

FOR CONTRACT NO.: 04-150344

INFORMATION HANDOUT

MATERIALS INFORMATION

**SITE INVESTIGATION REPORT
GEOTECHNICAL RECOMMENDATIONS**

ROUTE: 04-SCI-280-R2.0/L5.0

PRELIMINARY SITE INVESTIGATION REPORT



I-280 TRAFFIC OPERATIONS SYSTEM/ RAMP METERING PROJECT SANTA CLARA COUNTY, CALIFORNIA

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OFFICE OF ENVIRONMENTAL ENGINEERING
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GEOCON PROJECT NO. E8435-06-38
CALTRANS EAS 04-151301 AND 04-150341

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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.

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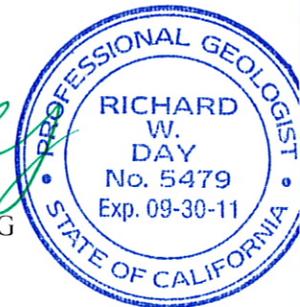
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PRELIMINARY SITE INVESTIGATION REPORT

1.0 INTRODUCTION

This Preliminary Site Investigation Report for the State Route 280 (I-280) Traffic Operations Systems (TOS)/Ramp Metering Signal project was prepared by Geocon Consultants, Inc. under California Department of Transportation (Caltrans) Contract No. 04A2912 and Task Order (TO) 38, EAs 04-151301 and 04-150341.

1.1 Project Description and Proposed Improvements

The project extends from Post Mile (PM) 1.0/5.0 in San Jose, Santa Clara County, California (the Site). The Site is located along on-ramps of southbound I-280 between Menker Avenue and Eleventh Street, and northbound I-280 between Vine Street and Leland Avenue. Caltrans is proposing to install and implement TOS and Ramp Metering Signals at the project location. The site location is depicted on the Vicinity Map, Figure 1.

1.2 General Objectives

The purpose of the soil investigation was to evaluate the concentrations of metals, including aerially deposited lead (ADL), and naturally occurring asbestos (NOA) in soil at the Site. The information obtained from this investigation will be used by Caltrans to determine soil disposal costs and to identify health and safety concerns during proposed construction activities. Groundwater is not anticipated to be encountered during project construction.

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

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

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

Caltrans Type Y1

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) soluble 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 Y2

ADL soil exhibiting a total lead concentration less than or equal to 1,411 mg/kg, a DI-WET soluble lead concentration less than or equal to 1.5 mg/l, and a pH value greater than 5 and less than 5.5 may

be reused within the same Caltrans corridor and must be covered and protected from infiltration by a pavement structure.

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

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

Caltrans Type Z2

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

Caltrans Type Z3

ADL soil exhibiting a TCLP soluble lead concentration greater than or equal to 5 mg/l is not eligible for reuse under the Variance and must be disposed of as a RCRA hazardous waste.

2.3 Naturally Occurring Asbestos

As defined in current California Air Resources Board (CARB) rules, serpentine material refers to any material that contains at least 10% serpentine, and asbestos-containing serpentine refers to serpentine materials with an asbestos content greater than 5% as determined by CARB Test Method 435 (CARB 435). The use of serpentine material for road surfacing is prohibited in California by Title 17 of the California Code of Regulations (CCR) Section 93106, Asbestos Airborne Toxic Control Measure (ATCM) for Surfacing Application (ATCM 93106), unless the material has been tested and determined to have an asbestos content of less than 0.25%. Materials found to contain asbestos of 0.25% or more are considered to be designated waste if transported offsite, requiring disposal at a landfill facility designated to accept asbestos waste. Alternatively, asbestos-containing materials may be reused onsite if buried beneath a minimum 6 inches of soil.

The CARB specifies mitigation practices for construction, grading, quarrying, and surface mining operations that contain natural occurrences of asbestos outlined in Title 17, Section 93105 Asbestos ATCM for Construction, Grading, Quarrying, and Surface Mining Operations (ATCM 93105). Based on Part (e) Subpart (2) of ATCM 93105, an asbestos dust mitigation plan is required and must be

implemented for a project if NOA is disturbed after the start of construction. Additionally, ATCM 93105 specifies that the air pollution control district (APCD) must be notified and an asbestos dust mitigation plan submitted to the APCD. The ATCM states that air monitoring may be required on the property. NOA potentially poses a health hazard when it becomes an airborne particulate.

The construction/maintenance activities mentioned above could disturb NOA-laden debris and soil, thereby potentially creating an airborne hazard. Mitigation practices can reduce the risk of exposure to airborne NOA containing dust. Dust suppression practices include wetting the materials being disturbed and wearing approved respirators with high-efficiency particulate air (HEPA) filters during construction activities.

2.4 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

We performed the following scope of services requested by Caltrans under TO-38, EAs 04-153101 and 150341:

3.1 Pre-field Activities

- Prepared a *Workplan* dated June 8, 2009, which describes the requested scope of services and quality assurance/quality control (QA/QC) sampling and laboratory procedures.
- 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.

- Retained the services of Caltrans-approved and California-certified analytical laboratories to perform the chemical analysis of samples.

3.2 Field Activities

The field investigation was performed on September 2, 2009, by Geocon staff Chris Merritt, Professional Geologist (PG) and Dave Watts. The following field activities were performed during the sampling efforts:

- Advanced a total of 13 soil borings to a maximum depth of 3.0 feet using hand-auger techniques.
- Collected a total of 39 soil samples for analysis of CAM 17 metals, NOA, and pH.
- Transported samples to California-certified environmental laboratories for analysis under standard chain-of-custody documentation.

4.0 INVESTIGATIVE METHODS

4.1 Sampling Procedures

A total of 39 samples were collected from 13 boring locations identified by the Caltrans TO Manager. Boring locations are shown on the Site Plan, Figure 2, and were surveyed using Differential Global Positioning System (DGPS) equipment. Boring coordinates are presented in Table 1.

The soil samples were collected from the borings at Caltrans-specified depth intervals of 0 to 0.5 foot, 1.5 to 2.0 feet, and 2.5 to 3.0 feet. Soil samples for metals analysis were collected into laboratory-supplied glass jars sealed with Teflon-lined caps. Soil samples for NOA analysis were collected into re-sealable plastic bags. Sample containers were labeled and transported to Caltrans-approved, certified environmental laboratories using standard chain-of-custody (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 under a standard seven-day turn-around-time. Samples were submitted to Advanced Technology Laboratories (ATL) for metals analysis and to EMSL Analytical, Inc. (EMSL) for NOA analysis. Reproductions of the laboratory reports and COC documentation are presented as Appendix B. Soil samples were analyzed as follows:

- Twenty-four samples for CAM 17 metals according to Title 22 CCR, Environmental Protection Agency (EPA) Test Methods 6010 ICAP and 7471A.

- Fifteen samples for total lead using EPA Method 6010 ICAP.
- Thirteen samples with total lead concentrations greater than 50 mg/kg (i.e., greater than ten times the STLC of 5.0 mg/l) were further analyzed for WET soluble lead.
- Twelve samples with WET soluble lead concentrations exceeding the STLC of 5.0 mg/l were further analyzed for DI-WET soluble lead.
- Twelve samples with total and WET soluble lead concentrations exceeding 100 mg/kg and the STLC of 5.0 mg/l, respectively, were further analyzed for TCLP soluble lead using EPA Method 1311.
- Nine samples with total chromium concentrations greater than 50 mg/kg (i.e., greater than ten times the STLC of 5.0 mg/l for hexavalent chromium) were further analyzed for WET soluble chromium.
- Four samples for NOA using the CARB 435 Method.
- Ten samples for pH using EPA Method 9045.

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 laboratories, the COC documentation was reviewed for accuracy and completeness (Appendix B).

5.0 INVESTIGATIVE RESULTS

5.1 Subsurface Conditions

Observations during field activities indicated that surface soil at the project location generally consist of brown, gravelly sand and silt.

5.2 Laboratory Analytical Results

A summary of the laboratory test results are presented in Tables 2 through 4. Reproductions of the laboratory reports and chain-of-custody documentation are presented as Appendix B. The soil results are summarized as follows:

- The following metals were not detected above their respective laboratory reporting limits in the samples: antimony, beryllium, silver, and thallium. Remaining CAM 17 metals were reported in the samples at concentrations less than ten times their respective STLC values.

- Total lead was reported at concentrations ranging from 5.5 to 480 mg/kg.
- WET soluble lead was reported at concentrations ranging from 2.0 to 31 mg/l.
- DI-WET soluble lead was reported at concentrations ranging from less than (<) the laboratory reporting limit of 0.25 to 0.43 mg/l
- TCLP soluble lead was reported at concentrations ranging from <0.25 to 0.39 mg/l.
- WET soluble chromium was not detected above the laboratory reporting limit of 1.0 mg/l in the nine samples analyzed.
- NOA was reported at 0.50% dry weight in sample ELS-1-0 and at <0.25% in sample MRD-1-0.
- Reported pH values ranged from 6.8 to 8.1.

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.

The relative percent differences (RPDs) of the duplicate samples for three of the analyses were outside criteria. The Case Narratives in the laboratory reports state that the analytical batch was validated by the laboratory control sample (LCS). The data showed acceptable recoveries and RPDs for the remainder of the duplicates and matrix spikes.

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

The lead data were treated as four separate sample populations for statistical evaluation which consisted of soil borings advanced at each of the interchanges as follows:

- Bird Avenue (Borings BRD-1 through BRD-3)
- Eleventh Street (Borings ELS-1 through ELS-3)
- Leland Avenue (Borings (LEL-1 through LEL-3)
- Meridian Avenue (Borings (MRD-1 through MRD-4)

For the statistical evaluation, we used maximum reported total lead concentrations for each sample population. Maximum concentrations were conservatively used because Upper Confidence Limits (UCLs) cannot be computed for a data set consisting of four or less unique values. Statistical methods were applied to the total lead data to evaluate if an acceptable correlation between total and soluble lead concentrations exists that would allow the prediction of soluble lead concentrations based on calculated UCLs. The statistical methods used are discussed in a book entitled *Statistical Methods for Environmental Pollution Monitoring*, by Richard Gilbert; in an EPA *Technology Support Center Issue*

document entitled, *The Lognormal Distribution in Environmental Applications*, by Ashok Singh et. al., dated December 1997; and in a book entitled *An Introduction to the Bootstrap*, by Bradley Efron and Robert J. Tibshirani.

5.4.1 Lead Statistical Analysis

The lead statistics for each data set are presented in the following tables and are included in Appendix C.

Bird Avenue Borings

SAMPLE INTERVAL (feet)	TOTAL LEAD MEAN (mg/kg)	MINIMUM VALUE (mg/kg)	MAXIMUM VALUE (mg/kg)
0.0 to 0.5	193	130	300
1.5 to 2.0	10	8.6	11
2.5 to 3.0	6.9	6.2	8.2

Eleventh Street Borings

SAMPLE INTERVAL (feet)	TOTAL LEAD MEAN (mg/kg)	MINIMUM VALUE (mg/kg)	MAXIMUM VALUE (mg/kg)
0.0 to 0.5	350	190	480
1.5 to 2.0	28	19	47
2.5 to 3.0	12	8.0	17

Leland Avenue Borings

SAMPLE INTERVAL (feet)	TOTAL LEAD MEAN (mg/kg)	MINIMUM VALUE (mg/kg)	MAXIMUM VALUE (mg/kg)
0.0 to 0.5	65	19	150
1.5 to 2.0	74	5.5	210
2.5 to 3.0	6.5	5.8	7.2

Meridian Avenue Borings

SAMPLE INTERVAL (feet)	TOTAL LEAD MEAN (mg/kg)	MINIMUM VALUE (mg/kg)	MAXIMUM VALUE (mg/kg)
0.0 to 0.5	211	32	310
1.5 to 2.0	55	7.9	140
2.5 to 3.0	26	6.4	64

5.4.2 Correlation of Total and Soluble WET Lead

Total and corresponding WET soluble lead concentrations are bivariate data with a linear structure. This linear structure should allow for the prediction of soluble lead WET concentrations based on the total lead maximums presented above in Section 5.4.1.

To estimate the degree of interrelation between total and corresponding WET soluble lead values (x and y , respectively), the *correlation coefficient* [r] is used. The correlation coefficient is a ratio that ranges from +1 to -1. A *correlation coefficient* of +1 indicates a perfect direct relationship between two variables; a *correlation coefficient* of -1 indicates that one variable changes inversely with relation to the other. Between the two extremes is a spectrum of less-than-perfect relationships, including zero, which indicates the lack of any sort of linear relationship at all. The *correlation coefficient* was calculated for the 13 (x , y) data points (i.e., soil samples analyzed for both total lead [x] and WET soluble lead [y]). The resulting *coefficient of determination* (r^2) equaled 0.7298, which yields a corresponding *correlation coefficient* (r) of 0.8543.

For the *correlation coefficient* that indicates a linear relationship between total and WET soluble lead concentrations, it is possible to compute the line of dependence or a best-fit line between the two variables. A least squares method was used to find the equation of a best-fit line (regression line) by forcing the y-intercept equal to zero since that is a known point. The equation of the regression line was determined to be $y = 0.0481(x)$, where x represents total lead concentrations and y represents predicted soluble lead WET concentrations. This equation was used to estimate the expected WET soluble lead concentrations based on the maximum concentrations for samples collected from the Site (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 soluble lead concentrations are summarized in Tables 5a through 5d.

6.0 CONCLUSIONS

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

6.1 Lead

6.1.1 Bird Avenue Borings

The following table summarizes the predicted waste classification for excavated soil based on the calculated weighted averages of the maximum total lead concentrations and maximum-predicted WET soluble 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 lead calculations are summarized in Table 5a.

Excavation Depth	Maximum Total Lead (mg/kg)	Predicted WET Lead (mg/l)	Waste Classification
0 to 1.0 ft	300	14.4	Hazardous
<i>Underlying soil (1.0 to 3.0 ft)</i>	83	4.0	<i>Non-Hazardous</i>
0 to 3.0 ft	155	7.5	Hazardous

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

Based on the data in the above table, if excavated separately and generated for offsite disposal, soil from the surface to a depth of 1.0 ft would be classified as a California hazardous waste since the maximum-predicted WET soluble lead concentration is greater than the lead STLC of 5.0 mg/l. Underlying soil (i.e., deeper than 1 ft) would be classified as non-hazardous. If soil from the surface to a depth of 3.0 feet were excavated as a whole and generated for offsite disposal, it would be classified as California hazardous waste since the maximum-predicted WET soluble lead concentration exceeds the STLC.

Based on the TCLP soluble lead results excavated soil would not be considered a RCRA hazardous waste.

Based on the DI-WET soluble lead results, excavated soil may be reused onsite (as Caltrans Type Y1) under the DTSC Variance if it is covered with at least one foot of non-hazardous soil or a pavement structure.

6.1.2 Eleventh Street Borings

The following table summarizes the predicted waste classification for excavated soil based on the calculated weighted averages of the maximum total lead concentrations and maximum-predicted WET soluble 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 lead calculations are summarized in Table 5b.

Excavation Depth	Maximum Total Lead (mg/kg)	Predicted WET Lead (mg/l)	Waste Classification
0 to 1.5 ft	480	23.1	Hazardous
<i>Underlying soil (1.5 to 3.0 ft)</i>	<i>37</i>	<i>1.8</i>	<i>Non-Hazardous</i>
0 to 3.0 ft	259	12.4	Hazardous

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

Based on the data in the above table, if excavated separately and generated for offsite disposal, soil from the surface to a depth of 1.5 ft would be classified as a California hazardous waste since the maximum-predicted WET soluble lead concentration is greater than the lead STLC of 5.0 mg/l. Underlying soil (i.e., deeper than 1.5 ft) would be classified as non-hazardous. If soil from the surface to a depth of 3.0 feet were excavated as a whole and generated for offsite disposal, it would be classified as California hazardous waste since the maximum-predicted WET soluble lead concentration exceeds the STLC.

Based on the TCLP soluble lead results excavated soil would not be considered a RCRA hazardous waste.

Based on the DI-WET soluble lead results, excavated soil may be reused onsite (as Caltrans Type Y1) under the DTSC Variance if it is covered with at least one foot of non-hazardous soil or a pavement structure.

6.1.3 Leland Avenue Borings

The following table summarizes the predicted waste classification for excavated soil based on the calculated weighted averages of the maximum total lead concentrations and maximum-predicted WET

soluble 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 lead calculations are summarized in Table 5c.

Excavation Depth	Maximum Total Lead (mg/kg)	Predicted WET Lead (mg/l)	Waste Classification
0 to 2.5 ft	174	8.4	Hazardous
<i>Underlying soil (2.5 to 3.0 ft)</i>	7.2	0.3	<i>Non-Hazardous</i>
0 to 3.0 ft	146	7.0	Hazardous

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

Based on the data in the above table, if excavated separately and generated for offsite disposal, soil from the surface to a depth of 2.5 ft would be classified as a California hazardous waste since the maximum-predicted WET soluble lead concentration is greater than the lead STLC of 5.0 mg/l. Underlying soil (i.e., deeper than 2.5 ft) would be classified as non-hazardous. If soil from the surface to a depth of 3.0 feet were excavated as a whole and generated for offsite disposal, it would be classified as California hazardous waste since the maximum-predicted WET soluble lead concentration exceeds the STLC.

Based on the TCLP soluble lead results excavated soil would not be considered a RCRA hazardous waste.

Based on the DI-WET soluble lead results, excavated soil may be reused onsite (as Caltrans Type Y1) under the DTSC Variance if it is covered with at least one foot of non-hazardous soil or a pavement structure.

6.1.4 Meridian Avenue Borings

The following table summarizes the predicted waste classification for excavated soil based on the calculated weighted averages of the maximum total lead concentrations and maximum-predicted WET soluble 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 lead calculations are summarized in Table 5d.

Excavation Depth	Maximum Total Lead (mg/kg)	Predicted WET Lead (mg/l)	Waste Classification
0 to 2.0 ft	268	12.9	Hazardous
<i>Underlying soil (2.0 to 3.0 ft)</i>	102	4.9	<i>Non-Hazardous</i>
0 to 3.0 ft	212	10.2	Hazardous

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

Based on the data in the above table, if excavated separately and generated for offsite disposal, soil from the surface to a depth of 2 ft would be classified as a California hazardous waste since the maximum-predicted WET soluble lead concentration is greater than the lead STLC of 5.0 mg/l. Underlying soil (i.e., deeper than 2 ft) would be classified as non-hazardous. If soil from the surface to a depth of 3.0 feet were excavated as a whole and generated for offsite disposal, it would be classified as California hazardous waste since the maximum-predicted WET soluble lead concentration exceeds the STLC.

Based on the TCLP soluble lead results excavated soil would not be considered a RCRA hazardous waste.

Based on the DI-WET soluble lead results, excavated soil may be reused onsite (as Caltrans Type Y1) under the DTSC Variance if it is covered with at least one foot of non-hazardous soil or a pavement structure.

6.2 Other CAM 17 Metals

The CAM 17 metals concentrations in site soil were compared to ESLs (Table A, SFRWQCB, May 2008). Other than lead, arsenic and vanadium were the only metals with reported concentrations greater than their respective ESL values in the soil samples collected at the Site. Arsenic was detected in the samples at concentrations between <1.0 and 13 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). Vanadium was reported in the soil samples at concentrations between 32 and 47 mg/kg, exceeding the residential land use ESL of 16 mg/kg for shallow soil.

Upper one-sided 95% UCLs were calculated for the full set of arsenic and vanadium concentrations. 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	2.8	0.39	1.6	3.5	0.6 to 11.0
Vanadium	39.6	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 value for vanadium in the soil samples collected at the Site is greater than the residential land use ESL, however is less than the commercial/industrial land use ESL and within the published background range.

Offsite reuse or disposal of excavated soil may be restricted based on arsenic and vanadium content.

6.3 Naturally Occurring Asbestos

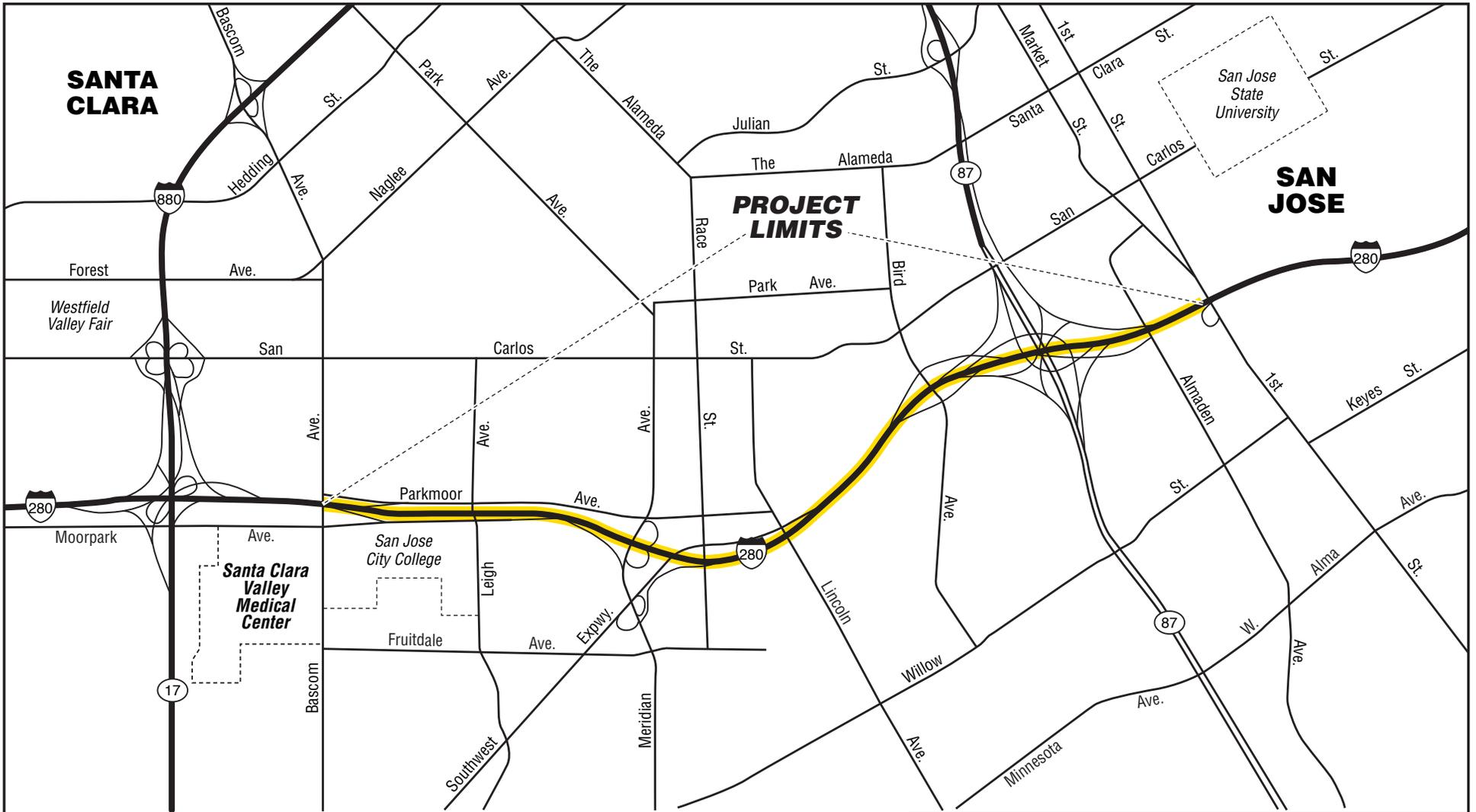
The mapped geology of the general area of the Site is indicative of a metamorphic regime where NOA minerals are likely to occur. The soil sample results indicate that NOA is present at the Site at concentrations exceeding the CARB regulatory limit of 0.25%.

