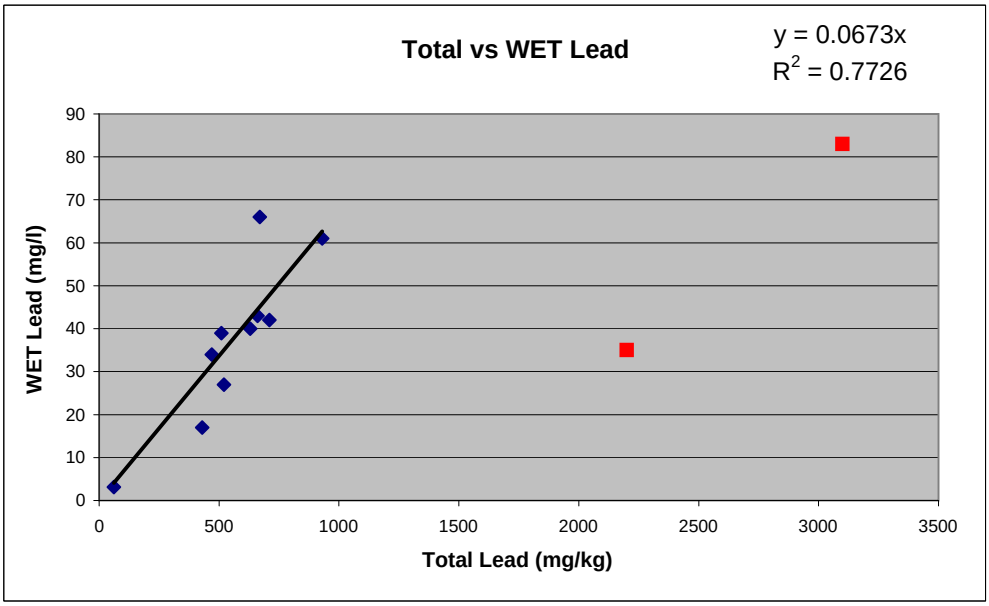
Hi Diane:
Please analyze the following samples for WET Nickel, expedited TAT, thank you!
B2-1.5, B4-1.5, B7-0.0, and B10-1.5.

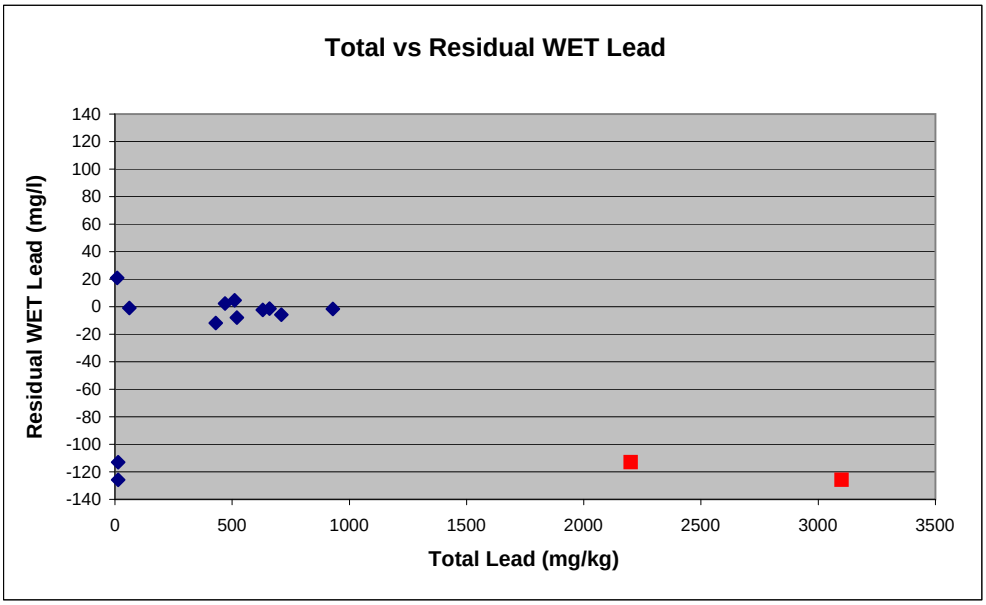
Lauren Vigliotti, PG | *Project Geologist*
Geocon Consultants, Inc.
6671 Brisa Street, Livermore, California 94550
Tel 925.371.5900 Fax 925.371.5915
www.geoconinc.com

APPENDIX C

APPENDIX C - Lead Regression

Sample ID	Sample Depth (feet)	Total Lead (mg/kg)	WET Lead (mg/l)	Residual WET Lead (mg/l)	Squared Residual WET Lead (mg/l)
B7-1.5	1.5	61	3.1	-1.01	1.015
B2-0.0	0	660	43	-1.44	2.076
B8-0.0	0	930	61	-1.62	2.628
B6-0.0	0	470	34	2.35	5.536
B7-0.0	0	630	40	-2.42	5.860
B5-0.0	0	510	39	4.66	21.710
B4-0.0	0	710	42	-5.81	33.727
B1-0.0	0	520	27	-8.01	64.223
B11-0.0	0	430	17	-11.95	142.894
B3-0.0	0	670	66	20.89	436.221
Not Included					
B10-0.0	0	2,200	35	-113.14	12799.718
B9-0.0	0	3,100	83	-125.74	15809.758





APPENDIX C - Metals UCLs

Pb-0	
Number of Valid Observations	11
Number of Distinct Observations	11
Minimum	430
Maximum	3100
Mean	984.5
Median	660
SD	858.7
Variance	737407
Coefficient of Variation	0.872
Skewness	2.049
Mean of log data	6.662
SD of log data	0.638
90% Standard Bootstrap UCL	1300
95% Standard Bootstrap UCL	1390

Pb-1.5	
Number of Valid Observations	11
Number of Distinct Observations	9
Minimum	5.8
Maximum	61
Mean	19.25
Median	15
SD	14.93
Variance	222.8
Coefficient of Variation	0.776
Skewness	2.509
Mean of log data	2.767
SD of log data	0.614
90% Standard Bootstrap UCL	24.87
95% Standard Bootstrap UCL	26.02

As	
Number of Valid Observations	8
Number of Distinct Observations	8
Minimum	2.3
Maximum	15
Mean	6.15
Median	5.25
SD	4.042
Variance	16.33
Coefficient of Variation	0.657
Skewness	1.721
Mean of log data	1.657
SD of log data	0.59
95% Standard Bootstrap UCL	8.401

Hg	
Number of Valid Observations	8
Number of Distinct Observations	6
Minimum	0.05
Maximum	1.6
Mean	0.398
Median	0.2
SD	0.517
Variance	0.267
Coefficient of Variation	1.299
Skewness	2.259
Mean of log data	-1.527
SD of log data	1.17
Non-Parametric UCLs	
95% Standard Bootstrap UCL	0.677

Ni	
Number of Valid Observations	8
Number of Distinct Observations	6
Minimum	130
Maximum	240
Mean	180
Median	185
SD	46.29
Variance	2143
Coefficient of Variation	0.257
Skewness	0
Mean of log data	5.163
SD of log data	0.265
95% Standard Bootstrap UCL	204.6

V	
Number of Valid Observations	8
Number of Distinct Observations	5
Minimum	38
Maximum	48
Mean	42.63
Median	42
SD	3.583
Variance	12.84
Coefficient of Variation	0.0841
Skewness	0.781
Mean of log data	3.749
SD of log data	0.0824
95% Standard Bootstrap UCL	44.57