NOA is a State of California regulated substance. Though asbestos was reported to be present, the asbestos content does not render these materials unsuitable for reuse within the Caltrans project boundaries. However, construction/maintenance activities involving these asbestos-containing materials may fall under regulatory jurisdiction of Cal-OSHA under CCR Title 8 Section 5208. Mitigation measures during construction/maintenance activities should be utilized to minimize releases of NOA to air (dust control) and surface waters (stormwater discharge). If reused within the Caltrans right-of-way, the material from areas where asbestos was reported to be present at or above regulated levels, or where ultramafic rock is present, cannot be used in such a way as to fall under the definition of surfacing material as defined in CARB's Title 17, Section 93106. NOA-containing material may be reused onsite, but must be covered by at least 0.25 foot of pavement, soil, or other material that contains less than 0.25% NOA.

If excess soil is generated during the construction project, excavated NOA-impacted soil must be disposed of at a licensed facility that is permitted to accept NOA-impacted soil that has been classified as California hazardous.

6.4 Worker Protection

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



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Interstate 280 TOS and Ramp Metering Project

Santa Clara County,
California

VICINITY MAP

GEOCON Proj. No. E8435-06-38

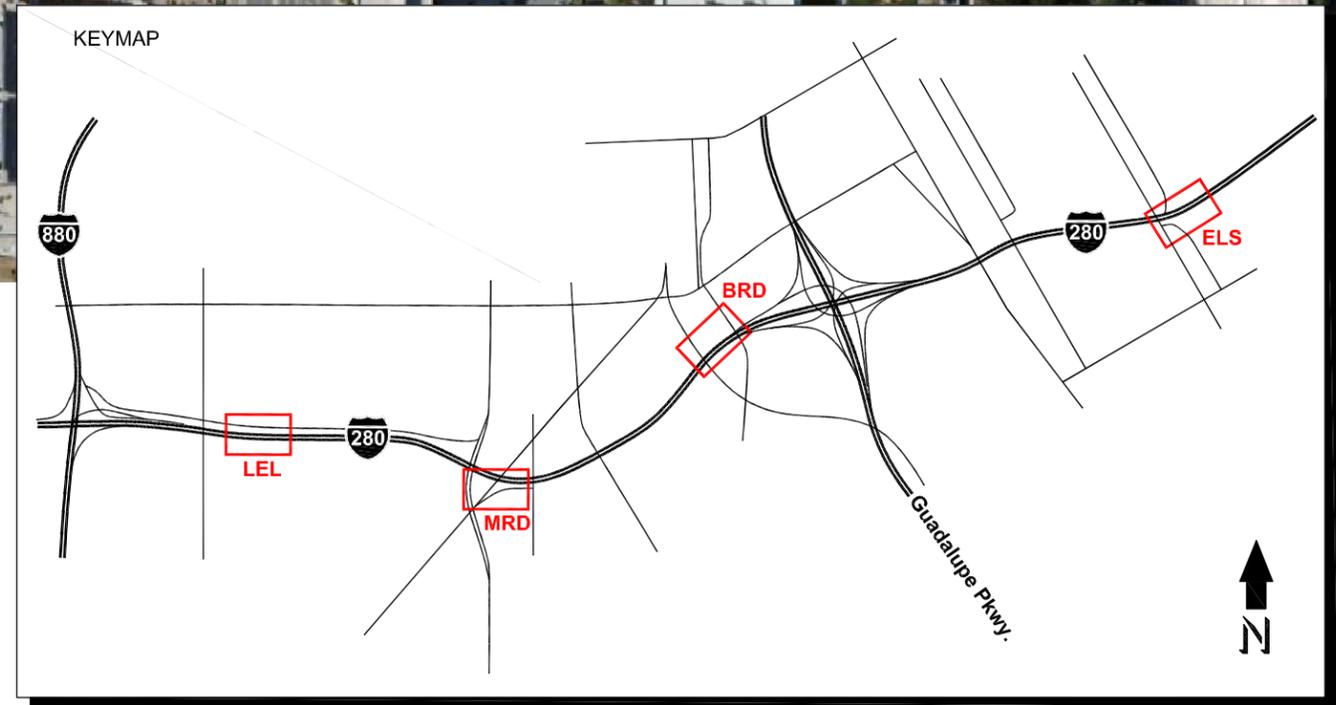
Task Order No. 38

September 2009

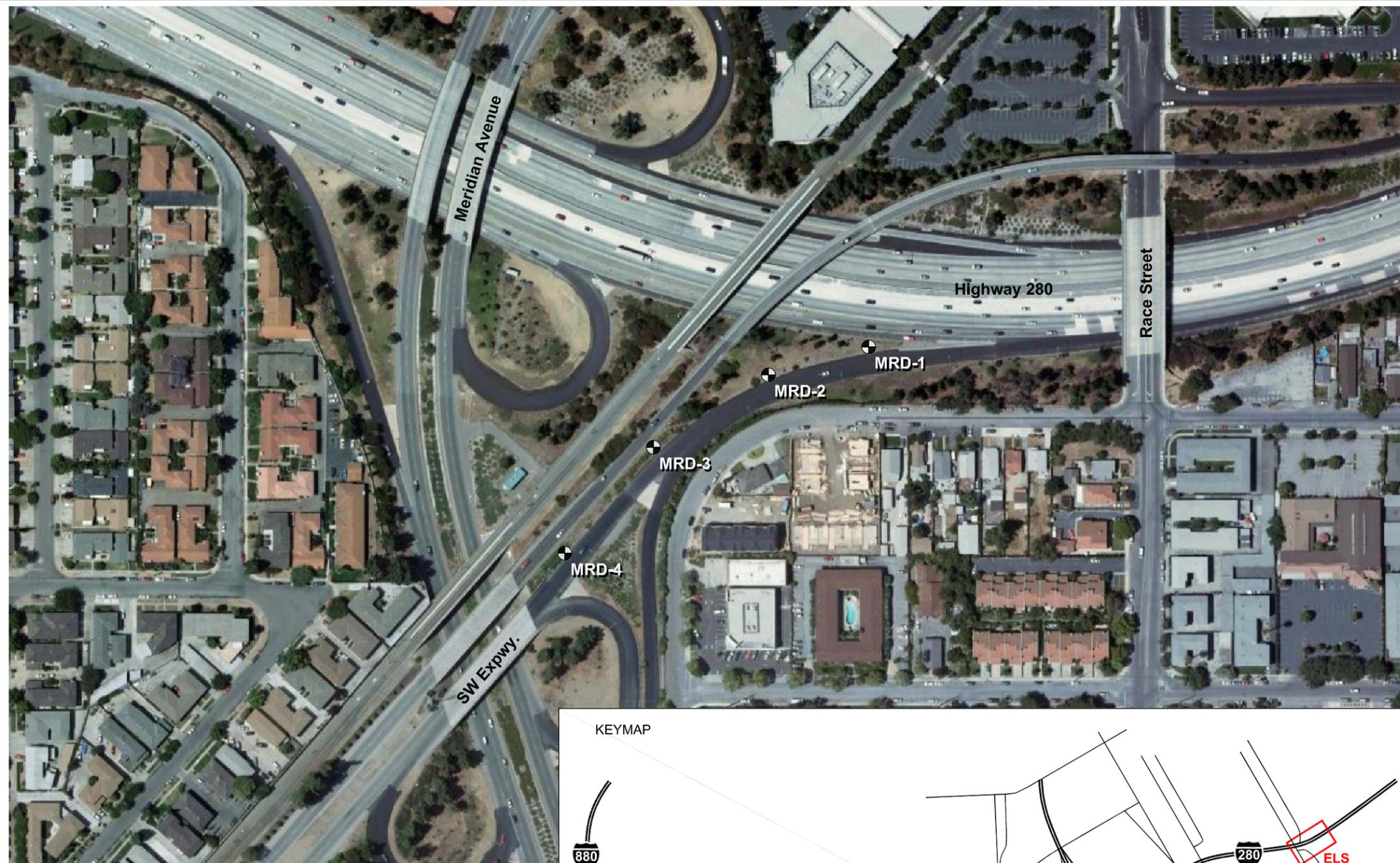
Figure 1



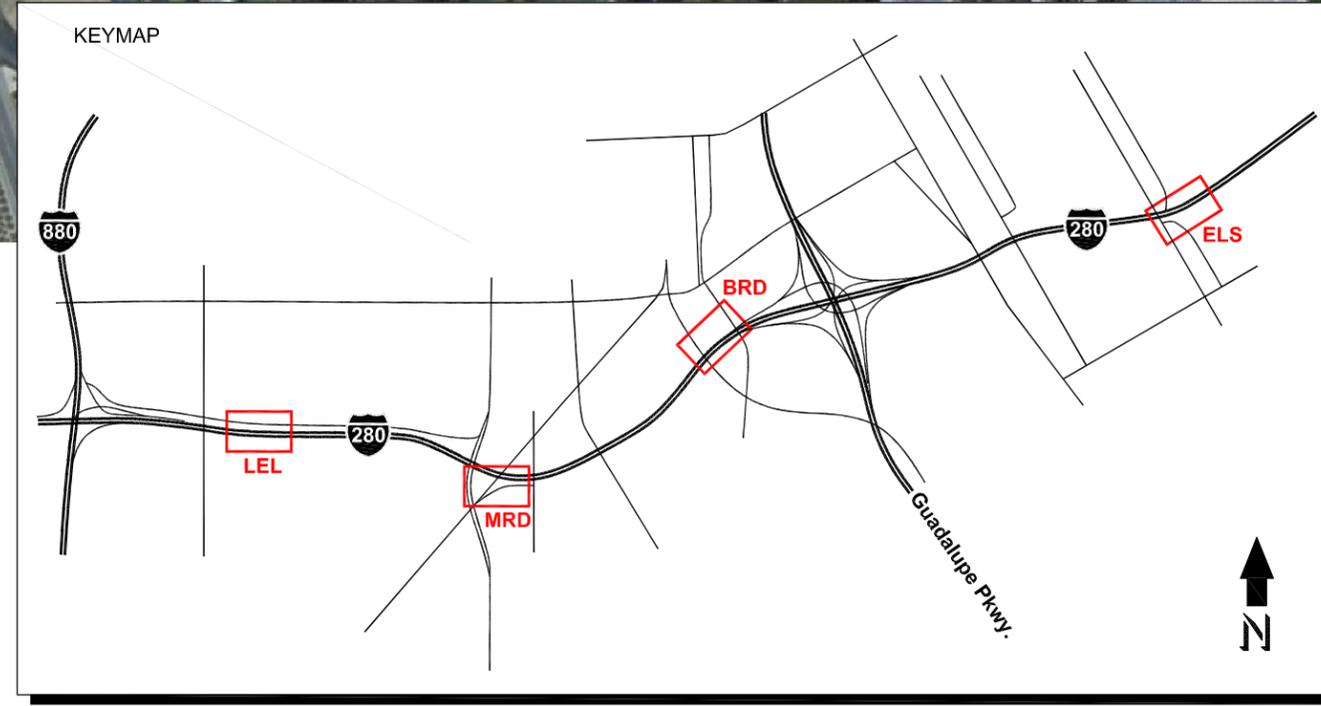
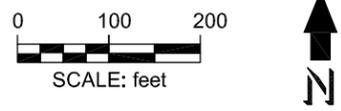
LEGEND:
 ⊕ Boring Location



 6671 BRISA STREET, LIVERMORE, CA 94550; PHONE 925 371-5900 - FAX 925 371-5915	
I-280 TOS/Ramp Metering Project	
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LEGEND:
 ● Boring Location

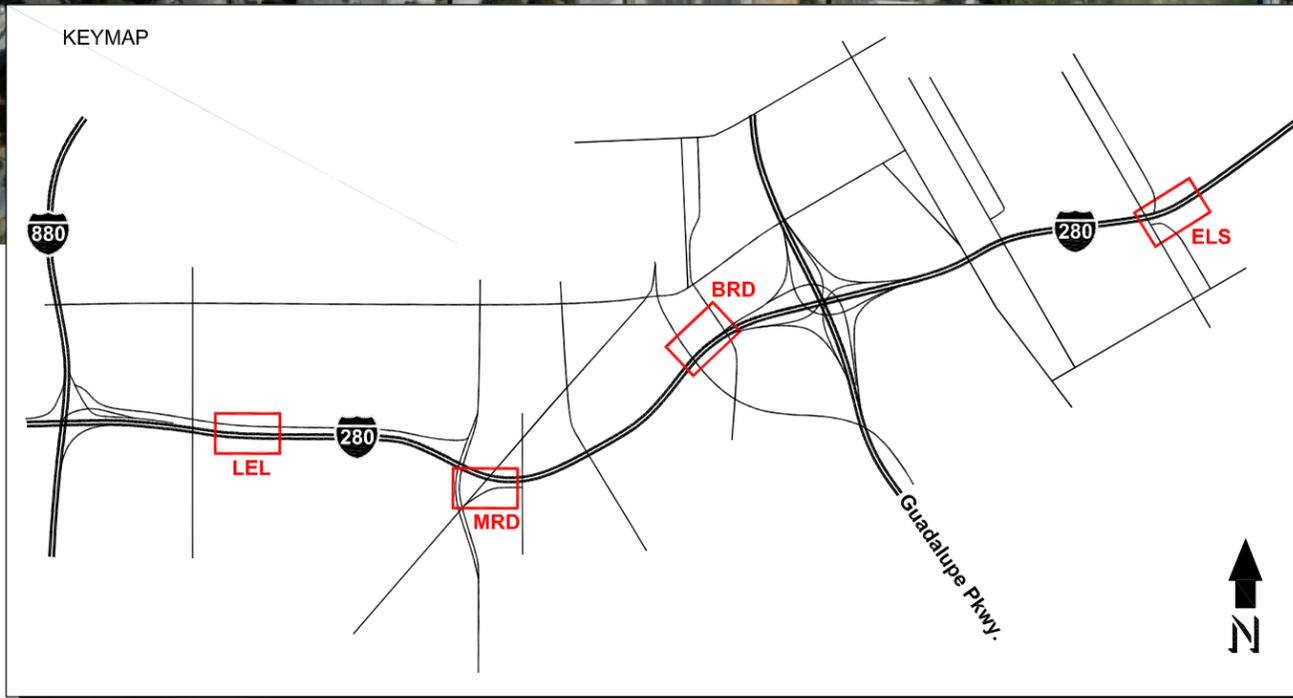


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Task Order No. 38	September 2009 Figure 2b



LEGEND:
 ● Boring Location

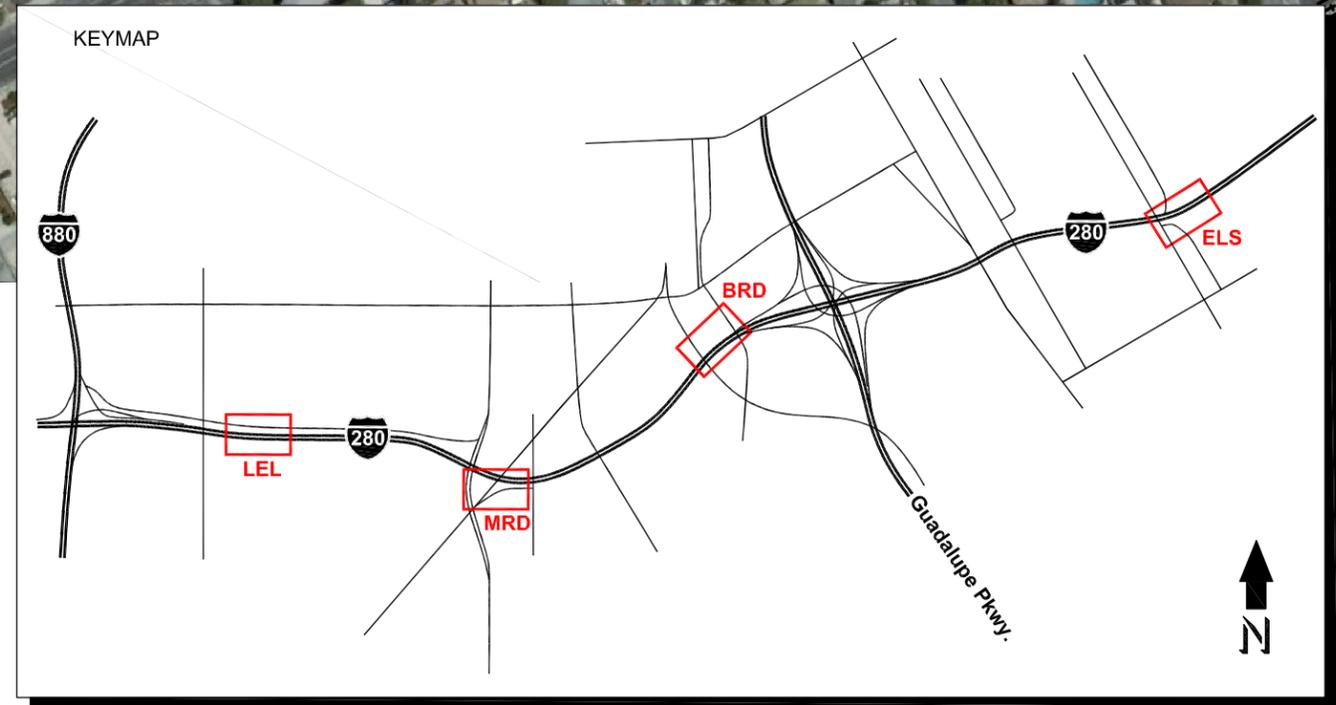
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 SCALE: feet



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LEGEND:
 ● Boring Location



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TABLE 1
Boring Coordinates
I-280 TOS/Ramp Metering Signals
San Jose, California

Boring	Northing	Easting
BRD-1	1,942,994.904	6,154,815.210
BRD-2	1,942,818.210	6,154,688.405
BRD-3	1,942,497.185	6,154,435.082
ELS-1	1,945,103.446	6,163,481.446
ELS-2	1,945,000.134	6,163,322.653
ELS-3	1,944,923.992	6,163,158.356
LEL-1	1,941,119.685	6,146,472.663
LEL-2	1,941,118.494	6,146,314.825
LEL-3	1,941,122.471	6,146,175.320
MRD-1	1,940,069.460	6,150,900.376
MRD-2	1,940,022.119	6,150,730.433
MRD-3	1,939,899.640	6,150,535.512
MRD-4	1,939,720.580	6,150,385.185

Notes: *Coordinates are shown in feet (NAD 83, Zone 3)*

TABLE 2
Summary of Lead and pH Results
I-280 TOS/Ramp Metering Signals
San Jose, California

Sample ID	Sample Depth (feet)	Total Lead (mg/kg)	WET Lead (mg/l)	DI-WET Lead (mg/l)	TCLP Lead (mg/l)	pH
BRD-1-0	0	150	7.9	<0.25	<0.25	6.8
BRD-1-1.5	1.5	8.6	---	---	---	---
BRD-1-2.5	2.5	8.2	---	---	---	---
BRD-2-0	0	300	17	0.43	<0.25	---
BRD-2-1.5	1.5	11	---	---	---	---
BRD-2-2.5	2.5	6.2	---	---	---	---
BRD-3-0	0	130	7.1	0.28	<0.25	6.8
BRD-3-1.5	1.5	11	---	---	---	---
BRD-3-2.5	2.5	6.2	---	---	---	---
ELS-1-0	0	480	31	<0.25	0.27	---
ELS-1-1.5	1.5	19	---	---	---	---
ELS-1-2.5	2.5	17	---	---	---	7.9
ELS-2-0	0	380	9.5	<0.25	<0.25	---
ELS-2-1.5	1.5	47	---	---	---	---
ELS-2-2.5	2.5	12	---	---	---	7.5
ELS-3-0	0	190	10	<0.25	<0.25	---
ELS-3-1.5	1.5	19	---	---	---	---
ELS-3-2.5	2.5	8.0	---	---	---	7.2
LEL-1-0	0	150	5.7	<0.25	<0.25	---
LEL-1-1.5	1.5	210	8.1	0.29	<0.25	7.5
LEL-1-2.5	2.5	7.2	---	---	---	---
LEL-2-0	0	26	---	---	---	---
LEL-2-1.5	1.5	7.0	---	---	---	---
LEL-2-2.5	2.5	6.6	---	---	---	---
LEL-3-0	0	19	---	---	---	---
LEL-3-1.5	1.5	5.5	---	---	---	7.2
LEL-3-2.5	2.5	5.8	---	---	---	---
MRD-1-0	0	310	17	<0.25	0.39	---
MRD-1-1.5	1.5	7.9	---	---	---	---
MRD-1-2.5	2.5	6.4	---	---	---	---
MRD-2-0	0	32	---	---	---	6.9
MRD-2-1.5	1.5	29	---	---	---	---
MRD-2-2.5	2.5	18	---	---	---	---
MRD-3-0	0	290	12	<0.25	0.27	---
MRD-3-1.5	1.5	140	5.7	<0.25	<0.25	---
MRD-3-2.5	2.5	64	2.0	---	---	---
MRD-4-0	0	210	6.1	<0.25	<0.25	7.7
MRD-4-1.5	1.5	45	---	---	---	---
MRD-4-2.5	2.5	17	---	---	---	8.1

Notes:

mg/kg = milligrams per kilogram

--- = Not analyzed

< = Analyte was not detected above the reporting limit

TABLE 3
Summary of CAM 17 Metals Results
I-280 TOS/Ramp Metering Signals
San Jose, California

Sample ID	Sample Depth (ft)	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	Mercury
BRD-2-0	0	<2.0	<1.0	140	<1.0	1.1	58 <1.0	9.7	36	300	1.8	82	1.5	<1.0	<1.0	40	160	0.13
BRD-2-1.5	1.5	<2.0	<1.0	84	<1.0	<1.0	43	7.0	22	11	1.4	41	1.4	<1.0	<1.0	37	43	<0.10
BRD-2-2.5	2.5	<2.0	<1.0	260	<1.0	<1.0	44	7.9	17	6.2	1.2	46	<1.0	<1.0	<1.0	44	36	<0.10
BRD-3-0	0	<2.0	<1.0	140	<1.0	<1.0	54 <1.0	10	41	130	1.5	73	1.2	<1.0	<1.0	41	160	0.21
BRD-3-1.5	1.5	<2.0	<1.0	140	<1.0	<1.0	50 <1.0	11	27	11	<1.0	65	1.6	<1.0	<1.0	40	54	<0.10
BRD-3-2.5	2.5	<2.0	1.8	110	<1.0	<1.0	42	7.7	25	6.2	1.1	50	<1.0	<1.0	<1.0	39	58	<0.10
ELS-2-0	0	<2.0	2.1	130	<1.0	<1.0	130 <1.0	13	36	380	1.4	210	1.4	<1.0	<1.0	37	160	0.19
ELS-2-1.5	1.5	<2.0	1.0	130	<1.0	<1.0	66 <1.0	12	27	47	1.1	99	1.1	<1.0	<1.0	41	65	0.14
ELS-2-2.5	2.5	<2.0	<1.0	120	<1.0	<1.0	47	10	25	12	1.0	70	1.1	<1.0	<1.0	37	54	0.24
ELS-3-0	0	<2.0	13	150	<1.0	1.1	54 <1.0	11	45	190	1.5	84	1.1	<1.0	<1.0	33	270	0.16
ELS-3-1.5	1.5	<2.0	5.6	170	<1.0	<1.0	45	11	28	19	<1.0	66	1.4	<1.0	<1.0	33	64	<0.10
ELS-3-2.5	2.5	<2.0	5.5	150	<1.0	<1.0	48	11	28	8.0	<1.0	73	<1.0	<1.0	<1.0	33	55	<0.10

TABLE 3
Summary of CAM 17 Metals Results
I-280 TOS/Ramp Metering Signals
San Jose, California

Sample ID	Sample Depth (ft)	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	Mercury
LEL-1-0	0	<2.0	1.0	110	<1.0	<1.0	39	8.6	28	150	1.3	54	1.0	<1.0	<1.0	34	120	<0.10
LEL-1-1.5	1.5	<2.0	1.1	100	<1.0	<1.0	37	7.9	24	210	1.2	49	1.3	<1.0	<1.0	32	100	<0.10
LEL-1-2.5	2.5	<2.0	<1.0	90	<1.0	<1.0	41	8.6	21	7.2	1.0	54	1.1	<1.0	<1.0	34	47	<0.10
LEL-3-0	0	<2.0	<1.0	130	<1.0	<1.0	46	10	37	19	1.8	60	1.2	<1.0	<1.0	40	140	<0.10
LEL-3-1.5	1.5	<2.0	<1.0	110	<1.0	<1.0	41	9.5	23	5.5	1.1	55	<1.0	<1.0	<1.0	34	53	<0.10
LEL-3-2.5	2.5	<2.0	1.6	110	<1.0	<1.0	40	9.7	24	5.8	1.2	57	<1.0	<1.0	<1.0	37	53	<0.10
MRD-1-0	0	<2.0	<1.0	110	<1.0	<1.0	68 <i><1.0</i>	9.9	50	310	1.3	91	<1.0	<1.0	<1.0	40	210	0.11
MRD-1-1.5	1.5	<2.0	<1.0	71	<1.0	<1.0	41	7.6	19	7.9	<1.0	51	<1.0	<1.0	<1.0	38	41	<0.10
MRD-1-2.5	2.5	<2.0	<1.0	78	<1.0	<1.0	40	9.1	26	6.4	<1.0	50	<1.0	<1.0	<1.0	45	47	<0.10
MRD-3-0	0	<2.0	1.3	170	<1.0	1.1	68 <i><1.0</i>	9.3	51	290	1.6	80	<1.0	<1.0	<1.0	43	190	0.26
MRD-3-1.5	1.5	<2.0	2.4	170	<1.0	<1.0	56 <i><1.0</i>	10	45	140	1.4	76	1.1	<1.0	<1.0	47	140	0.22
MRD-3-2.5	2.5	<2.0	2.6	160	<1.0	<1.0	40	8.4	34	64	<1.0	69	<1.0	<1.0	<1.0	40	93	0.40
ESLs																		
Residential Land Use		6.3	0.39	750	4.0	1.7	750*	40	230	200	40	150	10	20	1.3	16	600	1.3
Comm/Ind Land Use		40	1.6	1,500	8.0	7.4	750*	80	230	750	40	150	10	40	16	200	600	10

Notes:

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

Results in italics are soluble metal concentrations analyzed using the Waste Extraction Test (WET), shown in units of milligrams per liter (mg/l).

<= Analyte was not detected above the reporting limit.

ESLs = Environmental Screening Levels, Table A Groundwater is Current/Potential Source of Drinking Water, SFRWQCB, Revised May 2008.

* = Value is for Chromium III, no standard for total chromium.

TABLE 4
Summary of NOA Results
I-280 TOS/Ramp Metering Signals
San Jose, California

Sample ID	Sample Depth (feet)	Asbestos Content (% dry weight)
BRD-1-0	0	ND
LEL-2-0	0	ND
ELS-1-0	0	0.50
MRD-1-0	0	<0.25

Notes:

ND = None detected at 0.25% target analytical sensitivity.

TABLE 5a
Summary of Lead Statistical Analysis
I-280 TOS/Ramp Metering Signals
San Jose, California

Bird Avenue Borings (BRD-1 to BRD-3)

TOTAL LEAD MAXIMUMS

	Total Lead (mg/kg) Maximum
0 to 0.5 ft	300
1.5 to 2.0 ft	11
2.5 to 3.0 ft	8.2

EXCAVATION SCENARIOS

Excavation Depth	Maximum Weighted Average	
	Total Lead (mg/kg)	Soluble WET Lead* (mg/l)
0 to 0.5 ft <i>Underlying Soil (0.5 to 3 ft)</i>	300 <i>126</i>	14.4 <i>6.1</i>
0 to 1 ft <i>Underlying Soil (1 to 3 ft)</i>	300 <i>83</i>	14.4 <i>4.0</i>
0 to 1.5 ft <i>Underlying Soil (1.5 to 3 ft)</i>	300 <i>10</i>	14.4 <i>0.5</i>
0 to 2 ft <i>Underlying Soil (2 to 3 ft)</i>	228 <i>9.6</i>	11.0 <i>0.5</i>
0 to 2.5 ft <i>Underlying Soil (2.5 to 3 ft)</i>	184 <i>8.2</i>	8.9 <i>0.4</i>
0 to 3 ft	155	7.5

Notes:

Weighted average values are based upon maximum values for each depth interval.

mg/kg = milligrams per kilogram

mg/l = milligrams per liter

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

Regression Line Slope: $y = 0.0481 x$

TABLE 5b
Summary of Lead Statistical Analysis
I-280 TOS/Ramp Metering Signals
San Jose, California

Eleventh Street Borings (ELS-1 to ELS-3)

TOTAL LEAD MAXIMUMS

	Total Lead (mg/kg) Maximum
0 to 0.5 ft	480
1.5 to 2.0 ft	47
2.5 to 3.0 ft	17

EXCAVATION SCENARIOS

Excavation Depth	Maximum Weighted Average	
	Total Lead (mg/kg)	Soluble WET Lead* (mg/l)
0 to 0.5 ft <i>Underlying Soil (0.5 to 3 ft)</i>	480 214	23.1 10.3
0 to 1 ft <i>Underlying Soil (1 to 3 ft)</i>	480 148	23.1 7.1
0 to 1.5 ft <i>Underlying Soil (1.5 to 3 ft)</i>	480 37	23.1 1.8
0 to 2 ft <i>Underlying Soil (2 to 3 ft)</i>	372 32	17.9 1.5
0 to 2.5 ft <i>Underlying Soil (2.5 to 3 ft)</i>	307 17	14.8 0.8
0 to 3 ft	259	12.4

Notes:

Weighted average values are based upon maximum values for each depth interval.

mg/kg = milligrams per kilogram

mg/l = milligrams per liter

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

Regression Line Slope: $y = 0.0481 x$

TABLE 5c
Summary of Lead Statistical Analysis
I-280 TOS/Ramp Metering Signals
San Jose, California

Leland Avenue Borings (LEL-1 to LEL-3)

TOTAL LEAD MAXIMUMS

	Total Lead (mg/kg) Maximum
0 to 0.5 ft	150
1.5 to 2.0 ft	210
2.5 to 3.0 ft	7.2

EXCAVATION SCENARIOS

Excavation Depth	Maximum Weighted Average	
	Total Lead (mg/kg)	Soluble WET Lead* (mg/l)
0 to 0.5 ft <i>Underlying Soil (0.5 to 3 ft)</i>	150 145	7.2 7.0
0 to 1 ft <i>Underlying Soil (1 to 3 ft)</i>	150 144	7.2 6.9
0 to 1.5 ft <i>Underlying Soil (1.5 to 3 ft)</i>	150 142	7.2 6.8
0 to 2 ft <i>Underlying Soil (2 to 3 ft)</i>	165 109	7.9 5.2
0 to 2.5 ft <i>Underlying Soil (2.5 to 3 ft)</i>	174 7.2	8.4 0.3
0 to 3 ft	146	7.0

Notes:

Weighted average values are based upon maximum values for each depth interval.

mg/kg = milligrams per kilogram

mg/l = milligrams per liter

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

Regression Line Slope: $y = 0.0481 x$

TABLE 5d
Summary of Lead Statistical Analysis
I-280 TOS/Ramp Metering Signals
San Jose, California

Meridian Avenue Borings (MRD-1 to MRD-4)

TOTAL LEAD MAXIMUMS

	Total Lead (mg/kg) Maximum
0 to 0.5 ft	310
1.5 to 2.0 ft	140
2.5 to 3.0 ft	64.0

EXCAVATION SCENARIOS

Excavation Depth	Maximum Weighted Average	
	Total Lead (mg/kg)	Soluble WET Lead* (mg/l)
0 to 0.5 ft <i>Underlying Soil (0.5 to 3 ft)</i>	310 <i>193</i>	14.9 <i>9.3</i>
0 to 1 ft <i>Underlying Soil (1 to 3 ft)</i>	310 <i>164</i>	14.9 <i>7.9</i>
0 to 1.5 ft <i>Underlying Soil (1.5 to 3 ft)</i>	310 <i>115</i>	14.9 <i>5.5</i>
0 to 2 ft <i>Underlying Soil (2 to 3 ft)</i>	268 <i>102</i>	12.9 <i>4.9</i>
0 to 2.5 ft <i>Underlying Soil (2.5 to 3 ft)</i>	242 <i>64</i>	11.6 <i>3.1</i>
0 to 3 ft	212	10.2

Notes:

Weighted average values are based upon maximum values for each depth interval.

mg/kg = milligrams per kilogram

mg/l = milligrams per liter

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

Regression Line Slope: $y = 0.0481 x$

APPENDIX

A



*California Environmental Protection Agency
Department of Toxic Substances Control*

VARIANCE

Applicant Names:

Variance No. V09HQSCD006

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

Effective Date: July 1, 2009

Expiration Date: July 1, 2014

Modification History:

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

A handwritten signature in cursive script, appearing to read "Beverly Rikala".

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

Date: 6/30/09

VARIANCE

1. INTRODUCTION.

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

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

2. IDENTIFYING INFORMATION.

APPLICANT/OWNER/OPERATOR

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

3. TYPE OF VARIANCE.

Generation, Manifest, Transportation, Storage and Disposal.

4. ISSUANCE AND EXPIRATION DATES.

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

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

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

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

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

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

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

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

8. PROVISIONS WAIVED.

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

9. SPECIFIC CONDITIONS, LIMITATIONS AND OTHER REQUIREMENTS.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

water run-on or run-off.

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

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

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

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

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

1. plan drawing designating the boundaries of the corridor where lead-contaminated soils will be excavated, stockpiled, buried and covered;
2. a list of the Caltrans projects that the corridor encompasses;
3. a list of Caltrans contractors that will be conducting any phase of work on any project affected by this variance;
4. duration of corridor construction;
5. location where sampling and analytical data used to make lead concentration level determinations are kept (e.g. a particular Caltrans project file);
6. name and phone number (including area code) of project resident engineer and project manager;
7. location where Caltrans and contractor health and safety plan and records are kept;

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

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

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

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

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

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

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

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

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

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

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

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

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

1. maintain current fact sheets at all Caltrans resident engineer offices and the Caltrans District office. Caltrans shall make the fact sheets available to anyone expressing an interest in variance-related work.
2. maintain a binder(s) containing copies of all reports submitted to DTSC at the District office. Caltrans shall ensure that the binders are readily accessible to the public.
3. carry out the following actions when it identifies additional projects:
 - (A) notify the public via a display advertisement in a newspaper of general circulation in that area.
 - (B) update and distribute the fact sheet to the mailing list and repository locations.

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

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

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

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

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

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

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

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

Attn: Caltrans Lead Variance Notification Unit

10. DISCLAIMER.

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

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

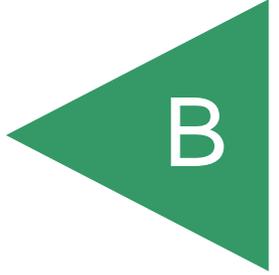
11. VARIANCE MODIFICATION OR REVOCATION. This variance is subject to review at the discretion of DTSC and may be modified or revoked by DTSC upon change of ownership and at any other time pursuant to Health and Safety Code, section 25143.
12. CEQA DETERMINATION. DTSC adopted a Negative Declaration on June 30, 2009.

Approved:

6/30/09
Date

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

APPENDIX



September 29, 2009



Lauren Vigliotti
Geocon Consultants, Inc.
6671 Brisa Street
Livermore, CA 94550
TEL: (925) 371-5900
FAX: (925) 371-5915

ELAP No.: 1838
NELAP No.: 02107CA
NEVADA.: CA-401
CSDLAC No.: 10196

Workorder No.: 107234

RE: 280 RAMP METERING, E8435-06-38

Attention: Lauren Vigliotti

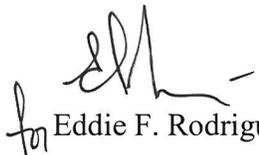
Enclosed are the results for sample(s) received on September 03, 2009 by Advanced Technology Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

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

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

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

Sincerely,


for Eddie F. Rodriguez
Laboratory Director

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



CLIENT: Geocon Consultants, Inc.
Project: 280 RAMP METERING, E8435-06-38
Lab Order: 107234

CASE NARRATIVE

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

Analytical Comments for Method 6010

Dilution was necessary for samples 107234-007A, 107234-008A, 107234-010A, 107234-011A, 107234-019A, 107234-022A, 107234-023A, 107234-025A, 107234-028A, 107234-034A, 107234-035A, 107234-036A and 107234-037A, due to sample matrix.

Matrix Spike (MS) and /or Matrix Spike Duplicate (MSD) are/is outside recovery criteria for sample 107234-025AMS; however, the analytical batch was validated by the Laboratory Control Sample (LCS).



Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: 29-Sep-09

CLIENT: Geocon Consultants, Inc.
Lab Order: 107234
Project: 280 RAMP METERING, E8435-06-38
Lab ID: 107234-001

Client Sample ID: BRD-1-0
Collection Date: 9/2/2009
Matrix: SOIL

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ICP METALS BY STLC							
				WET/ EPA 6010B			
RunID: ICP8_090924D	QC Batch: R113284				PrepDate:		Analyst: CL
Lead	7.9	0.042	1.0	mg/L	20	9/24/2009 01:03 PM	
LEAD BY ATOMIC ABSORPTION							
				WET DI/ EPA 7420			
RunID: AA2_090928A	QC Batch: 58467				PrepDate: 9/25/2009		Analyst: IL
Lead	ND	0.21	0.25	mg/L	1	9/28/2009 11:26 AM	
LEAD BY ATOMIC ABSORPTION (TCLP)							
				EPA 1311/ 7420			
RunID: AA2_090929A	QC Batch: 58504				PrepDate: 9/28/2009		Analyst: IL
Lead	ND	0.21	0.25	mg/L	1	9/29/2009 11:04 AM	

Qualifiers: B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 Results are wet unless otherwise specified

E Value above quantitation range
 J Analyte detected below quantitation limits
 S Spike/Surrogate outside of limits due to matrix interferenc
 DO Surrogate Diluted Out



Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: 29-Sep-09

CLIENT: Geocon Consultants, Inc. **Client Sample ID:** BRD-2-0
Lab Order: 107234 **Collection Date:** 9/2/2009
Project: 280 RAMP METERING, E8435-06-38 **Matrix:** SOIL
Lab ID: 107234-004

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ICP METALS BY STLC							
WET/ EPA 6010B							
RunID: ICP8_090924D	QC Batch: R113284		PrepDate:		Analyst: CL		
Chromium	0.28	0.018	1.0	J	mg/L	20	9/24/2009 01:07 PM
Lead	17	0.042	1.0		mg/L	20	9/24/2009 01:07 PM
LEAD BY ATOMIC ABSORPTION							
WET							
WET DI/ EPA 7420							
RunID: AA2_090928A	QC Batch: 58467		PrepDate:		9/25/2009 Analyst: IL		
Lead	0.43	0.21	0.25		mg/L	1	9/28/2009 11:27 AM
LEAD BY ATOMIC ABSORPTION (TCLP)							
EPA3010A							
EPA 1311/ 7420							
RunID: AA2_090929A	QC Batch: 58504		PrepDate:		9/28/2009 Analyst: IL		
Lead	ND	0.21	0.25		mg/L	1	9/29/2009 11:05 AM

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



Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: 29-Sep-09

CLIENT:	Geocon Consultants, Inc.	Client Sample ID:	BRD-3-0
Lab Order:	107234	Collection Date:	9/2/2009
Project:	280 RAMP METERING, E8435-06-38	Matrix:	SOIL
Lab ID:	107234-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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ICP METALS BY STLC

WET/ EPA 6010B

RunID: ICP8_090924D	QC Batch: R113284			PrepDate:		Analyst: CL
Chromium	0.16	0.018	1.0	J mg/L	20	9/24/2009 01:11 PM
Lead	7.1	0.042	1.0	mg/L	20	9/24/2009 01:11 PM

LEAD BY ATOMIC ABSORPTION

WET

WET DI/ EPA 7420

RunID: AA2_090928A	QC Batch: 58467			PrepDate: 9/25/2009	Analyst: IL
Lead	0.28	0.21	0.25	mg/L	1 9/28/2009 11:27 AM

LEAD BY ATOMIC ABSORPTION (TCLP)

EPA3010A

EPA 1311/ 7420

RunID: AA2_090929A	QC Batch: 58504			PrepDate: 9/28/2009	Analyst: IL
Lead	ND	0.21	0.25	mg/L	1 9/29/2009 11:05 AM

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



Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: 29-Sep-09

CLIENT: Geocon Consultants, Inc.
Lab Order: 107234
Project: 280 RAMP METERING, E8435-06-38
Lab ID: 107234-008

Client Sample ID: BRD-3-1.5
Collection Date: 9/2/2009
Matrix: SOIL

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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ICP METALS BY STLC

WET/ EPA 6010B

RunID: ICP8_090924D	QC Batch: R113284				PrepDate:		Analyst: CL
Chromium	0.098	0.018	1.0	J	mg/L	20	9/24/2009 01:16 PM

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



Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: 29-Sep-09

CLIENT: Geocon Consultants, Inc.
Lab Order: 107234
Project: 280 RAMP METERING, E8435-06-38
Lab ID: 107234-010

Client Sample ID: LEL-1-0
Collection Date: 9/2/2009
Matrix: SOIL

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ICP METALS BY STLC							
				WET/ EPA 6010B			
RunID: ICP8_090924D	QC Batch: R113284				PrepDate:		Analyst: CL
Lead	5.7	0.042	1.0	mg/L	20	9/24/2009 01:20 PM	
LEAD BY ATOMIC ABSORPTION							
				WET DI/ EPA 7420			
RunID: AA2_090928A	QC Batch: 58467				PrepDate: 9/25/2009		Analyst: IL
Lead	ND	0.21	0.25	mg/L	1	9/28/2009 11:29 AM	
LEAD BY ATOMIC ABSORPTION (TCLP)							
				EPA 1311/ 7420			
RunID: AA2_090929A	QC Batch: 58504				PrepDate: 9/28/2009		Analyst: IL
Lead	ND	0.21	0.25	mg/L	1	9/29/2009 11:05 AM	

Qualifiers: B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
Results are wet unless otherwise specified

E Value above quantitation range
J Analyte detected below quantitation limits
S Spike/Surrogate outside of limits due to matrix interferenc
DO Surrogate Diluted Out



Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: 29-Sep-09

CLIENT: Geocon Consultants, Inc.
Lab Order: 107234
Project: 280 RAMP METERING, E8435-06-38
Lab ID: 107234-011

Client Sample ID: LEL-1-1.5
Collection Date: 9/2/2009
Matrix: SOIL

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ICP METALS BY STLC							
				WET/ EPA 6010B			
RunID: ICP8_090924D	QC Batch: R113284				PrepDate:		Analyst: CL
Lead	8.1	0.042	1.0	mg/L	20	9/24/2009 01:24 PM	
LEAD BY ATOMIC ABSORPTION							
				WET DI/ EPA 7420			
RunID: AA2_090928A	QC Batch: 58467				PrepDate: 9/25/2009		Analyst: IL
Lead	0.29	0.21	0.25	mg/L	1	9/28/2009 11:30 AM	
LEAD BY ATOMIC ABSORPTION (TCLP)							
				EPA 1311/ 7420			
RunID: AA2_090929A	QC Batch: 58504				PrepDate: 9/28/2009		Analyst: IL
Lead	ND	0.21	0.25	mg/L	1	9/29/2009 11:06 AM	

Qualifiers: B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 Results are wet unless otherwise specified

E Value above quantitation range
 J Analyte detected below quantitation limits
 S Spike/Surrogate outside of limits due to matrix interferenc
 DO Surrogate Diluted Out



Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: 29-Sep-09

CLIENT: Geocon Consultants, Inc.
Lab Order: 107234
Project: 280 RAMP METERING, E8435-06-38
Lab ID: 107234-019

Client Sample ID: ELS-1-0
Collection Date: 9/2/2009
Matrix: SOIL

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ICP METALS BY STLC							
				WET/ EPA 6010B			
RunID: ICP8_090924D	QC Batch: R113284				PrepDate:		Analyst: CL
Lead	31	0.042	1.0	mg/L	20	9/24/2009 01:34 PM	
LEAD BY ATOMIC ABSORPTION							
				WET DI/ EPA 7420			
RunID: AA2_090928A	QC Batch: 58467				PrepDate: 9/25/2009		Analyst: IL
Lead	ND	0.21	0.25	mg/L	1	9/28/2009 11:31 AM	
LEAD BY ATOMIC ABSORPTION (TCLP)							
				EPA 1311/ 7420			
RunID: AA2_090929A	QC Batch: 58504				PrepDate: 9/28/2009		Analyst: IL
Lead	0.27	0.21	0.25	mg/L	1	9/29/2009 11:06 AM	

Qualifiers: B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 Results are wet unless otherwise specified

E Value above quantitation range
 J Analyte detected below quantitation limits
 S Spike/Surrogate outside of limits due to matrix interferenc
 DO Surrogate Diluted Out



Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: 29-Sep-09

CLIENT: Geocon Consultants, Inc.
Lab Order: 107234
Project: 280 RAMP METERING, E8435-06-38
Lab ID: 107234-022

Client Sample ID: ELS-2-0
Collection Date: 9/2/2009
Matrix: SOIL

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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ICP METALS BY STLC

WET/ EPA 6010B

RunID: ICP8_090924D	QC Batch: R113284					PrepDate:	Analyst: CL
Chromium	0.18	0.018	1.0	J	mg/L	20	9/24/2009 01:39 PM
Lead	9.5	0.042	1.0		mg/L	20	9/24/2009 01:39 PM

LEAD BY ATOMIC ABSORPTION

WET

WET DI/ EPA 7420

RunID: AA2_090928A	QC Batch: 58467					PrepDate: 9/25/2009	Analyst: IL
Lead	ND	0.21	0.25		mg/L	1	9/28/2009 11:32 AM

LEAD BY ATOMIC ABSORPTION (TCLP)

EPA3010A

EPA 1311/ 7420

RunID: AA2_090929A	QC Batch: 58504					PrepDate: 9/28/2009	Analyst: IL
Lead	ND	0.21	0.25		mg/L	1	9/29/2009 11:06 AM

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



Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: 29-Sep-09

CLIENT: Geocon Consultants, Inc.
Lab Order: 107234
Project: 280 RAMP METERING, E8435-06-38
Lab ID: 107234-023

Client Sample ID: ELS-2-1.5
Collection Date: 9/2/2009
Matrix: SOIL

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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ICP METALS BY STLC

WET/ EPA 6010B

RunID: ICP8_090924D	QC Batch: R113284				PrepDate:		Analyst: CL
Chromium	0.12	0.018	1.0	J	mg/L	20	9/24/2009 01:43 PM

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



Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: 29-Sep-09

CLIENT: Geocon Consultants, Inc.
Lab Order: 107234
Project: 280 RAMP METERING, E8435-06-38
Lab ID: 107234-025

Client Sample ID: ELS-3-0
Collection Date: 9/2/2009
Matrix: SOIL

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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ICP METALS BY STLC

WET/ EPA 6010B

RunID: ICP8_090924D	QC Batch: R113284				PrepDate:	Analyst: CL
Chromium	0.17	0.018	1.0	J	mg/L	20 9/24/2009 01:47 PM
Lead	10	0.042	1.0		mg/L	20 9/24/2009 01:47 PM

LEAD BY ATOMIC ABSORPTION

WET

WET DI/ EPA 7420

RunID: AA2_090928A	QC Batch: 58467				PrepDate: 9/25/2009	Analyst: IL
Lead	ND	0.21	0.25		mg/L	1 9/28/2009 11:32 AM

LEAD BY ATOMIC ABSORPTION (TCLP)

EPA3010A

EPA 1311/ 7420

RunID: AA2_090929A	QC Batch: 58504				PrepDate: 9/28/2009	Analyst: IL
Lead	ND	0.21	0.25		mg/L	1 9/29/2009 11:07 AM

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



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ANALYTICAL RESULTS

Print Date: 29-Sep-09

CLIENT: Geocon Consultants, Inc.
Lab Order: 107234
Project: 280 RAMP METERING, E8435-06-38
Lab ID: 107234-028

Client Sample ID: MRD-1-0
Collection Date: 9/2/2009
Matrix: SOIL

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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ICP METALS BY STLC

WET/ EPA 6010B

RunID: ICP8_090924D	QC Batch: R113284					PrepDate:	Analyst: CL
Chromium	0.27	0.018	1.0	J	mg/L	20	9/24/2009 02:03 PM
Lead	17	0.042	1.0		mg/L	20	9/24/2009 02:03 PM

LEAD BY ATOMIC ABSORPTION

WET

WET DI/ EPA 7420

RunID: AA2_090928A	QC Batch: 58467					PrepDate: 9/25/2009	Analyst: IL
Lead	ND	0.21	0.25		mg/L	1	9/28/2009 11:33 AM

LEAD BY ATOMIC ABSORPTION (TCLP)

EPA3010A

EPA 1311/ 7420

RunID: AA2_090929A	QC Batch: 58504					PrepDate: 9/28/2009	Analyst: IL
Lead	0.39	0.21	0.25		mg/L	1	9/29/2009 11:08 AM

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



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ANALYTICAL RESULTS

Print Date: 29-Sep-09

CLIENT: Geocon Consultants, Inc.
Lab Order: 107234
Project: 280 RAMP METERING, E8435-06-38
Lab ID: 107234-034

Client Sample ID: MRD-3-0
Collection Date: 9/2/2009
Matrix: SOIL

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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ICP METALS BY STLC

WET/ EPA 6010B

RunID: ICP8_090924D	QC Batch: R113284					PrepDate:	Analyst: CL
Chromium	0.36	0.018	1.0	J	mg/L	20	9/24/2009 02:07 PM
Lead	12	0.042	1.0		mg/L	20	9/24/2009 02:07 PM

LEAD BY ATOMIC ABSORPTION

WET

WET DI/ EPA 7420

RunID: AA2_090928A	QC Batch: 58467					PrepDate: 9/25/2009	Analyst: IL
Lead	ND	0.21	0.25		mg/L	1	9/28/2009 11:34 AM

LEAD BY ATOMIC ABSORPTION (TCLP)

EPA3010A

EPA 1311/ 7420

RunID: AA2_090929A	QC Batch: 58504					PrepDate: 9/28/2009	Analyst: IL
Lead	0.27	0.21	0.25		mg/L	1	9/29/2009 11:10 AM

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



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

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ANALYTICAL RESULTS

Print Date: 29-Sep-09

CLIENT: Geocon Consultants, Inc.
Lab Order: 107234
Project: 280 RAMP METERING, E8435-06-38
Lab ID: 107234-035

Client Sample ID: MRD-3-1.5
Collection Date: 9/2/2009
Matrix: SOIL

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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ICP METALS BY STLC

WET/ EPA 6010B

RunID: ICP8_090924D	QC Batch: R113284				PrepDate:	Analyst: CL
Chromium	0.19	0.018	1.0	J	mg/L	20 9/24/2009 02:12 PM
Lead	5.7	0.042	1.0		mg/L	20 9/24/2009 02:12 PM

LEAD BY ATOMIC ABSORPTION

WET

WET DI/ EPA 7420

RunID: AA2_090928A	QC Batch: 58467				PrepDate: 9/25/2009	Analyst: IL
Lead	ND	0.21	0.25		mg/L	1 9/28/2009 11:34 AM

LEAD BY ATOMIC ABSORPTION (TCLP)

EPA3010A

EPA 1311/ 7420

RunID: AA2_090929A	QC Batch: 58504				PrepDate: 9/28/2009	Analyst: IL
Lead	0.25	0.21	0.25	J	mg/L	1 9/29/2009 11:11 AM

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



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ANALYTICAL RESULTS

Print Date: 29-Sep-09

CLIENT: Geocon Consultants, Inc.
Lab Order: 107234
Project: 280 RAMP METERING, E8435-06-38
Lab ID: 107234-036

Client Sample ID: MRD-3-2.5
Collection Date: 9/2/2009
Matrix: SOIL

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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ICP METALS BY STLC

WET/ EPA 6010B

RunID: ICP8_090924D	QC Batch: R113284				PrepDate:		Analyst: CL
Lead	2.0	0.042		1.0	mg/L	20	9/24/2009 02:22 PM

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



Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: 29-Sep-09

CLIENT: Geocon Consultants, Inc.
Lab Order: 107234
Project: 280 RAMP METERING, E8435-06-38
Lab ID: 107234-037

Client Sample ID: MRD-4-0
Collection Date: 9/2/2009
Matrix: SOIL

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ICP METALS BY STLC							
				WET/ EPA 6010B			
RunID: ICP8_090924D	QC Batch: R113284				PrepDate:		Analyst: CL
Lead	6.1	0.042	1.0	mg/L	20	9/24/2009 02:27 PM	
LEAD BY ATOMIC ABSORPTION							
				WET DI/ EPA 7420			
RunID: AA2_090928A	QC Batch: 58467				PrepDate: 9/25/2009		Analyst: IL
Lead	ND	0.21	0.25	mg/L	1	9/28/2009 11:35 AM	
LEAD BY ATOMIC ABSORPTION (TCLP)							
				EPA 1311/ 7420			
RunID: AA2_090929A	QC Batch: 58504				PrepDate: 9/28/2009		Analyst: IL
Lead	ND	0.21	0.25	mg/L	1	9/29/2009 11:13 AM	

Qualifiers: B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
Results are wet unless otherwise specified

E Value above quantitation range
J Analyte detected below quantitation limits
S Spike/Surrogate outside of limits due to matrix interferenc
DO Surrogate Diluted Out



CLIENT: Geocon Consultants, Inc.
Work Order: 107234
Project: 280 RAMP METERING, E8435-06-38

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_ST

Sample ID: MB-58375A	SampType: MBLK	TestCode: 6010_ST	Units: mg/L	Prep Date:	RunNo: 113284						
Client ID: PBS	Batch ID: R113284	TestNo: WET/ EPA 60		Analysis Date: 9/24/2009	SeqNo: 1791439						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	0.050									
Lead	ND	0.050									

Sample ID: LCS-58375	SampType: LCS	TestCode: 6010_ST	Units: mg/L	Prep Date:	RunNo: 113284						
Client ID: LCSS	Batch ID: R113284	TestNo: WET/ EPA 60		Analysis Date: 9/24/2009	SeqNo: 1791440						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.964	0.050	1.000	0	96.4	85	115				
Lead	0.998	0.050	1.000	0	99.8	85	115				

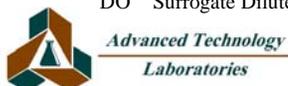
Sample ID: 107234-025ADUP	SampType: DUP	TestCode: 6010_ST	Units: mg/L	Prep Date:	RunNo: 113284						
Client ID: ELS-3-0	Batch ID: R113284	TestNo: WET/ EPA 60		Analysis Date: 9/24/2009	SeqNo: 1791451						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.176	1.0						0.1745	0	20	
Lead	9.865	1.0						10.02	1.58	20	

Sample ID: 107234-025AMS	SampType: MS	TestCode: 6010_ST	Units: mg/L	Prep Date:	RunNo: 113284						
Client ID: ELS-3-0	Batch ID: R113284	TestNo: WET/ EPA 60		Analysis Date: 9/24/2009	SeqNo: 1791452						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	2.454	1.0	2.500	0.1745	91.2	77	116				
Lead	11.745	1.0	2.500	10.02	68.9	71	121				S

Sample ID: MB-58375B	SampType: MBLK	TestCode: 6010_ST	Units: mg/L	Prep Date:	RunNo: 113284						
Client ID: PBS	Batch ID: R113284	TestNo: WET/ EPA 60		Analysis Date: 9/24/2009	SeqNo: 1791453						
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
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference



CLIENT: Geocon Consultants, Inc.
Work Order: 107234
Project: 280 RAMP METERING, E8435-06-38

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_ST

Sample ID: MB-58375B	SampType: MBLK	TestCode: 6010_ST	Units: mg/L	Prep Date:	RunNo: 113284						
Client ID: PBS	Batch ID: R113284	TestNo: WET/ EPA 60		Analysis Date: 9/24/2009	SeqNo: 1791453						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	0.050									
Lead	ND	0.050									

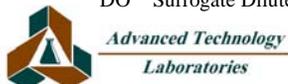
Sample ID: 107304-072ADUP	SampType: DUP	TestCode: 6010_ST	Units: mg/L	Prep Date:	RunNo: 113284						
Client ID: ZZZZZZ	Batch ID: R113284	TestNo: WET/ EPA 60		Analysis Date: 9/24/2009	SeqNo: 1791460						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.075	1.0						0.07234	0	20	
Lead	0.569	1.0						0.5673	0	20	

Sample ID: 107304-072AMS	SampType: MS	TestCode: 6010_ST	Units: mg/L	Prep Date:	RunNo: 113284						
Client ID: ZZZZZZ	Batch ID: R113284	TestNo: WET/ EPA 60		Analysis Date: 9/24/2009	SeqNo: 1791461						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	2.419	1.0	2.500	0.07234	93.9	77	116				
Lead	2.860	1.0	2.500	0.5673	91.7	71	121				

Sample ID: 107304-072AMSD	SampType: MSD	TestCode: 6010_ST	Units: mg/L	Prep Date:	RunNo: 113284						
Client ID: ZZZZZZ	Batch ID: R113284	TestNo: WET/ EPA 60		Analysis Date: 9/24/2009	SeqNo: 1791462						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	2.481	1.0	2.500	0.07234	96.4	77	116	2.419	2.53	20	
Lead	2.940	1.0	2.500	0.5673	94.9	71	121	2.860	2.76	20	

Qualifiers:

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



CLIENT: Geocon Consultants, Inc.
Work Order: 107234
Project: 280 RAMP METERING, E8435-06-38

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI_GEOCON

Sample ID: MB-58467A	SampType: MBLK	TestCode: 7420_DI_GE	Units: mg/L	Prep Date: 9/25/2009	RunNo: 113380						
Client ID: PBS	Batch ID: 58467	TestNo: WET DI/ EPA WET		Analysis Date: 9/28/2009	SeqNo: 1793372						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.25

Sample ID: LCS-58467	SampType: LCS	TestCode: 7420_DI_GE	Units: mg/L	Prep Date: 9/25/2009	RunNo: 113380						
Client ID: LCSS	Batch ID: 58467	TestNo: WET DI/ EPA WET		Analysis Date: 9/28/2009	SeqNo: 1793373						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 4.958 0.25 5.000 0 99.2 80 120

Sample ID: 107234-025A-DUP	SampType: DUP	TestCode: 7420_DI_GE	Units: mg/L	Prep Date: 9/25/2009	RunNo: 113380						
Client ID: ELS-3-0	Batch ID: 58467	TestNo: WET DI/ EPA WET		Analysis Date: 9/28/2009	SeqNo: 1793384						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.25 0 0 20

Sample ID: 107234-025A-MS	SampType: MS	TestCode: 7420_DI_GE	Units: mg/L	Prep Date: 9/25/2009	RunNo: 113380						
Client ID: ELS-3-0	Batch ID: 58467	TestNo: WET DI/ EPA WET		Analysis Date: 9/28/2009	SeqNo: 1793385						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

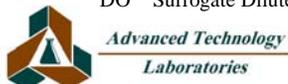
Lead 5.272 0.25 5.000 0 105 70 130

Sample ID: MB-58467B	SampType: MBLK	TestCode: 7420_DI_GE	Units: mg/L	Prep Date: 9/25/2009	RunNo: 113380						
Client ID: PBS	Batch ID: 58467	TestNo: WET DI/ EPA WET		Analysis Date: 9/28/2009	SeqNo: 1793386						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.25

Qualifiers:

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



CLIENT: Geocon Consultants, Inc.
Work Order: 107234
Project: 280 RAMP METERING, E8435-06-38

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_DI_GEOCON

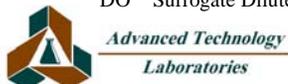
Sample ID: 107324-031A-DUP	SampType: DUP	TestCode: 7420_DI_GE	Units: mg/L	Prep Date: 9/25/2009	RunNo: 113380						
Client ID: ZZZZZZ	Batch ID: 58467	TestNo: WET DI/ EPA WET		Analysis Date: 9/28/2009	SeqNo: 1793397						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.25						0	0	20	

Sample ID: 107324-031A-MS	SampType: MS	TestCode: 7420_DI_GE	Units: mg/L	Prep Date: 9/25/2009	RunNo: 113380						
Client ID: ZZZZZZ	Batch ID: 58467	TestNo: WET DI/ EPA WET		Analysis Date: 9/28/2009	SeqNo: 1793398						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	5.439	0.25	5.000	0	109	70	130				

Sample ID: 107324-031A-MSD	SampType: MSD	TestCode: 7420_DI_GE	Units: mg/L	Prep Date: 9/25/2009	RunNo: 113380						
Client ID: ZZZZZZ	Batch ID: 58467	TestNo: WET DI/ EPA WET		Analysis Date: 9/28/2009	SeqNo: 1793399						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	5.555	0.25	5.000	0	111	70	130	5.439	2.12	20	

Qualifiers:

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



CLIENT: Geocon Consultants, Inc.
Work Order: 107234
Project: 280 RAMP METERING, E8435-06-38

ANALYTICAL QC SUMMARY REPORT

TestCode: 7420_TC

Sample ID: MB-58504B	SampType: MBLK	TestCode: 7420_TC	Units: mg/L	Prep Date: 9/28/2009	RunNo: 113417						
Client ID: PBS	Batch ID: 58504	TestNo: EPA 1311/ 74 EPA3010A		Analysis Date: 9/29/2009	SeqNo: 1794169						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.25

Sample ID: MB-58469B TCLP	SampType: MBLK	TestCode: 7420_TC	Units: mg/L	Prep Date: 9/28/2009	RunNo: 113417						
Client ID: PBS	Batch ID: 58504	TestNo: EPA 1311/ 74 EPA3010A		Analysis Date: 9/29/2009	SeqNo: 1794170						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.25

Sample ID: 107234-037A-DUP	SampType: DUP	TestCode: 7420_TC	Units: mg/L	Prep Date: 9/28/2009	RunNo: 113417						
Client ID: MRD-4-0	Batch ID: 58504	TestNo: EPA 1311/ 74 EPA3010A		Analysis Date: 9/29/2009	SeqNo: 1794172						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 0.25 0 0 20

Sample ID: 107234-037A-MS	SampType: MS	TestCode: 7420_TC	Units: mg/L	Prep Date: 9/28/2009	RunNo: 113417						
Client ID: MRD-4-0	Batch ID: 58504	TestNo: EPA 1311/ 74 EPA3010A		Analysis Date: 9/29/2009	SeqNo: 1794174						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

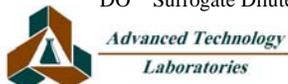
Lead 2.906 0.25 2.500 0 116 70 130

Sample ID: 107234-037A-MSD	SampType: MSD	TestCode: 7420_TC	Units: mg/L	Prep Date: 9/28/2009	RunNo: 113417						
Client ID: MRD-4-0	Batch ID: 58504	TestNo: EPA 1311/ 74 EPA3010A		Analysis Date: 9/29/2009	SeqNo: 1794175						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 2.921 0.25 2.500 0 117 70 130 2.906 0.499 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 | |



Diane Galvan

From: Lauren Vigliotti [vigliotti@geoconinc.com]
Sent: Monday, September 21, 2009 10:05 AM
To: Diane Galvan
Subject: RE: Results/EDD - 280 RAMP METERING (107234)

HI Diane – just checking that the lab order below have not been further analyzed for WET and/or TCLP as needed based on exceedences of ten times STLC?

Assuming they have not, please run the following samples for WET metal, under expedited TAT (72-hrs is the fastest, correct?)

WET LEAD:

BRD-1-0, BRD-2-0, BRD-3-0, LEL-1-0, LEL-1-1.5, ELS-1-0, ELS-2-0, ELS-3-0, MRD-1-0, MRD-3-0, MRD-3-1.5, MRD-3-2.5, and MRD-4-0.

May also need, but will confirm with you later-

WET CHROMIUM:

BRD-2-0, BRD-3-0, BRD-3-1.5, ELS-2-0, ELS-2-1.5, ELS-3-0, 'MRD-1-0, MRD-3-0, and MRD-3-1.5.

Thanks for your help!
-Lauren

Lauren Vigliotti
Senior Staff Geologist

Please visit our new website at <http://www.geoconinc.com>

Geocon Consultants, Inc

6671 Brisa Street
Livermore, CA 94550
Tel (925) 371-5900
Cell (925) 768-9874



GEOTECHNICAL ENVIRONMENTAL MATERIALS

San Diego Murrieta Burbank San Bernardino Bakersfield Sacramento Livermore Carson City Las Vegas Portland

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Diane Galvan

From: Lauren Vigliotti [vigliotti@geoconinc.com]
Sent: Tuesday, September 22, 2009 9:19 AM
To: Diane Galvan
Subject: FW: Results/EDD - 280 RAMP METERING (107234)

Hi Diane:

As indicated in the message below, please proceed with 1) WET chromium analyses, 2) further analyze any samples that exceed 5 mg/l WET lead for DI-WET lead, and 3) further analyze any samples that exceed 100 mg/kg total lead AND 5 mg/l WET lead for TCLP lead.

All analyses at expedited TAT (72-hr). Thanks.

Lauren Vigliotti
 Senior Staff Geologist

From: Lauren Vigliotti [mailto:vigliotti@geoconinc.com]
Sent: Monday, September 21, 2009 10:05 AM
To: 'Diane Galvan'
Subject: RE: Results/EDD - 280 RAMP METERING (107234)

Hi Diane – just checking that the lab order below have not been further analyzed for WET and/or TCLP as needed based on exceedences of ten times STLC?

Assuming they have not, please run the following samples for WET metal, under expedited TAT (72-hrs is the fastest, correct?)

WET LEAD:

BRD-1-0, BRD-2-0, BRD-3-0, LEL-1-0, LEL-1-1.5, ELS-1-0, ELS-2-0, ELS-3-0, MRD-1-0, MRD-3-0, MRD-3-1.5, MRD-3-2.5, and MRD-4-0.

May also need, but will confirm with you later-

WET CHROMIUM:

BRD-2-0, BRD-3-0, BRD-3-1.5, ELS-2-0, ELS-2-1.5, ELS-3-0, 'MRD-1-0, MRD-3-0, and MRD-3-1.5.

Thanks for your help!

-Lauren

Lauren Vigliotti
 Senior Staff Geologist

Please visit our new website at <http://www.geoconinc.com>

Geocon Consultants, Inc

6671 Brisa Street
 Livermore, CA 94550
 Tel (925) 371-5900
 Cell (925) 768-9874



GEOTECHNICAL ENVIRONMENTAL MATERIALS

San Diego Murrieta Burbank San Bernardino Bakersfield Sacramento Livermore Carson City Las Vegas
 Portland

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9/22/2009

September 11, 2009



Lauren Vigliotti
Geocon Consultants, Inc.
6671 Brisa Street
Livermore, CA 94550
TEL: (925) 371-5900
FAX: (925) 371-5915

ELAP No.: 1838
NELAP No.: 02107CA
NEVADA.: CA-401
CSDLAC No.: 10196

Workorder No.: 107234

RE: 280 RAMP METERING, E8435-06-38

Attention: Lauren Vigliotti

Enclosed are the results for sample(s) received on September 03, 2009 by Advanced Technology Laboratories . The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

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

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

Sincerely,


Eddie F. Rodriguez
Laboratory Director

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



Advanced Technology
Laboratories

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

CLIENT: Geocon Consultants, Inc.
Project: 280 RAMP METERING, E8435-06-38
Lab Order: 107234

CASE NARRATIVE

Analytical Comments for Method 6010

RPD for Duplicate (DUP) is outside criteria for samples 107234-016ADUP, 107234-029ADUP and 107234-039ADUP; however, the Laboratory Control Sample (LCS) validated the analytical batch.



ANALYTICAL RESULTS

**LEAD BY ICP
EPA 6010B**

CLIENT:	Geocon Consultants, Inc.	Lab Order:	107234
Project:	280 RAMP METERING, E8435-06-38	Date Received	9/3/2009 8:29:00 AM
Project No:		Matrix:	Soil
Analyte:	Lead	Analyst:	CL

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
107234-001A	BRD-1-0	150	mg/Kg	57998	5.0	1	9/2/2009	9/10/2009
107234-002A	BRD-1-1.5	8.6	mg/Kg	57998	5.0	1	9/2/2009	9/10/2009
107234-003A	BRD-1-2.5	8.2	mg/Kg	57998	5.0	1	9/2/2009	9/10/2009
107234-013A	LEL-2-0	26	mg/Kg	57998	5.0	1	9/2/2009	9/10/2009
107234-014A	LEL-2-1.5	7.0	mg/Kg	57998	5.0	1	9/2/2009	9/10/2009
107234-015A	LEL-2-2.5	6.6	mg/Kg	57998	5.0	1	9/2/2009	9/10/2009
107234-019A	ELS-1-0	480	mg/Kg	57998	5.0	1	9/2/2009	9/10/2009
107234-020A	ELS-1-1.5	19	mg/Kg	57998	5.0	1	9/2/2009	9/10/2009
107234-021A	ELS-1-2.5	17	mg/Kg	57998	5.0	1	9/2/2009	9/10/2009
107234-031A	MRD-2-0	32	mg/Kg	57998	5.0	1	9/2/2009	9/10/2009
107234-032A	MRD-2-1.5	29	mg/Kg	57998	5.0	1	9/2/2009	9/10/2009
107234-033A	MRD-2-2.5	18	mg/Kg	57998	5.0	1	9/2/2009	9/10/2009
107234-037A	MRD-4-0	210	mg/Kg	57998	5.0	1	9/2/2009	9/10/2009
107234-038A	MRD-4-1.5	45	mg/Kg	57998	5.0	1	9/2/2009	9/10/2009
107234-039A	MRD-4-2.5	17	mg/Kg	57998	5.0	1	9/2/2009	9/10/2009

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



ANALYTICAL RESULTS

**pH
EPA 9045C**

CLIENT:	Geocon Consultants, Inc.	Lab Order:	107234
Project:	280 RAMP METERING, E8435-06-38	Date Received	9/3/2009 8:29:00 AM
Project No:		Matrix:	Soil
Analyte:	pH	Analyst:	DDL

Laboratory ID	Client Sample ID	Results	Units	QC Batch	PQL	DF	Date Collected	Date Analyzed
107234-001A	BRD-1-0	6.8	pH Units	R112603	0.10	1	9/2/2009	9/8/2009
107234-007A	BRD-3-0	6.8	pH Units	R112603	0.10	1	9/2/2009	9/8/2009
107234-011A	LEL-1-1.5	7.5	pH Units	R112603	0.10	1	9/2/2009	9/8/2009
107234-017A	LEL-3-1.5	7.2	pH Units	R112603	0.10	1	9/2/2009	9/8/2009
107234-021A	ELS-1-2.5	7.9	pH Units	R112603	0.10	1	9/2/2009	9/8/2009
107234-024A	ELS-2-2.5	7.5	pH Units	R112603	0.10	1	9/2/2009	9/8/2009
107234-027A	ELS-3-2.5	7.2	pH Units	R112603	0.10	1	9/2/2009	9/8/2009
107234-031A	MRD-2-0	6.9	pH Units	R112603	0.10	1	9/2/2009	9/8/2009
107234-037A	MRD-4-0	7.7	pH Units	R112603	0.10	1	9/2/2009	9/8/2009
107234-039A	MRD-4-2.5	8.1	pH Units	R112603	0.10	1	9/2/2009	9/8/2009

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



Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: 11-Sep-09

CLIENT: Geocon Consultants, Inc.
Lab Order: 107234
Project: 280 RAMP METERING, E8435-06-38
Lab ID: 107234-004A

Client Sample ID: BRD-2-0
Collection Date: 9/2/2009
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP METALS

EPA 3050B

EPA 6010B

RunID:	ICP8_090910E	QC Batch:	57993	PrepDate:	9/9/2009	Analyst:	CL
Antimony	ND	2.0	mg/Kg	1	9/10/2009 01:02 PM		
Arsenic	ND	1.0	mg/Kg	1	9/10/2009 01:02 PM		
Barium	140	1.0	mg/Kg	1	9/10/2009 01:02 PM		
Beryllium	ND	1.0	mg/Kg	1	9/10/2009 01:02 PM		
Cadmium	1.1	1.0	mg/Kg	1	9/10/2009 01:02 PM		
Chromium	58	1.0	mg/Kg	1	9/10/2009 01:02 PM		
Cobalt	9.7	1.0	mg/Kg	1	9/10/2009 01:02 PM		
Copper	36	2.0	mg/Kg	1	9/10/2009 01:02 PM		
Lead	300	1.0	mg/Kg	1	9/10/2009 01:02 PM		
Molybdenum	1.8	1.0	mg/Kg	1	9/10/2009 01:02 PM		
Nickel	82	1.0	mg/Kg	1	9/10/2009 01:02 PM		
Selenium	1.5	1.0	mg/Kg	1	9/10/2009 01:02 PM		
Silver	ND	1.0	mg/Kg	1	9/10/2009 01:02 PM		
Thallium	ND	1.0	mg/Kg	1	9/10/2009 01:02 PM		
Vanadium	40	1.0	mg/Kg	1	9/10/2009 01:02 PM		
Zinc	160	1.0	mg/Kg	1	9/10/2009 01:02 PM		

MERCURY BY COLD VAPOR TECHNIQUE

EPA 7471A

RunID:	AA1_090909C	QC Batch:	57988	PrepDate:	9/9/2009	Analyst:	IL
Mercury	0.13	0.10	mg/Kg	1	9/9/2009 04:16 PM		

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



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: 11-Sep-09

CLIENT: Geocon Consultants, Inc.
Lab Order: 107234
Project: 280 RAMP METERING, E8435-06-38
Lab ID: 107234-005A

Client Sample ID: BRD-2-1.5
Collection Date: 9/2/2009
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP METALS

EPA 3050B

EPA 6010B

RunID:	ICP8_090910E	QC Batch:	57993	PrepDate:	9/9/2009	Analyst:	CL
Antimony	ND	2.0	mg/Kg	1	9/10/2009 01:05 PM		
Arsenic	ND	1.0	mg/Kg	1	9/10/2009 01:05 PM		
Barium	84	1.0	mg/Kg	1	9/10/2009 01:05 PM		
Beryllium	ND	1.0	mg/Kg	1	9/10/2009 01:05 PM		
Cadmium	ND	1.0	mg/Kg	1	9/10/2009 01:05 PM		
Chromium	43	1.0	mg/Kg	1	9/10/2009 01:05 PM		
Cobalt	7.0	1.0	mg/Kg	1	9/10/2009 01:05 PM		
Copper	22	2.0	mg/Kg	1	9/10/2009 01:05 PM		
Lead	11	1.0	mg/Kg	1	9/10/2009 01:05 PM		
Molybdenum	1.4	1.0	mg/Kg	1	9/10/2009 01:05 PM		
Nickel	41	1.0	mg/Kg	1	9/10/2009 01:05 PM		
Selenium	1.4	1.0	mg/Kg	1	9/10/2009 01:05 PM		
Silver	ND	1.0	mg/Kg	1	9/10/2009 01:05 PM		
Thallium	ND	1.0	mg/Kg	1	9/10/2009 01:05 PM		
Vanadium	37	1.0	mg/Kg	1	9/10/2009 01:05 PM		
Zinc	43	1.0	mg/Kg	1	9/10/2009 01:05 PM		

MERCURY BY COLD VAPOR TECHNIQUE

EPA 7471A

RunID:	AA1_090909C	QC Batch:	57988	PrepDate:	9/9/2009	Analyst:	IL
Mercury	ND	0.10	mg/Kg	1	9/9/2009 04:18 PM		

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



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: 11-Sep-09

CLIENT: Geocon Consultants, Inc.
Lab Order: 107234
Project: 280 RAMP METERING, E8435-06-38
Lab ID: 107234-006A

Client Sample ID: BRD-2-2.5
Collection Date: 9/2/2009
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP METALS

EPA 3050B

EPA 6010B

RunID:	ICP8_090910E	QC Batch:	57993	PrepDate:	9/9/2009	Analyst:	CL
Antimony	ND	2.0	mg/Kg	1	9/10/2009 01:08 PM		
Arsenic	ND	1.0	mg/Kg	1	9/10/2009 01:08 PM		
Barium	260	1.0	mg/Kg	1	9/10/2009 01:08 PM		
Beryllium	ND	1.0	mg/Kg	1	9/10/2009 01:08 PM		
Cadmium	ND	1.0	mg/Kg	1	9/10/2009 01:08 PM		
Chromium	44	1.0	mg/Kg	1	9/10/2009 01:08 PM		
Cobalt	7.9	1.0	mg/Kg	1	9/10/2009 01:08 PM		
Copper	17	2.0	mg/Kg	1	9/10/2009 01:08 PM		
Lead	6.2	1.0	mg/Kg	1	9/10/2009 01:08 PM		
Molybdenum	1.2	1.0	mg/Kg	1	9/10/2009 01:08 PM		
Nickel	46	1.0	mg/Kg	1	9/10/2009 01:08 PM		
Selenium	ND	1.0	mg/Kg	1	9/10/2009 01:08 PM		
Silver	ND	1.0	mg/Kg	1	9/10/2009 01:08 PM		
Thallium	ND	1.0	mg/Kg	1	9/10/2009 01:08 PM		
Vanadium	44	1.0	mg/Kg	1	9/10/2009 01:08 PM		
Zinc	36	1.0	mg/Kg	1	9/10/2009 01:08 PM		

MERCURY BY COLD VAPOR TECHNIQUE

EPA 7471A

RunID:	AA1_090909C	QC Batch:	57988	PrepDate:	9/9/2009	Analyst:	IL
Mercury	ND	0.10	mg/Kg	1	9/9/2009 04:20 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: 11-Sep-09

CLIENT:	Geocon Consultants, Inc.	Client Sample ID:	BRD-3-0
Lab Order:	107234	Collection Date:	9/2/2009
Project:	280 RAMP METERING, E8435-06-38	Matrix:	SOIL
Lab ID:	107234-007A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP METALS

EPA 3050B

EPA 6010B

RunID: ICP8_090910E	QC Batch: 57993	PrepDate: 9/9/2009	Analyst: CL		
Antimony	ND	2.0	mg/Kg	1	9/10/2009 01:11 PM
Arsenic	ND	1.0	mg/Kg	1	9/10/2009 01:11 PM
Barium	140	1.0	mg/Kg	1	9/10/2009 01:11 PM
Beryllium	ND	1.0	mg/Kg	1	9/10/2009 01:11 PM
Cadmium	ND	1.0	mg/Kg	1	9/10/2009 01:11 PM
Chromium	54	1.0	mg/Kg	1	9/10/2009 01:11 PM
Cobalt	10	1.0	mg/Kg	1	9/10/2009 01:11 PM
Copper	41	2.0	mg/Kg	1	9/10/2009 01:11 PM
Lead	130	1.0	mg/Kg	1	9/10/2009 01:11 PM
Molybdenum	1.5	1.0	mg/Kg	1	9/10/2009 01:11 PM
Nickel	73	1.0	mg/Kg	1	9/10/2009 01:11 PM
Selenium	1.2	1.0	mg/Kg	1	9/10/2009 01:11 PM
Silver	ND	1.0	mg/Kg	1	9/10/2009 01:11 PM
Thallium	ND	1.0	mg/Kg	1	9/10/2009 01:11 PM
Vanadium	41	1.0	mg/Kg	1	9/10/2009 01:11 PM
Zinc	160	1.0	mg/Kg	1	9/10/2009 01:11 PM

MERCURY BY COLD VAPOR TECHNIQUE

EPA 7471A

RunID: AA1_090909C	QC Batch: 57988	PrepDate: 9/9/2009	Analyst: IL		
Mercury	0.21	0.10	mg/Kg	1	9/9/2009 04:22 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: 11-Sep-09

CLIENT: Geocon Consultants, Inc.
Lab Order: 107234
Project: 280 RAMP METERING, E8435-06-38
Lab ID: 107234-008A

Client Sample ID: BRD-3-1.5
Collection Date: 9/2/2009
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP METALS

EPA 3050B

EPA 6010B

RunID:	ICP8_090910E	QC Batch:	57993	PrepDate:	9/9/2009	Analyst:	CL
Antimony	ND	2.0	mg/Kg	1	9/10/2009 01:14 PM		
Arsenic	ND	1.0	mg/Kg	1	9/10/2009 01:14 PM		
Barium	140	1.0	mg/Kg	1	9/10/2009 01:14 PM		
Beryllium	ND	1.0	mg/Kg	1	9/10/2009 01:14 PM		
Cadmium	ND	1.0	mg/Kg	1	9/10/2009 01:14 PM		
Chromium	50	1.0	mg/Kg	1	9/10/2009 01:14 PM		
Cobalt	11	1.0	mg/Kg	1	9/10/2009 01:14 PM		
Copper	27	2.0	mg/Kg	1	9/10/2009 01:14 PM		
Lead	11	1.0	mg/Kg	1	9/10/2009 01:14 PM		
Molybdenum	ND	1.0	mg/Kg	1	9/10/2009 01:14 PM		
Nickel	65	1.0	mg/Kg	1	9/10/2009 01:14 PM		
Selenium	1.6	1.0	mg/Kg	1	9/10/2009 01:14 PM		
Silver	ND	1.0	mg/Kg	1	9/10/2009 01:14 PM		
Thallium	ND	1.0	mg/Kg	1	9/10/2009 01:14 PM		
Vanadium	40	1.0	mg/Kg	1	9/10/2009 01:14 PM		
Zinc	54	1.0	mg/Kg	1	9/10/2009 01:14 PM		

MERCURY BY COLD VAPOR TECHNIQUE

EPA 7471A

RunID:	AA1_090909C	QC Batch:	57988	PrepDate:	9/9/2009	Analyst:	IL
Mercury	ND	0.10	mg/Kg	1	9/9/2009 04:24 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



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ANALYTICAL RESULTS

Print Date: 11-Sep-09

CLIENT: Geocon Consultants, Inc.
Lab Order: 107234
Project: 280 RAMP METERING, E8435-06-38
Lab ID: 107234-009A

Client Sample ID: BRD-3-2.5
Collection Date: 9/2/2009
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP METALS

EPA 3050B

EPA 6010B

RunID:	ICP8_090910E	QC Batch:	57993	PrepDate:	9/9/2009	Analyst:	CL
Antimony	ND	2.0	mg/Kg	1	9/10/2009 01:17 PM		
Arsenic	1.8	1.0	mg/Kg	1	9/10/2009 01:17 PM		
Barium	110	1.0	mg/Kg	1	9/10/2009 01:17 PM		
Beryllium	ND	1.0	mg/Kg	1	9/10/2009 01:17 PM		
Cadmium	ND	1.0	mg/Kg	1	9/10/2009 01:17 PM		
Chromium	42	1.0	mg/Kg	1	9/10/2009 01:17 PM		
Cobalt	7.7	1.0	mg/Kg	1	9/10/2009 01:17 PM		
Copper	25	2.0	mg/Kg	1	9/10/2009 01:17 PM		
Lead	6.2	1.0	mg/Kg	1	9/10/2009 01:17 PM		
Molybdenum	1.1	1.0	mg/Kg	1	9/10/2009 01:17 PM		
Nickel	50	1.0	mg/Kg	1	9/10/2009 01:17 PM		
Selenium	ND	1.0	mg/Kg	1	9/10/2009 01:17 PM		
Silver	ND	1.0	mg/Kg	1	9/10/2009 01:17 PM		
Thallium	ND	1.0	mg/Kg	1	9/10/2009 01:17 PM		
Vanadium	39	1.0	mg/Kg	1	9/10/2009 01:17 PM		
Zinc	58	1.0	mg/Kg	1	9/10/2009 01:17 PM		

MERCURY BY COLD VAPOR TECHNIQUE

EPA 7471A

RunID:	AA1_090909C	QC Batch:	57988	PrepDate:	9/9/2009	Analyst:	IL
Mercury	ND	0.10	mg/Kg	1	9/9/2009 04:30 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



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ANALYTICAL RESULTS

Print Date: 11-Sep-09

CLIENT: Geocon Consultants, Inc.
Lab Order: 107234
Project: 280 RAMP METERING, E8435-06-38
Lab ID: 107234-010A

Client Sample ID: LEL-1-0
Collection Date: 9/2/2009
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP METALS

EPA 3050B

EPA 6010B

RunID:	ICP8_090910E	QC Batch:	57993	PrepDate:	9/9/2009	Analyst:	CL
Antimony	ND	2.0	mg/Kg	1	9/10/2009 01:31 PM		
Arsenic	1.0	1.0	mg/Kg	1	9/10/2009 01:31 PM		
Barium	110	1.0	mg/Kg	1	9/10/2009 01:31 PM		
Beryllium	ND	1.0	mg/Kg	1	9/10/2009 01:31 PM		
Cadmium	ND	1.0	mg/Kg	1	9/10/2009 01:31 PM		
Chromium	39	1.0	mg/Kg	1	9/10/2009 01:31 PM		
Cobalt	8.6	1.0	mg/Kg	1	9/10/2009 01:31 PM		
Copper	28	2.0	mg/Kg	1	9/10/2009 01:31 PM		
Lead	150	1.0	mg/Kg	1	9/10/2009 01:31 PM		
Molybdenum	1.3	1.0	mg/Kg	1	9/10/2009 01:31 PM		
Nickel	54	1.0	mg/Kg	1	9/10/2009 01:31 PM		
Selenium	1.0	1.0	mg/Kg	1	9/10/2009 01:31 PM		
Silver	ND	1.0	mg/Kg	1	9/10/2009 01:31 PM		
Thallium	ND	1.0	mg/Kg	1	9/10/2009 01:31 PM		
Vanadium	34	1.0	mg/Kg	1	9/10/2009 01:31 PM		
Zinc	120	1.0	mg/Kg	1	9/10/2009 01:31 PM		

MERCURY BY COLD VAPOR TECHNIQUE

EPA 7471A

RunID:	AA1_090909C	QC Batch:	57988	PrepDate:	9/9/2009	Analyst:	IL
Mercury	ND	0.10	mg/Kg	1	9/9/2009 04:32 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



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ANALYTICAL RESULTS

Print Date: 11-Sep-09

CLIENT: Geocon Consultants, Inc.
Lab Order: 107234
Project: 280 RAMP METERING, E8435-06-38
Lab ID: 107234-011A

Client Sample ID: LEL-1-1.5
Collection Date: 9/2/2009
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP METALS

RunID:	EPA 3050B			EPA 6010B		
	ICP8_090910E	QC Batch:	57993	PrepDate:	9/9/2009	Analyst: CL
Antimony	ND	2.0	mg/Kg	1	9/10/2009 01:34 PM	
Arsenic	1.1	1.0	mg/Kg	1	9/10/2009 01:34 PM	
Barium	100	1.0	mg/Kg	1	9/10/2009 01:34 PM	
Beryllium	ND	1.0	mg/Kg	1	9/10/2009 01:34 PM	
Cadmium	ND	1.0	mg/Kg	1	9/10/2009 01:34 PM	
Chromium	37	1.0	mg/Kg	1	9/10/2009 01:34 PM	
Cobalt	7.9	1.0	mg/Kg	1	9/10/2009 01:34 PM	
Copper	24	2.0	mg/Kg	1	9/10/2009 01:34 PM	
Lead	210	1.0	mg/Kg	1	9/10/2009 01:34 PM	
Molybdenum	1.2	1.0	mg/Kg	1	9/10/2009 01:34 PM	
Nickel	49	1.0	mg/Kg	1	9/10/2009 01:34 PM	
Selenium	1.3	1.0	mg/Kg	1	9/10/2009 01:34 PM	
Silver	ND	1.0	mg/Kg	1	9/10/2009 01:34 PM	
Thallium	ND	1.0	mg/Kg	1	9/10/2009 01:34 PM	
Vanadium	32	1.0	mg/Kg	1	9/10/2009 01:34 PM	
Zinc	100	1.0	mg/Kg	1	9/10/2009 01:34 PM	

MERCURY BY COLD VAPOR TECHNIQUE

RunID:	EPA 7471A				
	AA1_090909C	QC Batch:	57988	PrepDate:	9/9/2009
Mercury	ND	0.10	mg/Kg	1	9/9/2009 04:34 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



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ANALYTICAL RESULTS

Print Date: 11-Sep-09

CLIENT: Geocon Consultants, Inc.
Lab Order: 107234
Project: 280 RAMP METERING, E8435-06-38
Lab ID: 107234-012A

Client Sample ID: LEL-1-2.5
Collection Date: 9/2/2009
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP METALS

EPA 3050B

EPA 6010B

RunID:	ICP8_090910E	QC Batch:	57993	PrepDate:	9/9/2009	Analyst:	CL
Antimony	ND	2.0	mg/Kg	1	9/10/2009 01:37 PM		
Arsenic	ND	1.0	mg/Kg	1	9/10/2009 01:37 PM		
Barium	90	1.0	mg/Kg	1	9/10/2009 01:37 PM		
Beryllium	ND	1.0	mg/Kg	1	9/10/2009 01:37 PM		
Cadmium	ND	1.0	mg/Kg	1	9/10/2009 01:37 PM		
Chromium	41	1.0	mg/Kg	1	9/10/2009 01:37 PM		
Cobalt	8.6	1.0	mg/Kg	1	9/10/2009 01:37 PM		
Copper	21	2.0	mg/Kg	1	9/10/2009 01:37 PM		
Lead	7.2	1.0	mg/Kg	1	9/10/2009 01:37 PM		
Molybdenum	1.0	1.0	mg/Kg	1	9/10/2009 01:37 PM		
Nickel	54	1.0	mg/Kg	1	9/10/2009 01:37 PM		
Selenium	1.1	1.0	mg/Kg	1	9/10/2009 01:37 PM		
Silver	ND	1.0	mg/Kg	1	9/10/2009 01:37 PM		
Thallium	ND	1.0	mg/Kg	1	9/10/2009 01:37 PM		
Vanadium	34	1.0	mg/Kg	1	9/10/2009 01:37 PM		
Zinc	47	1.0	mg/Kg	1	9/10/2009 01:37 PM		

MERCURY BY COLD VAPOR TECHNIQUE

EPA 7471A

RunID:	AA1_090909C	QC Batch:	57988	PrepDate:	9/9/2009	Analyst:	IL
Mercury	ND	0.10	mg/Kg	1	9/9/2009 04:37 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



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ANALYTICAL RESULTS

Print Date: 11-Sep-09

CLIENT: Geocon Consultants, Inc.
Lab Order: 107234
Project: 280 RAMP METERING, E8435-06-38
Lab ID: 107234-016A

Client Sample ID: LEL-3-0
Collection Date: 9/2/2009
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP METALS

EPA 3050B

EPA 6010B

RunID:	ICP8_090910E	QC Batch:	57993	PrepDate:	9/9/2009	Analyst:	CL
Antimony	ND	2.0	mg/Kg	1	9/10/2009 01:40 PM		
Arsenic	ND	1.0	mg/Kg	1	9/10/2009 01:40 PM		
Barium	130	1.0	mg/Kg	1	9/10/2009 01:40 PM		
Beryllium	ND	1.0	mg/Kg	1	9/10/2009 01:40 PM		
Cadmium	ND	1.0	mg/Kg	1	9/10/2009 01:40 PM		
Chromium	46	1.0	mg/Kg	1	9/10/2009 01:40 PM		
Cobalt	10	1.0	mg/Kg	1	9/10/2009 01:40 PM		
Copper	37	2.0	mg/Kg	1	9/10/2009 01:40 PM		
Lead	19	1.0	mg/Kg	1	9/10/2009 01:40 PM		
Molybdenum	1.8	1.0	mg/Kg	1	9/10/2009 01:40 PM		
Nickel	60	1.0	mg/Kg	1	9/10/2009 01:40 PM		
Selenium	1.2	1.0	mg/Kg	1	9/10/2009 01:40 PM		
Silver	ND	1.0	mg/Kg	1	9/10/2009 01:40 PM		
Thallium	ND	1.0	mg/Kg	1	9/10/2009 01:40 PM		
Vanadium	40	1.0	mg/Kg	1	9/10/2009 01:40 PM		
Zinc	140	1.0	mg/Kg	1	9/10/2009 01:40 PM		

MERCURY BY COLD VAPOR TECHNIQUE

EPA 7471A

RunID:	AA1_090909C	QC Batch:	57988	PrepDate:	9/9/2009	Analyst:	IL
Mercury	ND	0.10	mg/Kg	1	9/9/2009 04:11 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



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ANALYTICAL RESULTS

Print Date: 11-Sep-09

CLIENT: Geocon Consultants, Inc.
Lab Order: 107234
Project: 280 RAMP METERING, E8435-06-38
Lab ID: 107234-017A

Client Sample ID: LEL-3-1.5
Collection Date: 9/2/2009
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP METALS

EPA 3050B

EPA 6010B

RunID:	ICP8_090910F	QC Batch:	57994	PrepDate:	9/9/2009	Analyst:	CL
Antimony	ND	2.0	mg/Kg	1	9/10/2009 01:58 PM		
Arsenic	ND	1.0	mg/Kg	1	9/10/2009 01:58 PM		
Barium	110	1.0	mg/Kg	1	9/10/2009 01:58 PM		
Beryllium	ND	1.0	mg/Kg	1	9/10/2009 01:58 PM		
Cadmium	ND	1.0	mg/Kg	1	9/10/2009 01:58 PM		
Chromium	41	1.0	mg/Kg	1	9/10/2009 01:58 PM		
Cobalt	9.5	1.0	mg/Kg	1	9/10/2009 01:58 PM		
Copper	23	2.0	mg/Kg	1	9/10/2009 01:58 PM		
Lead	5.5	1.0	mg/Kg	1	9/10/2009 01:58 PM		
Molybdenum	1.1	1.0	mg/Kg	1	9/10/2009 01:58 PM		
Nickel	55	1.0	mg/Kg	1	9/10/2009 01:58 PM		
Selenium	ND	1.0	mg/Kg	1	9/10/2009 01:58 PM		
Silver	ND	1.0	mg/Kg	1	9/10/2009 01:58 PM		
Thallium	ND	1.0	mg/Kg	1	9/10/2009 01:58 PM		
Vanadium	34	1.0	mg/Kg	1	9/10/2009 01:58 PM		
Zinc	53	1.0	mg/Kg	1	9/10/2009 01:58 PM		

MERCURY BY COLD VAPOR TECHNIQUE

EPA 7471A

RunID:	AA1_090909D	QC Batch:	57989	PrepDate:	9/9/2009	Analyst:	IL
Mercury	ND	0.10	mg/Kg	1	9/9/2009 05:00 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



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ANALYTICAL RESULTS

Print Date: 11-Sep-09

CLIENT: Geocon Consultants, Inc.
Lab Order: 107234
Project: 280 RAMP METERING, E8435-06-38
Lab ID: 107234-018A

Client Sample ID: LEL-3-2.5
Collection Date: 9/2/2009
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP METALS

RunID:	EPA 3050B			EPA 6010B		
	ICP8_090910F	QC Batch:	57994	PrepDate:	9/9/2009	Analyst: CL
Antimony	ND	2.0	mg/Kg	1	9/10/2009 02:07 PM	
Arsenic	1.6	1.0	mg/Kg	1	9/10/2009 02:07 PM	
Barium	110	1.0	mg/Kg	1	9/10/2009 02:07 PM	
Beryllium	ND	1.0	mg/Kg	1	9/10/2009 02:07 PM	
Cadmium	ND	1.0	mg/Kg	1	9/10/2009 02:07 PM	
Chromium	40	1.0	mg/Kg	1	9/10/2009 02:07 PM	
Cobalt	9.7	1.0	mg/Kg	1	9/10/2009 02:07 PM	
Copper	24	2.0	mg/Kg	1	9/10/2009 02:07 PM	
Lead	5.8	1.0	mg/Kg	1	9/10/2009 02:07 PM	
Molybdenum	1.2	1.0	mg/Kg	1	9/10/2009 02:07 PM	
Nickel	57	1.0	mg/Kg	1	9/10/2009 02:07 PM	
Selenium	ND	1.0	mg/Kg	1	9/10/2009 02:07 PM	
Silver	ND	1.0	mg/Kg	1	9/10/2009 02:07 PM	
Thallium	ND	1.0	mg/Kg	1	9/10/2009 02:07 PM	
Vanadium	37	1.0	mg/Kg	1	9/10/2009 02:07 PM	
Zinc	53	1.0	mg/Kg	1	9/10/2009 02:07 PM	

MERCURY BY COLD VAPOR TECHNIQUE

RunID:	EPA 7471A				
	AA1_090909D	QC Batch:	57989	PrepDate:	9/9/2009
Mercury	ND	0.10	mg/Kg	1	9/9/2009 05:02 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



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ANALYTICAL RESULTS

Print Date: 11-Sep-09

CLIENT: Geocon Consultants, Inc.
Lab Order: 107234
Project: 280 RAMP METERING, E8435-06-38
Lab ID: 107234-022A

Client Sample ID: ELS-2-0
Collection Date: 9/2/2009
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP METALS

EPA 3050B

EPA 6010B

RunID:	ICP8_090910F	QC Batch:	57994	PrepDate:	9/9/2009	Analyst:	CL
Antimony	ND	2.0	mg/Kg	1	9/10/2009 02:10 PM		
Arsenic	2.1	1.0	mg/Kg	1	9/10/2009 02:10 PM		
Barium	130	1.0	mg/Kg	1	9/10/2009 02:10 PM		
Beryllium	ND	1.0	mg/Kg	1	9/10/2009 02:10 PM		
Cadmium	ND	1.0	mg/Kg	1	9/10/2009 02:10 PM		
Chromium	130	1.0	mg/Kg	1	9/10/2009 02:10 PM		
Cobalt	13	1.0	mg/Kg	1	9/10/2009 02:10 PM		
Copper	36	2.0	mg/Kg	1	9/10/2009 02:10 PM		
Lead	380	1.0	mg/Kg	1	9/10/2009 02:10 PM		
Molybdenum	1.4	1.0	mg/Kg	1	9/10/2009 02:10 PM		
Nickel	210	1.0	mg/Kg	1	9/10/2009 02:10 PM		
Selenium	1.4	1.0	mg/Kg	1	9/10/2009 02:10 PM		
Silver	ND	1.0	mg/Kg	1	9/10/2009 02:10 PM		
Thallium	ND	1.0	mg/Kg	1	9/10/2009 02:10 PM		
Vanadium	37	1.0	mg/Kg	1	9/10/2009 02:10 PM		
Zinc	160	1.0	mg/Kg	1	9/10/2009 02:10 PM		

MERCURY BY COLD VAPOR TECHNIQUE

EPA 7471A

RunID:	AA1_090909D	QC Batch:	57989	PrepDate:	9/9/2009	Analyst:	IL
Mercury	0.19	0.10	mg/Kg	1	9/9/2009 05:04 PM		

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



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Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: 11-Sep-09

CLIENT: Geocon Consultants, Inc.
Lab Order: 107234
Project: 280 RAMP METERING, E8435-06-38
Lab ID: 107234-023A

Client Sample ID: ELS-2-1.5
Collection Date: 9/2/2009
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP METALS

EPA 3050B

EPA 6010B

RunID:	ICP8_090910F	QC Batch:	57994	PrepDate:	9/9/2009	Analyst:	CL
Antimony	ND	2.0	mg/Kg	1	9/10/2009 02:13 PM		
Arsenic	1.0	1.0	mg/Kg	1	9/10/2009 02:13 PM		
Barium	130	1.0	mg/Kg	1	9/10/2009 02:13 PM		
Beryllium	ND	1.0	mg/Kg	1	9/10/2009 02:13 PM		
Cadmium	ND	1.0	mg/Kg	1	9/10/2009 02:13 PM		
Chromium	66	1.0	mg/Kg	1	9/10/2009 02:13 PM		
Cobalt	12	1.0	mg/Kg	1	9/10/2009 02:13 PM		
Copper	27	2.0	mg/Kg	1	9/10/2009 02:13 PM		
Lead	47	1.0	mg/Kg	1	9/10/2009 02:13 PM		
Molybdenum	1.1	1.0	mg/Kg	1	9/10/2009 02:13 PM		
Nickel	99	1.0	mg/Kg	1	9/10/2009 02:13 PM		
Selenium	1.1	1.0	mg/Kg	1	9/10/2009 02:13 PM		
Silver	ND	1.0	mg/Kg	1	9/10/2009 02:13 PM		
Thallium	ND	1.0	mg/Kg	1	9/10/2009 02:13 PM		
Vanadium	41	1.0	mg/Kg	1	9/10/2009 02:13 PM		
Zinc	65	1.0	mg/Kg	1	9/10/2009 02:13 PM		

MERCURY BY COLD VAPOR TECHNIQUE

EPA 7471A

RunID:	AA1_090909D	QC Batch:	57989	PrepDate:	9/9/2009	Analyst:	IL
Mercury	0.14	0.10	mg/Kg	1	9/9/2009 05:06 PM		

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



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: 11-Sep-09

CLIENT: Geocon Consultants, Inc.
Lab Order: 107234
Project: 280 RAMP METERING, E8435-06-38
Lab ID: 107234-024A

Client Sample ID: ELS-2-2.5
Collection Date: 9/2/2009
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP METALS

EPA 3050B

EPA 6010B

RunID:	ICP8_090910F	QC Batch:	57994	PrepDate:	9/9/2009	Analyst:	CL
Antimony	ND	2.0	mg/Kg	1	9/10/2009 02:16 PM		
Arsenic	ND	1.0	mg/Kg	1	9/10/2009 02:16 PM		
Barium	120	1.0	mg/Kg	1	9/10/2009 02:16 PM		
Beryllium	ND	1.0	mg/Kg	1	9/10/2009 02:16 PM		
Cadmium	ND	1.0	mg/Kg	1	9/10/2009 02:16 PM		
Chromium	47	1.0	mg/Kg	1	9/10/2009 02:16 PM		
Cobalt	10	1.0	mg/Kg	1	9/10/2009 02:16 PM		
Copper	25	2.0	mg/Kg	1	9/10/2009 02:16 PM		
Lead	12	1.0	mg/Kg	1	9/10/2009 02:16 PM		
Molybdenum	1.0	1.0	mg/Kg	1	9/10/2009 02:16 PM		
Nickel	70	1.0	mg/Kg	1	9/10/2009 02:16 PM		
Selenium	1.1	1.0	mg/Kg	1	9/10/2009 02:16 PM		
Silver	ND	1.0	mg/Kg	1	9/10/2009 02:16 PM		
Thallium	ND	1.0	mg/Kg	1	9/10/2009 02:16 PM		
Vanadium	37	1.0	mg/Kg	1	9/10/2009 02:16 PM		
Zinc	54	1.0	mg/Kg	1	9/10/2009 02:16 PM		

MERCURY BY COLD VAPOR TECHNIQUE

EPA 7471A

RunID:	AA1_090909D	QC Batch:	57989	PrepDate:	9/9/2009	Analyst:	IL
Mercury	0.24	0.10	mg/Kg	1	9/9/2009 05:08 PM		

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



Advanced Technology Laboratories

ANALYTICAL RESULTS

Print Date: 11-Sep-09

CLIENT: Geocon Consultants, Inc.
Lab Order: 107234
Project: 280 RAMP METERING, E8435-06-38
Lab ID: 107234-025A

Client Sample ID: ELS-3-0
Collection Date: 9/2/2009
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP METALS

EPA 3050B

EPA 6010B

RunID:	ICP8_090910F	QC Batch:	57994	PrepDate:	9/9/2009	Analyst:	CL
Antimony	ND	2.0	mg/Kg	1	9/10/2009 02:19 PM		
Arsenic	13	1.0	mg/Kg	1	9/10/2009 02:19 PM		
Barium	150	1.0	mg/Kg	1	9/10/2009 02:19 PM		
Beryllium	ND	1.0	mg/Kg	1	9/10/2009 02:19 PM		
Cadmium	1.1	1.0	mg/Kg	1	9/10/2009 02:19 PM		
Chromium	54	1.0	mg/Kg	1	9/10/2009 02:19 PM		
Cobalt	11	1.0	mg/Kg	1	9/10/2009 02:19 PM		
Copper	45	2.0	mg/Kg	1	9/10/2009 02:19 PM		
Lead	190	1.0	mg/Kg	1	9/10/2009 02:19 PM		
Molybdenum	1.5	1.0	mg/Kg	1	9/10/2009 02:19 PM		
Nickel	84	1.0	mg/Kg	1	9/10/2009 02:19 PM		
Selenium	1.1	1.0	mg/Kg	1	9/10/2009 02:19 PM		
Silver	ND	1.0	mg/Kg	1	9/10/2009 02:19 PM		
Thallium	ND	1.0	mg/Kg	1	9/10/2009 02:19 PM		
Vanadium	33	1.0	mg/Kg	1	9/10/2009 02:19 PM		
Zinc	270	1.0	mg/Kg	1	9/10/2009 02:19 PM		

MERCURY BY COLD VAPOR TECHNIQUE

EPA 7471A

RunID:	AA1_090909D	QC Batch:	57989	PrepDate:	9/9/2009	Analyst:	IL
Mercury	0.16	0.10	mg/Kg	1	9/9/2009 05:10 PM		

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



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ANALYTICAL RESULTS

Print Date: 11-Sep-09

CLIENT:	Geocon Consultants, Inc.	Client Sample ID:	ELS-3-1.5
Lab Order:	107234	Collection Date:	9/2/2009
Project:	280 RAMP METERING, E8435-06-38	Matrix:	SOIL
Lab ID:	107234-026A		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP METALS

EPA 3050B

EPA 6010B

RunID: ICP8_090910F	QC Batch: 57994	PrepDate: 9/9/2009	Analyst: CL		
Antimony	ND	2.0	mg/Kg	1	9/10/2009 02:22 PM
Arsenic	5.6	1.0	mg/Kg	1	9/10/2009 02:22 PM
Barium	170	1.0	mg/Kg	1	9/10/2009 02:22 PM
Beryllium	ND	1.0	mg/Kg	1	9/10/2009 02:22 PM
Cadmium	ND	1.0	mg/Kg	1	9/10/2009 02:22 PM
Chromium	45	1.0	mg/Kg	1	9/10/2009 02:22 PM
Cobalt	11	1.0	mg/Kg	1	9/10/2009 02:22 PM
Copper	28	2.0	mg/Kg	1	9/10/2009 02:22 PM
Lead	19	1.0	mg/Kg	1	9/10/2009 02:22 PM
Molybdenum	ND	1.0	mg/Kg	1	9/10/2009 02:22 PM
Nickel	66	1.0	mg/Kg	1	9/10/2009 02:22 PM
Selenium	1.4	1.0	mg/Kg	1	9/10/2009 02:22 PM
Silver	ND	1.0	mg/Kg	1	9/10/2009 02:22 PM
Thallium	ND	1.0	mg/Kg	1	9/10/2009 02:22 PM
Vanadium	33	1.0	mg/Kg	1	9/10/2009 02:22 PM
Zinc	64	1.0	mg/Kg	1	9/10/2009 02:22 PM

MERCURY BY COLD VAPOR TECHNIQUE

EPA 7471A

RunID: AA1_090909D	QC Batch: 57989	PrepDate: 9/9/2009	Analyst: IL		
Mercury	ND	0.10	mg/Kg	1	9/9/2009 05:12 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	



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ANALYTICAL RESULTS

Print Date: 11-Sep-09

CLIENT: Geocon Consultants, Inc.
Lab Order: 107234
Project: 280 RAMP METERING, E8435-06-38
Lab ID: 107234-027A

Client Sample ID: ELS-3-2.5
Collection Date: 9/2/2009
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP METALS

RunID:	EPA 3050B			EPA 6010B		
	ICP8_090910F	QC Batch:	57994	PrepDate:	9/9/2009	Analyst: CL
Antimony	ND	2.0	mg/Kg	1	9/10/2009 02:25 PM	
Arsenic	5.5	1.0	mg/Kg	1	9/10/2009 02:25 PM	
Barium	150	1.0	mg/Kg	1	9/10/2009 02:25 PM	
Beryllium	ND	1.0	mg/Kg	1	9/10/2009 02:25 PM	
Cadmium	ND	1.0	mg/Kg	1	9/10/2009 02:25 PM	
Chromium	48	1.0	mg/Kg	1	9/10/2009 02:25 PM	
Cobalt	11	1.0	mg/Kg	1	9/10/2009 02:25 PM	
Copper	28	2.0	mg/Kg	1	9/10/2009 02:25 PM	
Lead	8.0	1.0	mg/Kg	1	9/10/2009 02:25 PM	
Molybdenum	ND	1.0	mg/Kg	1	9/10/2009 02:25 PM	
Nickel	73	1.0	mg/Kg	1	9/10/2009 02:25 PM	
Selenium	ND	1.0	mg/Kg	1	9/10/2009 02:25 PM	
Silver	ND	1.0	mg/Kg	1	9/10/2009 02:25 PM	
Thallium	ND	1.0	mg/Kg	1	9/10/2009 02:25 PM	
Vanadium	33	1.0	mg/Kg	1	9/10/2009 02:25 PM	
Zinc	55	1.0	mg/Kg	1	9/10/2009 02:25 PM	

MERCURY BY COLD VAPOR TECHNIQUE

RunID:	EPA 7471A				
	AA1_090909D	QC Batch:	57989	PrepDate:	9/9/2009
Mercury	ND	0.10	mg/Kg	1	9/9/2009 05:14 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



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ANALYTICAL RESULTS

Print Date: 11-Sep-09

CLIENT: Geocon Consultants, Inc.
Lab Order: 107234
Project: 280 RAMP METERING, E8435-06-38
Lab ID: 107234-028A

Client Sample ID: MRD-1-0
Collection Date: 9/2/2009
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP METALS

RunID:	EPA 3050B			EPA 6010B		
	ICP8_090910F	QC Batch:	57994	PrepDate:	9/9/2009	Analyst: CL
Antimony	ND	2.0	mg/Kg	1	9/10/2009 02:28 PM	
Arsenic	ND	1.0	mg/Kg	1	9/10/2009 02:28 PM	
Barium	110	1.0	mg/Kg	1	9/10/2009 02:28 PM	
Beryllium	ND	1.0	mg/Kg	1	9/10/2009 02:28 PM	
Cadmium	1.0	1.0	mg/Kg	1	9/10/2009 02:28 PM	
Chromium	68	1.0	mg/Kg	1	9/10/2009 02:28 PM	
Cobalt	9.9	1.0	mg/Kg	1	9/10/2009 02:28 PM	
Copper	50	2.0	mg/Kg	1	9/10/2009 02:28 PM	
Lead	310	1.0	mg/Kg	1	9/10/2009 02:28 PM	
Molybdenum	1.3	1.0	mg/Kg	1	9/10/2009 02:28 PM	
Nickel	91	1.0	mg/Kg	1	9/10/2009 02:28 PM	
Selenium	ND	1.0	mg/Kg	1	9/10/2009 02:28 PM	
Silver	ND	1.0	mg/Kg	1	9/10/2009 02:28 PM	
Thallium	ND	1.0	mg/Kg	1	9/10/2009 02:28 PM	
Vanadium	40	1.0	mg/Kg	1	9/10/2009 02:28 PM	
Zinc	210	1.0	mg/Kg	1	9/10/2009 02:28 PM	

MERCURY BY COLD VAPOR TECHNIQUE

RunID:	EPA 7471A				
	AA1_090909D	QC Batch:	57989	PrepDate:	9/9/2009
Mercury	0.11	0.10	mg/Kg	1	9/9/2009 05:21 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

ANALYTICAL RESULTS

Print Date: 11-Sep-09

CLIENT: Geocon Consultants, Inc.
Lab Order: 107234
Project: 280 RAMP METERING, E8435-06-38
Lab ID: 107234-029A

Client Sample ID: MRD-1-1.5
Collection Date: 9/2/2009
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP METALS

RunID:	EPA 3050B			EPA 6010B		
	ICP8_090910F	QC Batch:	57994	PrepDate:	9/9/2009	Analyst: CL
Antimony	ND	2.0	mg/Kg	1	9/10/2009 02:31 PM	
Arsenic	ND	1.0	mg/Kg	1	9/10/2009 02:31 PM	
Barium	71	1.0	mg/Kg	1	9/10/2009 02:31 PM	
Beryllium	ND	1.0	mg/Kg	1	9/10/2009 02:31 PM	
Cadmium	ND	1.0	mg/Kg	1	9/10/2009 02:31 PM	
Chromium	41	1.0	mg/Kg	1	9/10/2009 02:31 PM	
Cobalt	7.6	1.0	mg/Kg	1	9/10/2009 02:31 PM	
Copper	19	2.0	mg/Kg	1	9/10/2009 02:31 PM	
Lead	7.9	1.0	mg/Kg	1	9/10/2009 02:31 PM	
Molybdenum	ND	1.0	mg/Kg	1	9/10/2009 02:31 PM	
Nickel	51	1.0	mg/Kg	1	9/10/2009 02:31 PM	
Selenium	ND	1.0	mg/Kg	1	9/10/2009 02:31 PM	
Silver	ND	1.0	mg/Kg	1	9/10/2009 02:31 PM	
Thallium	ND	1.0	mg/Kg	1	9/10/2009 02:31 PM	
Vanadium	38	1.0	mg/Kg	1	9/10/2009 02:31 PM	
Zinc	41	1.0	mg/Kg	1	9/10/2009 02:31 PM	

MERCURY BY COLD VAPOR TECHNIQUE

RunID:	EPA 7471A				
	AA1_090909D	QC Batch:	57989	PrepDate:	9/9/2009
Mercury	ND	0.10	mg/Kg	1	9/9/2009 04:55 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: 11-Sep-09

CLIENT: Geocon Consultants, Inc.
Lab Order: 107234
Project: 280 RAMP METERING, E8435-06-38
Lab ID: 107234-030A

Client Sample ID: MRD-1-2.0
Collection Date: 9/2/2009
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP METALS

EPA 3050B

EPA 6010B

RunID:	ICP8_090910D	QC Batch:	57995	PrepDate:	9/9/2009	Analyst:	CL
Antimony	ND	2.0	mg/Kg	1	9/10/2009 12:21 PM		
Arsenic	ND	1.0	mg/Kg	1	9/10/2009 12:21 PM		
Barium	78	1.0	mg/Kg	1	9/10/2009 12:21 PM		
Beryllium	ND	1.0	mg/Kg	1	9/10/2009 12:21 PM		
Cadmium	ND	1.0	mg/Kg	1	9/10/2009 12:21 PM		
Chromium	40	1.0	mg/Kg	1	9/10/2009 12:21 PM		
Cobalt	9.1	1.0	mg/Kg	1	9/10/2009 12:21 PM		
Copper	26	2.0	mg/Kg	1	9/10/2009 12:21 PM		
Lead	6.4	1.0	mg/Kg	1	9/10/2009 12:21 PM		
Molybdenum	ND	1.0	mg/Kg	1	9/10/2009 12:21 PM		
Nickel	50	1.0	mg/Kg	1	9/10/2009 12:21 PM		
Selenium	ND	1.0	mg/Kg	1	9/10/2009 12:21 PM		
Silver	ND	1.0	mg/Kg	1	9/10/2009 12:21 PM		
Thallium	ND	1.0	mg/Kg	1	9/10/2009 12:21 PM		
Vanadium	45	1.0	mg/Kg	1	9/10/2009 12:21 PM		
Zinc	47	1.0	mg/Kg	1	9/10/2009 12:21 PM		

MERCURY BY COLD VAPOR TECHNIQUE

EPA 7471A

RunID:	AA1_090909E	QC Batch:	57990	PrepDate:	9/9/2009	Analyst:	IL
Mercury	ND	0.10	mg/Kg	1	9/9/2009 05:40 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: 11-Sep-09

CLIENT: Geocon Consultants, Inc.
Lab Order: 107234
Project: 280 RAMP METERING, E8435-06-38
Lab ID: 107234-034A

Client Sample ID: MRD-3-0
Collection Date: 9/2/2009
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP METALS

EPA 3050B

EPA 6010B

RunID:	ICP8_090910D	QC Batch:	57995	PrepDate:	9/9/2009	Analyst:	CL
Antimony	ND	2.0	mg/Kg	1	9/10/2009 12:24 PM		
Arsenic	1.3	1.0	mg/Kg	1	9/10/2009 12:24 PM		
Barium	170	1.0	mg/Kg	1	9/10/2009 12:24 PM		
Beryllium	ND	1.0	mg/Kg	1	9/10/2009 12:24 PM		
Cadmium	1.1	1.0	mg/Kg	1	9/10/2009 12:24 PM		
Chromium	68	1.0	mg/Kg	1	9/10/2009 12:24 PM		
Cobalt	9.3	1.0	mg/Kg	1	9/10/2009 12:24 PM		
Copper	51	2.0	mg/Kg	1	9/10/2009 12:24 PM		
Lead	290	1.0	mg/Kg	1	9/10/2009 12:24 PM		
Molybdenum	1.6	1.0	mg/Kg	1	9/10/2009 12:24 PM		
Nickel	80	1.0	mg/Kg	1	9/10/2009 12:24 PM		
Selenium	ND	1.0	mg/Kg	1	9/10/2009 12:24 PM		
Silver	ND	1.0	mg/Kg	1	9/10/2009 12:24 PM		
Thallium	ND	1.0	mg/Kg	1	9/10/2009 12:24 PM		
Vanadium	43	1.0	mg/Kg	1	9/10/2009 12:24 PM		
Zinc	190	1.0	mg/Kg	1	9/10/2009 12:24 PM		

MERCURY BY COLD VAPOR TECHNIQUE

EPA 7471A

RunID:	AA1_090909E	QC Batch:	57990	PrepDate:	9/9/2009	Analyst:	IL
Mercury	0.26	0.10	mg/Kg	1	9/9/2009 05:46 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



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ANALYTICAL RESULTS

Print Date: 11-Sep-09

CLIENT: Geocon Consultants, Inc.
Lab Order: 107234
Project: 280 RAMP METERING, E8435-06-38
Lab ID: 107234-035A

Client Sample ID: MRD-3-1.5
Collection Date: 9/2/2009
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP METALS

EPA 3050B

EPA 6010B

RunID:	ICP8_090910D	QC Batch:	57995	PrepDate:	9/9/2009	Analyst:	CL
Antimony	ND	2.0	mg/Kg	1	9/10/2009 12:28 PM		
Arsenic	2.4	1.0	mg/Kg	1	9/10/2009 12:28 PM		
Barium	170	1.0	mg/Kg	1	9/10/2009 12:28 PM		
Beryllium	ND	1.0	mg/Kg	1	9/10/2009 12:28 PM		
Cadmium	ND	1.0	mg/Kg	1	9/10/2009 12:28 PM		
Chromium	56	1.0	mg/Kg	1	9/10/2009 12:28 PM		
Cobalt	10	1.0	mg/Kg	1	9/10/2009 12:28 PM		
Copper	45	2.0	mg/Kg	1	9/10/2009 12:28 PM		
Lead	140	1.0	mg/Kg	1	9/10/2009 12:28 PM		
Molybdenum	1.4	1.0	mg/Kg	1	9/10/2009 12:28 PM		
Nickel	76	1.0	mg/Kg	1	9/10/2009 12:28 PM		
Selenium	1.1	1.0	mg/Kg	1	9/10/2009 12:28 PM		
Silver	ND	1.0	mg/Kg	1	9/10/2009 12:28 PM		
Thallium	ND	1.0	mg/Kg	1	9/10/2009 12:28 PM		
Vanadium	47	1.0	mg/Kg	1	9/10/2009 12:28 PM		
Zinc	140	1.0	mg/Kg	1	9/10/2009 12:28 PM		

MERCURY BY COLD VAPOR TECHNIQUE

EPA 7471A

RunID:	AA1_090909E	QC Batch:	57990	PrepDate:	9/9/2009	Analyst:	IL
Mercury	0.22	0.10	mg/Kg	1	9/9/2009 05:48 PM		

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



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: 11-Sep-09

CLIENT: Geocon Consultants, Inc.
Lab Order: 107234
Project: 280 RAMP METERING, E8435-06-38
Lab ID: 107234-036A

Client Sample ID: MRD-3-2.5
Collection Date: 9/2/2009
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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ICP METALS

EPA 3050B

EPA 6010B

RunID:	ICP8_090910D	QC Batch:	57995	PrepDate:	9/9/2009	Analyst:	CL
Antimony	ND	2.0	mg/Kg	1	9/10/2009 12:32 PM		
Arsenic	2.6	1.0	mg/Kg	1	9/10/2009 12:32 PM		
Barium	160	1.0	mg/Kg	1	9/10/2009 12:32 PM		
Beryllium	ND	1.0	mg/Kg	1	9/10/2009 12:32 PM		
Cadmium	ND	1.0	mg/Kg	1	9/10/2009 12:32 PM		
Chromium	40	1.0	mg/Kg	1	9/10/2009 12:32 PM		
Cobalt	8.4	1.0	mg/Kg	1	9/10/2009 12:32 PM		
Copper	34	2.0	mg/Kg	1	9/10/2009 12:32 PM		
Lead	64	1.0	mg/Kg	1	9/10/2009 12:32 PM		
Molybdenum	ND	1.0	mg/Kg	1	9/10/2009 12:32 PM		
Nickel	69	1.0	mg/Kg	1	9/10/2009 12:32 PM		
Selenium	ND	1.0	mg/Kg	1	9/10/2009 12:32 PM		
Silver	ND	1.0	mg/Kg	1	9/10/2009 12:32 PM		
Thallium	ND	1.0	mg/Kg	1	9/10/2009 12:32 PM		
Vanadium	40	1.0	mg/Kg	1	9/10/2009 12:32 PM		
Zinc	93	1.0	mg/Kg	1	9/10/2009 12:32 PM		

MERCURY BY COLD VAPOR TECHNIQUE

EPA 7471A

RunID:	AA1_090909E	QC Batch:	57990	PrepDate:	9/9/2009	Analyst:	IL
Mercury	0.40	0.10	mg/Kg	1	9/9/2009 05:50 PM		

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



Advanced Technology
Laboratories

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

CLIENT: Geocon Consultants, Inc.
Work Order: 107234
Project: 280 RAMP METERING, E8435-06-38

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID: MB-57993	SampType: MBLK	TestCode: 6010_S	Units: mg/Kg	Prep Date: 9/9/2009	RunNo: 112714
Client ID: PBS	Batch ID: 57993	TestNo: EPA 6010B EPA 3050B		Analysis Date: 9/10/2009	SeqNo: 1780859

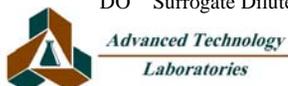
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	2.0									
Arsenic	ND	1.0									
Barium	ND	1.0									
Beryllium	ND	1.0									
Cadmium	0.016	1.0									
Chromium	ND	1.0									
Cobalt	ND	1.0									
Copper	ND	2.0									
Lead	ND	1.0									
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	ND	1.0									

Sample ID: LCS-57993	SampType: LCS	TestCode: 6010_S	Units: mg/Kg	Prep Date: 9/9/2009	RunNo: 112714
Client ID: LCSS	Batch ID: 57993	TestNo: EPA 6010B EPA 3050B		Analysis Date: 9/10/2009	SeqNo: 1780860

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	49.103	2.0	50.00	0	98.2	80	120				
Arsenic	49.130	1.0	50.00	0	98.3	80	120				
Barium	50.134	1.0	50.00	0	100	80	120				
Beryllium	49.601	1.0	50.00	0	99.2	80	120				
Cadmium	49.453	1.0	50.00	0.01564	98.9	80	120				
Chromium	50.099	1.0	50.00	0	100	80	120				
Cobalt	49.398	1.0	50.00	0	98.8	80	120				

Qualifiers:

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



CLIENT: Geocon Consultants, Inc.
Work Order: 107234
Project: 280 RAMP METERING, E8435-06-38

ANALYTICAL QC SUMMARY REPORT

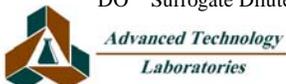
TestCode: 6010_S

Sample ID: LCS-57993		SampType: LCS		TestCode: 6010_S		Units: mg/Kg		Prep Date: 9/9/2009		RunNo: 112714	
Client ID: LCSS		Batch ID: 57993		TestNo: EPA 6010B EPA 3050B				Analysis Date: 9/10/2009		SeqNo: 1780860	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	49.381	2.0	50.00	0	98.8	80	120				
Lead	48.780	1.0	50.00	0	97.6	80	120				
Molybdenum	50.446	1.0	50.00	0	101	80	120				
Nickel	47.513	1.0	50.00	0	95.0	80	120				
Selenium	47.086	1.0	50.00	0	94.2	80	120				
Silver	48.364	1.0	50.00	0	96.7	80	120				
Thallium	45.236	1.0	50.00	0	90.5	80	120				
Vanadium	50.630	1.0	50.00	0	101	80	120				
Zinc	49.149	1.0	50.00	0	98.3	80	120				

Sample ID: 107234-016ADUP		SampType: DUP		TestCode: 6010_S		Units: mg/Kg		Prep Date: 9/9/2009		RunNo: 112714	
Client ID: LEL-3-0		Batch ID: 57993		TestNo: EPA 6010B EPA 3050B				Analysis Date: 9/10/2009		SeqNo: 1780871	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	2.0						0	0	20	
Arsenic	ND	1.0						0	0	20	
Barium	118.797	1.0						127.0	6.68	20	
Beryllium	ND	1.0						0	0	20	
Cadmium	0.690	1.0						0.7367	0	20	
Chromium	46.901	1.0						46.13	1.66	20	
Cobalt	9.667	1.0						10.10	4.37	20	
Copper	31.517	2.0						36.95	15.9	20	
Lead	17.745	1.0						18.57	4.53	20	
Molybdenum	1.492	1.0						1.840	20.8	20	R
Nickel	59.254	1.0						59.88	1.05	20	
Selenium	0.572	1.0						1.216	0	20	
Silver	ND	1.0						0	0	20	
Thallium	ND	1.0						0	0	20	
Vanadium	38.427	1.0						40.04	4.12	20	
Zinc	110.279	1.0						136.4	21.2	20	R

Qualifiers:

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



CLIENT: Geocon Consultants, Inc.
Work Order: 107234
Project: 280 RAMP METERING, E8435-06-38

ANALYTICAL QC SUMMARY REPORT

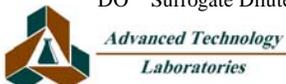
TestCode: 6010_S

Sample ID: 107234-016AMS		SampType: MS		TestCode: 6010_S		Units: mg/Kg		Prep Date: 9/9/2009		RunNo: 112714	
Client ID: LEL-3-0		Batch ID: 57993		TestNo: EPA 6010B EPA 3050B				Analysis Date: 9/10/2009		SeqNo: 1780872	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	76.797	2.0	125.0	0	61.4	25	106				
Arsenic	95.950	1.0	125.0	0	76.8	42	113				
Barium	231.024	1.0	125.0	127.0	83.2	19	140				
Beryllium	99.043	1.0	125.0	0	79.2	50	109				
Cadmium	96.129	1.0	125.0	0.7367	76.3	48	106				
Chromium	151.109	1.0	125.0	46.13	84.0	44	116				
Cobalt	105.437	1.0	125.0	10.10	76.3	47	107				
Copper	144.199	2.0	125.0	36.95	85.8	49	124				
Lead	107.826	1.0	125.0	18.57	71.4	33	120				
Molybdenum	97.257	1.0	125.0	1.840	76.3	46	111				
Nickel	160.167	1.0	125.0	59.88	80.2	43	111				
Selenium	96.444	1.0	125.0	1.216	76.2	43	104				
Silver	101.236	1.0	125.0	0	81.0	53	114				
Thallium	86.844	1.0	125.0	0	69.5	41	107				
Vanadium	149.670	1.0	125.0	40.04	87.7	48	116				
Zinc	223.702	1.0	125.0	136.4	69.8	24	129				

Sample ID: 107234-016AMSD		SampType: MSD		TestCode: 6010_S		Units: mg/Kg		Prep Date: 9/9/2009		RunNo: 112714	
Client ID: LEL-3-0		Batch ID: 57993		TestNo: EPA 6010B EPA 3050B				Analysis Date: 9/10/2009		SeqNo: 1780873	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	75.341	2.0	125.0	0	60.3	25	106	76.80	1.91	20	
Arsenic	97.003	1.0	125.0	0	77.6	42	113	95.95	1.09	20	
Barium	236.673	1.0	125.0	127.0	87.7	19	140	231.0	2.42	20	
Beryllium	100.995	1.0	125.0	0	80.8	50	109	99.04	1.95	20	
Cadmium	95.991	1.0	125.0	0.7367	76.2	48	106	96.13	0.144	20	
Chromium	157.840	1.0	125.0	46.13	89.4	44	116	151.1	4.36	20	
Cobalt	106.644	1.0	125.0	10.10	77.2	47	107	105.4	1.14	20	
Copper	144.187	2.0	125.0	36.95	85.8	49	124	144.2	0.00817	20	
Lead	110.506	1.0	125.0	18.57	73.6	33	120	107.8	2.45	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 | |



CLIENT: Geocon Consultants, Inc.
Work Order: 107234
Project: 280 RAMP METERING, E8435-06-38

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID: 107234-016AMSD		SampType: MSD		TestCode: 6010_S		Units: mg/Kg		Prep Date: 9/9/2009		RunNo: 112714	
Client ID: LEL-3-0		Batch ID: 57993		TestNo: EPA 6010B EPA 3050B		Analysis Date: 9/10/2009		SeqNo: 1780873			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	99.177	1.0	125.0	1.840	77.9	46	111	97.26	1.95	20	
Nickel	161.755	1.0	125.0	59.88	81.5	43	111	160.2	0.986	20	
Selenium	97.846	1.0	125.0	1.216	77.3	43	104	96.44	1.44	20	
Silver	101.356	1.0	125.0	0	81.1	53	114	101.2	0.118	20	
Thallium	87.880	1.0	125.0	0	70.3	41	107	86.84	1.19	20	
Vanadium	154.237	1.0	125.0	40.04	91.4	48	116	149.7	3.01	20	
Zinc	209.265	1.0	125.0	136.4	58.3	24	129	223.7	6.67	20	

Qualifiers:

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



CLIENT: Geocon Consultants, Inc.
Work Order: 107234
Project: 280 RAMP METERING, E8435-06-38

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID: MB-57994	SampType: MBLK	TestCode: 6010_S	Units: mg/Kg	Prep Date: 9/9/2009	RunNo: 112723
Client ID: PBS	Batch ID: 57994	TestNo: EPA 6010B EPA 3050B		Analysis Date: 9/10/2009	SeqNo: 1780980

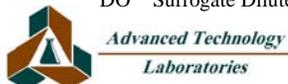
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	2.0									
Arsenic	ND	1.0									
Barium	ND	1.0									
Beryllium	ND	1.0									
Cadmium	0.031	1.0									
Chromium	ND	1.0									
Cobalt	ND	1.0									
Copper	ND	2.0									
Lead	ND	1.0									
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	ND	1.0									

Sample ID: LCS-57994	SampType: LCS	TestCode: 6010_S	Units: mg/Kg	Prep Date: 9/9/2009	RunNo: 112723
Client ID: LCSS	Batch ID: 57994	TestNo: EPA 6010B EPA 3050B		Analysis Date: 9/10/2009	SeqNo: 1780981

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	48.349	2.0	50.00	0	96.7	80	120				
Arsenic	48.097	1.0	50.00	0	96.2	80	120				
Barium	49.755	1.0	50.00	0	99.5	80	120				
Beryllium	49.362	1.0	50.00	0	98.7	80	120				
Cadmium	48.807	1.0	50.00	0.03087	97.6	80	120				
Chromium	50.262	1.0	50.00	0	101	80	120				
Cobalt	48.971	1.0	50.00	0	97.9	80	120				
Copper	49.618	2.0	50.00	0	99.2	80	120				
Lead	47.373	1.0	50.00	0	94.7	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: 107234
Project: 280 RAMP METERING, E8435-06-38

ANALYTICAL QC SUMMARY REPORT

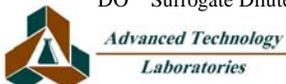
TestCode: 6010_S

Sample ID: LCS-57994		SampType: LCS		TestCode: 6010_S		Units: mg/Kg		Prep Date: 9/9/2009		RunNo: 112723	
Client ID: LCSS		Batch ID: 57994		TestNo: EPA 6010B EPA 3050B				Analysis Date: 9/10/2009		SeqNo: 1780981	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	49.376	1.0	50.00	0	98.8	80	120				
Nickel	47.442	1.0	50.00	0	94.9	80	120				
Selenium	45.816	1.0	50.00	0	91.6	80	120				
Silver	47.869	1.0	50.00	0	95.7	80	120				
Thallium	44.340	1.0	50.00	0	88.7	80	120				
Vanadium	50.545	1.0	50.00	0	101	80	120				
Zinc	48.483	1.0	50.00	0	97.0	80	120				

Sample ID: 107234-029ADUP		SampType: DUP		TestCode: 6010_S		Units: mg/Kg		Prep Date: 9/9/2009		RunNo: 112723	
Client ID: MRD-1-1.5		Batch ID: 57994		TestNo: EPA 6010B EPA 3050B				Analysis Date: 9/10/2009		SeqNo: 1780992	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	2.0						0	0	20	
Arsenic	ND	1.0						0	0	20	
Barium	90.282	1.0						70.85	24.1	20	R
Beryllium	ND	1.0						0	0	20	
Cadmium	0.575	1.0						0.4886	0	20	
Chromium	47.991	1.0						41.42	14.7	20	
Cobalt	8.569	1.0						7.639	11.5	20	
Copper	23.356	2.0						19.02	20.5	20	R
Lead	7.339	1.0						7.916	7.57	20	
Molybdenum	0.781	1.0						0.7204	0	20	
Nickel	56.220	1.0						51.24	9.26	20	
Selenium	0.492	1.0						0.9437	0	20	
Silver	ND	1.0						0	0	20	
Thallium	ND	1.0						0	0	20	
Vanadium	49.905	1.0						38.20	26.6	20	R
Zinc	48.482	1.0						41.32	15.9	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: 107234
Project: 280 RAMP METERING, E8435-06-38

ANALYTICAL QC SUMMARY REPORT

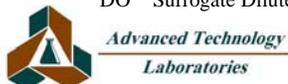
TestCode: 6010_S

Sample ID: 107234-029AMS		SampType: MS		TestCode: 6010_S		Units: mg/Kg		Prep Date: 9/9/2009		RunNo: 112723	
Client ID: MRD-1-1.5		Batch ID: 57994		TestNo: EPA 6010B EPA 3050B				Analysis Date: 9/10/2009		SeqNo: 1780993	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	86.039	2.0	125.0	0	68.8	25	106				
Arsenic	97.868	1.0	125.0	0	78.3	42	113				
Barium	189.015	1.0	125.0	70.85	94.5	19	140				
Beryllium	102.373	1.0	125.0	0	81.9	50	109				
Cadmium	99.299	1.0	125.0	0.4886	79.0	48	106				
Chromium	147.258	1.0	125.0	41.42	84.7	44	116				
Cobalt	106.515	1.0	125.0	7.639	79.1	47	107				
Copper	135.179	2.0	125.0	19.02	92.9	49	124				
Lead	104.426	1.0	125.0	7.916	77.2	33	120				
Molybdenum	99.552	1.0	125.0	0.7204	79.1	46	111				
Nickel	153.444	1.0	125.0	51.24	81.8	43	111				
Selenium	98.844	1.0	125.0	0.9437	78.3	43	104				
Silver	104.263	1.0	125.0	0	83.4	53	114				
Thallium	89.972	1.0	125.0	0	72.0	41	107				
Vanadium	148.672	1.0	125.0	38.20	88.4	48	116				
Zinc	147.113	1.0	125.0	41.32	84.6	24	129				

Sample ID: 107234-029AMSD		SampType: MSD		TestCode: 6010_S		Units: mg/Kg		Prep Date: 9/9/2009		RunNo: 112723	
Client ID: MRD-1-1.5		Batch ID: 57994		TestNo: EPA 6010B EPA 3050B				Analysis Date: 9/10/2009		SeqNo: 1780994	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	86.121	2.0	125.0	0	68.9	25	106	86.04	0.0960	20	
Arsenic	93.797	1.0	125.0	0	75.0	42	113	97.87	4.25	20	
Barium	189.188	1.0	125.0	70.85	94.7	19	140	189.0	0.0916	20	
Beryllium	101.457	1.0	125.0	0	81.2	50	109	102.4	0.899	20	
Cadmium	97.045	1.0	125.0	0.4886	77.2	48	106	99.30	2.30	20	
Chromium	150.428	1.0	125.0	41.42	87.2	44	116	147.3	2.13	20	
Cobalt	106.184	1.0	125.0	7.639	78.8	47	107	106.5	0.311	20	
Copper	135.689	2.0	125.0	19.02	93.3	49	124	135.2	0.376	20	
Lead	101.925	1.0	125.0	7.916	75.2	33	120	104.4	2.42	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: 107234
Project: 280 RAMP METERING, E8435-06-38

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID: 107234-029AMSD	SampType: MSD	TestCode: 6010_S	Units: mg/Kg	Prep Date: 9/9/2009	RunNo: 112723						
Client ID: MRD-1-1.5	Batch ID: 57994	TestNo: EPA 6010B EPA 3050B		Analysis Date: 9/10/2009	SeqNo: 1780994						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	99.282	1.0	125.0	0.7204	78.8	46	111	99.55	0.272	20	
Nickel	148.392	1.0	125.0	51.24	77.7	43	111	153.4	3.35	20	
Selenium	97.898	1.0	125.0	0.9437	77.6	43	104	98.84	0.962	20	
Silver	103.235	1.0	125.0	0	82.6	53	114	104.3	0.990	20	
Thallium	88.819	1.0	125.0	0	71.1	41	107	89.97	1.29	20	
Vanadium	160.444	1.0	125.0	38.20	97.8	48	116	148.7	7.62	20	
Zinc	144.384	1.0	125.0	41.32	82.4	24	129	147.1	1.87	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: 107234
Project: 280 RAMP METERING, E8435-06-38

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID: MB-57995	SampType: MBLK	TestCode: 6010_S	Units: mg/Kg	Prep Date: 9/9/2009	RunNo: 112700						
Client ID: PBS	Batch ID: 57995	TestNo: EPA 6010B	EPA 3050B	Analysis Date: 9/10/2009	SeqNo: 1780629						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	ND	1.0									
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Sample ID: LCS-57995	SampType: LCS	TestCode: 6010_S	Units: mg/Kg	Prep Date: 9/9/2009	RunNo: 112700						
Client ID: LCSS	Batch ID: 57995	TestNo: EPA 6010B	EPA 3050B	Analysis Date: 9/10/2009	SeqNo: 1780630						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	48.779	1.0	50.00	0	97.6	80	120				
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Sample ID: 107293-007ADUP	SampType: DUP	TestCode: 6010_S	Units: mg/Kg	Prep Date: 9/9/2009	RunNo: 112700						
Client ID: ZZZZZZ	Batch ID: 57995	TestNo: EPA 6010B	EPA 3050B	Analysis Date: 9/10/2009	SeqNo: 1780632						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	4.817	1.0						4.866	1.00	20	
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Sample ID: 107293-007AMS	SampType: MS	TestCode: 6010_S	Units: mg/Kg	Prep Date: 9/9/2009	RunNo: 112700						
Client ID: ZZZZZZ	Batch ID: 57995	TestNo: EPA 6010B	EPA 3050B	Analysis Date: 9/10/2009	SeqNo: 1780633						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

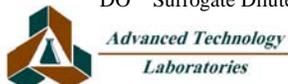
Lead	105.185	1.0	125.0	4.866	80.3	33	120				
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Sample ID: 107293-007AMSD	SampType: MSD	TestCode: 6010_S	Units: mg/Kg	Prep Date: 9/9/2009	RunNo: 112700						
Client ID: ZZZZZZ	Batch ID: 57995	TestNo: EPA 6010B	EPA 3050B	Analysis Date: 9/10/2009	SeqNo: 1780634						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	113.609	1.0	125.0	4.866	87.0	33	120	105.2	7.70	20	
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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: 107234
Project: 280 RAMP METERING, E8435-06-38

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID: MB-57995	SampType: MBLK	TestCode: 6010_S	Units: mg/Kg	Prep Date: 9/9/2009	RunNo: 112711
Client ID: PBS	Batch ID: 57995	TestNo: EPA 6010B EPA 3050B		Analysis Date: 9/10/2009	SeqNo: 1780823

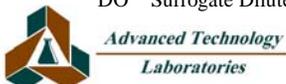
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	2.0									
Arsenic	ND	1.0									
Barium	ND	1.0									
Beryllium	ND	1.0									
Cadmium	0.011	1.0									
Chromium	ND	1.0									
Cobalt	ND	1.0									
Copper	ND	2.0									
Lead	ND	1.0									
Molybdenum	ND	1.0									
Nickel	ND	1.0									
Selenium	ND	1.0									
Silver	0.101	1.0									
Thallium	ND	1.0									
Vanadium	ND	1.0									
Zinc	ND	1.0									

Sample ID: LCS-57995	SampType: LCS	TestCode: 6010_S	Units: mg/Kg	Prep Date: 9/9/2009	RunNo: 112711
Client ID: LCSS	Batch ID: 57995	TestNo: EPA 6010B EPA 3050B		Analysis Date: 9/10/2009	SeqNo: 1780824

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	48.444	2.0	50.00	0	96.9	80	120				
Arsenic	48.467	1.0	50.00	0	96.9	80	120				
Barium	50.556	1.0	50.00	0	101	80	120				
Beryllium	49.731	1.0	50.00	0	99.5	80	120				
Cadmium	49.765	1.0	50.00	0.01077	99.5	80	120				
Chromium	50.655	1.0	50.00	0	101	80	120				
Cobalt	49.585	1.0	50.00	0	99.2	80	120				
Copper	50.369	2.0	50.00	0	101	80	120				
Lead	47.269	1.0	50.00	0	94.5	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: 107234
Project: 280 RAMP METERING, E8435-06-38

ANALYTICAL QC SUMMARY REPORT

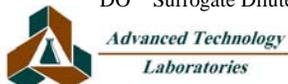
TestCode: 6010_S

Sample ID: LCS-57995		SampType: LCS		TestCode: 6010_S		Units: mg/Kg		Prep Date: 9/9/2009		RunNo: 112711	
Client ID: LCSS		Batch ID: 57995		TestNo: EPA 6010B EPA 3050B				Analysis Date: 9/10/2009		SeqNo: 1780824	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	49.892	1.0	50.00	0	99.8	80	120				
Nickel	47.784	1.0	50.00	0	95.6	80	120				
Selenium	46.271	1.0	50.00	0	92.5	80	120				
Silver	49.067	1.0	50.00	0.1011	97.9	80	120				
Thallium	44.952	1.0	50.00	0	89.9	80	120				
Vanadium	51.153	1.0	50.00	0	102	80	120				
Zinc	49.290	1.0	50.00	0	98.6	80	120				

Sample ID: 107293-007ADUP		SampType: DUP		TestCode: 6010_S		Units: mg/Kg		Prep Date: 9/9/2009		RunNo: 112711	
Client ID: ZZZZZZ		Batch ID: 57995		TestNo: EPA 6010B EPA 3050B				Analysis Date: 9/10/2009		SeqNo: 1780830	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	2.0						0	0	20	
Arsenic	ND	1.0						0	0	20	
Barium	106.250	1.0						106.6	0.372	20	
Beryllium	ND	1.0						0	0	20	
Cadmium	0.454	1.0						0.4439	0	20	
Chromium	13.854	1.0						13.96	0.787	20	
Cobalt	5.317	1.0						5.162	2.97	20	
Copper	12.218	2.0						12.48	2.15	20	
Lead	4.772	1.0						4.486	6.18	20	
Molybdenum	0.442	1.0						0.4412	0	20	
Nickel	8.051	1.0						7.742	3.92	20	
Selenium	0.673	1.0						0.8780	0	20	
Silver	ND	1.0						0	0	20	
Thallium	ND	1.0						0	0	20	
Vanadium	35.819	1.0						35.86	0.117	20	
Zinc	47.410	1.0						45.00	5.22	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: 107234
Project: 280 RAMP METERING, E8435-06-38

ANALYTICAL QC SUMMARY REPORT

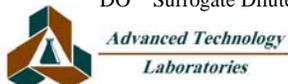
TestCode: 6010_S

Sample ID: 107293-007AMS		SampType: MS		TestCode: 6010_S		Units: mg/Kg		Prep Date: 9/9/2009		RunNo: 112711	
Client ID: ZZZZZ		Batch ID: 57995		TestNo: EPA 6010B EPA 3050B				Analysis Date: 9/10/2009		SeqNo: 1780831	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	99.491	2.0	125.0	0	79.6	25	106				
Arsenic	98.568	1.0	125.0	0	78.9	42	113				
Barium	222.842	1.0	125.0	106.6	93.0	19	140				
Beryllium	112.658	1.0	125.0	0	90.1	50	109				
Cadmium	110.250	1.0	125.0	0.4439	87.8	48	106				
Chromium	127.410	1.0	125.0	13.96	90.8	44	116				
Cobalt	115.275	1.0	125.0	5.162	88.1	47	107				
Copper	135.355	2.0	125.0	12.48	98.3	49	124				
Lead	110.614	1.0	125.0	4.486	84.9	33	120				
Molybdenum	112.492	1.0	125.0	0.4412	89.6	46	111				
Nickel	118.022	1.0	125.0	7.742	88.2	43	111				
Selenium	110.456	1.0	125.0	0.8780	87.7	43	104				
Silver	115.870	1.0	125.0	0	92.7	53	114				
Thallium	101.942	1.0	125.0	0	81.6	41	107				
Vanadium	154.532	1.0	125.0	35.86	94.9	48	116				
Zinc	154.617	1.0	125.0	45.00	87.7	24	129				

Sample ID: 107293-007AMSD		SampType: MSD		TestCode: 6010_S		Units: mg/Kg		Prep Date: 9/9/2009		RunNo: 112711	
Client ID: ZZZZZ		Batch ID: 57995		TestNo: EPA 6010B EPA 3050B				Analysis Date: 9/10/2009		SeqNo: 1780832	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	104.100	2.0	125.0	0	83.3	25	106	99.49	4.53	20	
Arsenic	102.382	1.0	125.0	0	81.9	42	113	98.57	3.80	20	
Barium	229.683	1.0	125.0	106.6	98.4	19	140	222.8	3.02	20	
Beryllium	117.607	1.0	125.0	0	94.1	50	109	112.7	4.30	20	
Cadmium	114.330	1.0	125.0	0.4439	91.1	48	106	110.2	3.63	20	
Chromium	134.024	1.0	125.0	13.96	96.0	44	116	127.4	5.06	20	
Cobalt	119.452	1.0	125.0	5.162	91.4	47	107	115.3	3.56	20	
Copper	143.078	2.0	125.0	12.48	104	49	124	135.4	5.55	20	
Lead	114.440	1.0	125.0	4.486	88.0	33	120	110.6	3.40	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: 107234
Project: 280 RAMP METERING, E8435-06-38

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S

Sample ID: 107293-007AMSD	SampType: MSD	TestCode: 6010_S	Units: mg/Kg	Prep Date: 9/9/2009	RunNo: 112711						
Client ID: ZZZZZZ	Batch ID: 57995	TestNo: EPA 6010B	EPA 3050B	Analysis Date: 9/10/2009	SeqNo: 1780832						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	116.912	1.0	125.0	0.4412	93.2	46	111	112.5	3.85	20	
Nickel	121.658	1.0	125.0	7.742	91.1	43	111	118.0	3.03	20	
Selenium	113.599	1.0	125.0	0.8780	90.2	43	104	110.5	2.81	20	
Silver	121.722	1.0	125.0	0	97.4	53	114	115.9	4.93	20	
Thallium	106.130	1.0	125.0	0	84.9	41	107	101.9	4.03	20	
Vanadium	162.088	1.0	125.0	35.86	101	48	116	154.5	4.77	20	
Zinc	159.011	1.0	125.0	45.00	91.2	24	129	154.6	2.80	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: 107234
Project: 280 RAMP METERING, E8435-06-38

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

Sample ID: MB-57998A	SampType: MBLK	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 9/9/2009	RunNo: 112688						
Client ID: PBS	Batch ID: 57998	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 9/10/2009	SeqNo: 1780326						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	ND	5.0									
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Sample ID: LCS-57998	SampType: LCS	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 9/9/2009	RunNo: 112688						
Client ID: LCSS	Batch ID: 57998	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 9/10/2009	SeqNo: 1780327						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	269.573	5.0	250.0	0	108	80	120				
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Sample ID: 107234-031ADUP	SampType: DUP	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 9/9/2009	RunNo: 112688						
Client ID: MRD-2-0	Batch ID: 57998	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 9/10/2009	SeqNo: 1780338						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	36.340	5.0						32.32	11.7	20	
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Sample ID: 107234-031AMS	SampType: MS	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 9/9/2009	RunNo: 112688						
Client ID: MRD-2-0	Batch ID: 57998	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 9/10/2009	SeqNo: 1780339						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

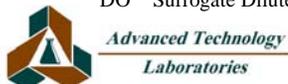
Lead	229.843	5.0	250.0	32.32	79.0	33	120				
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Sample ID: MB-57998B	SampType: MBLK	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 9/9/2009	RunNo: 112688						
Client ID: PBS	Batch ID: 57998	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 9/10/2009	SeqNo: 1780340						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	ND	5.0									
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Qualifiers:

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|---|--|--|
| 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: 107234
Project: 280 RAMP METERING, E8435-06-38

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPB

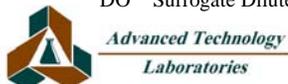
Sample ID: 107234-039ADUP	SampType: DUP	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 9/9/2009	RunNo: 112688						
Client ID: MRD-4-2.5	Batch ID: 57998	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 9/10/2009	SeqNo: 1780346						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	28.073	5.0						16.88	49.8	20	R

Sample ID: 107234-039AMS	SampType: MS	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 9/9/2009	RunNo: 112688						
Client ID: MRD-4-2.5	Batch ID: 57998	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 9/10/2009	SeqNo: 1780347						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	211.182	5.0	250.0	16.88	77.7	33	120				

Sample ID: 107234-039AMSD	SampType: MSD	TestCode: 6010_SPB	Units: mg/Kg	Prep Date: 9/9/2009	RunNo: 112688						
Client ID: MRD-4-2.5	Batch ID: 57998	TestNo: EPA 6010B	EPA 3050M	Analysis Date: 9/10/2009	SeqNo: 1780348						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	246.744	5.0	250.0	16.88	91.9	33	120	211.2	15.5	20	

Qualifiers:

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|---|--|--|
| 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: 107234
Project: 280 RAMP METERING, E8435-06-38

ANALYTICAL QC SUMMARY REPORT

TestCode: 7471_S

Sample ID: MB-57988	SampType: MBLK	TestCode: 7471_S	Units: mg/Kg	Prep Date: 9/9/2009	RunNo: 112671
Client ID: PBS	Batch ID: 57988	TestNo: EPA 7471A		Analysis Date: 9/9/2009	SeqNo: 1780045
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Mercury	ND	0.10									
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Sample ID: LCS-57988	SampType: LCS	TestCode: 7471_S	Units: mg/Kg	Prep Date: 9/9/2009	RunNo: 112671
Client ID: LCSS	Batch ID: 57988	TestNo: EPA 7471A		Analysis Date: 9/9/2009	SeqNo: 1780046
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Mercury	0.913	0.10	0.8300	0	110	80	120				
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Sample ID: 107234-016A-MS	SampType: MS	TestCode: 7471_S	Units: mg/Kg	Prep Date: 9/9/2009	RunNo: 112671
Client ID: LEL-3-0	Batch ID: 57988	TestNo: EPA 7471A		Analysis Date: 9/9/2009	SeqNo: 1780047
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Mercury	0.986	0.10	0.8300	0.08290	109	70	130				
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Sample ID: 107234-016A-MSD	SampType: MSD	TestCode: 7471_S	Units: mg/Kg	Prep Date: 9/9/2009	RunNo: 112671
Client ID: LEL-3-0	Batch ID: 57988	TestNo: EPA 7471A		Analysis Date: 9/9/2009	SeqNo: 1780048
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

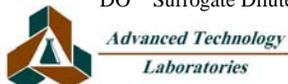
Mercury	0.984	0.10	0.8300	0.08290	109	70	130	0.9858	0.168	20	
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Sample ID: 107234-016A-DUP	SampType: DUP	TestCode: 7471_S	Units: mg/Kg	Prep Date: 9/9/2009	RunNo: 112671
Client ID: LEL-3-0	Batch ID: 57988	TestNo: EPA 7471A		Analysis Date: 9/9/2009	SeqNo: 1780050
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Mercury	0.085	0.10						0.08290	0	20	
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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: 107234
Project: 280 RAMP METERING, E8435-06-38

ANALYTICAL QC SUMMARY REPORT

TestCode: 7471_S

Sample ID: MB-57989	SampType: MBLK	TestCode: 7471_S	Units: mg/Kg	Prep Date: 9/9/2009	RunNo: 112675						
Client ID: PBS	Batch ID: 57989	TestNo: EPA 7471A		Analysis Date: 9/9/2009	SeqNo: 1780087						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.10									

Sample ID: LCS-57989	SampType: LCS	TestCode: 7471_S	Units: mg/Kg	Prep Date: 9/9/2009	RunNo: 112675						
Client ID: LCSS	Batch ID: 57989	TestNo: EPA 7471A		Analysis Date: 9/9/2009	SeqNo: 1780088						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.882	0.10	0.8300	0	106	80	120				

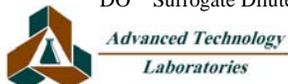
Sample ID: 107234-029A-MS	SampType: MS	TestCode: 7471_S	Units: mg/Kg	Prep Date: 9/9/2009	RunNo: 112675						
Client ID: MRD-1-1.5	Batch ID: 57989	TestNo: EPA 7471A		Analysis Date: 9/9/2009	SeqNo: 1780089						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.968	0.10	0.8300	0.05030	111	70	130				

Sample ID: 107234-029A-MSD	SampType: MSD	TestCode: 7471_S	Units: mg/Kg	Prep Date: 9/9/2009	RunNo: 112675						
Client ID: MRD-1-1.5	Batch ID: 57989	TestNo: EPA 7471A		Analysis Date: 9/9/2009	SeqNo: 1780090						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.970	0.10	0.8300	0.05030	111	70	130	0.9679	0.222	20	

Sample ID: 107234-029A-DUP	SampType: DUP	TestCode: 7471_S	Units: mg/Kg	Prep Date: 9/9/2009	RunNo: 112675						
Client ID: MRD-1-1.5	Batch ID: 57989	TestNo: EPA 7471A		Analysis Date: 9/9/2009	SeqNo: 1780092						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.050	0.10						0.05030	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: 107234
Project: 280 RAMP METERING, E8435-06-38

ANALYTICAL QC SUMMARY REPORT

TestCode: 7471_S

Sample ID: MB-57990	SampType: MBLK	TestCode: 7471_S	Units: mg/Kg	Prep Date: 9/9/2009	RunNo: 112677
Client ID: PBS	Batch ID: 57990	TestNo: EPA 7471A		Analysis Date: 9/9/2009	SeqNo: 1780105
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Mercury	ND	0.10									
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Sample ID: LCS-57990	SampType: LCS	TestCode: 7471_S	Units: mg/Kg	Prep Date: 9/9/2009	RunNo: 112677
Client ID: LCSS	Batch ID: 57990	TestNo: EPA 7471A		Analysis Date: 9/9/2009	SeqNo: 1780106
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Mercury	0.893	0.10	0.8300	0	108	80	120				
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Sample ID: 107265-025A-MS	SampType: MS	TestCode: 7471_S	Units: mg/Kg	Prep Date: 9/9/2009	RunNo: 112677
Client ID: ZZZZZZ	Batch ID: 57990	TestNo: EPA 7471A		Analysis Date: 9/9/2009	SeqNo: 1780107
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Mercury	0.936	0.10	0.8300	0.03200	109	70	130				
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Sample ID: 107265-025A-MSD	SampType: MSD	TestCode: 7471_S	Units: mg/Kg	Prep Date: 9/9/2009	RunNo: 112677
Client ID: ZZZZZZ	Batch ID: 57990	TestNo: EPA 7471A		Analysis Date: 9/9/2009	SeqNo: 1780108
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

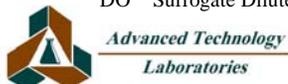
Mercury	0.944	0.10	0.8300	0.03200	110	70	130	0.9361	0.799	20	
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Sample ID: 107265-025A-DUP	SampType: DUP	TestCode: 7471_S	Units: mg/Kg	Prep Date: 9/9/2009	RunNo: 112677
Client ID: ZZZZZZ	Batch ID: 57990	TestNo: EPA 7471A		Analysis Date: 9/9/2009	SeqNo: 1780110
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Mercury	0.031	0.10						0.03200	0	20	
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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: 107234
Project: 280 RAMP METERING, E8435-06-38

ANALYTICAL QC SUMMARY REPORT

TestCode: 9045_S

Sample ID: 107234-039ADUP	SampType: DUP	TestCode: 9045_S	Units: pH Units	Prep Date:	RunNo: 112603						
Client ID: MRD-4-2.5	Batch ID: R112603	TestNo: EPA 9045C	Analysis Date: 9/8/2009	SeqNo: 1778753							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	8.120	0.10						8.140	0.246	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 | | |



SOIL BORING MATRIX
 I-280 Ramp Metering
 Santa Clara, California
 Task Order No. 38
 EAs 153101150341

LAB

	Sample Depth (ft)	CAM17 Metals EPA 6010B/7471A	Total Lead EPA 6010B	NOA CARB435	pH EPA 9045	WET/ DI-WET	TCLP EPA1311
BRD-1	0		1		10 random	As Needed (up to 12)	As Needed (up to 5)
	1.5		1				
	2.5		1				
BRD-2	0	1					
	1.5	1					
	2.5	1					
BRD-3	0	1					
	1.5	1					
	2.5	1					
LEL-1	0	1					
	1.5	1					
	2.5	1					
LEL-2	0		1				
	1.5		1				
	2.5		1				
LEL-3	0	1					
	1.5	1					
	2.5	1					
ELS-1	0		1				
	1.5		1				
	2.5		1				
ELS-2	0	1					
	1.5	1					
	2.5	1					
ELS-3	0	1					
	1.5	1					
	2.5	1					
MRD-1	0	1					
	1.5	1					
	2.5	1					
MRD-2	0		1				
	1.5		1				
	2.5		1				
MRD-3	0	1					
	1.5	1					
	2.5	1					
MRD-4	0		1				
	1.5		1				
	2.5		1				
Total #		24	15		10	12	5

*2EF,
(2.5)*

Notes:

1. Analyses conducted in general accordance with the U.S. EPA Method listed
2. Sample depths reported in approximate feet (ft) below the ground surface.
3. Soil samples labeled as follows. Bore Hole no -depth. Ex: BRD-1-0 0
 NOA = Naturally Occurring Asbestos
 WET = Waste Extraction Test using citric acid as extractant, DI-WET = WET using deionized water as extractant



EMSL Analytical, Inc

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

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

Attn: **David Watts**
Geocon Consultants
6671 Brisa Street
Livermore, CA 94550

Customer ID: GECN21
Customer PO: E8435-06-38
Received: 09/02/09 2:00 PM
EMSL Order: 090907161

Fax: (925) 371-5915 Phone: (925) 371-5900
Project: **Caltrans I-280, E8435-06-38**

EMSL Proj: E8435-06-**
Analysis Date: 9/3/2009

Test Report: PLM Analysis of Bulk Samples for Asbestos via EPA 600/R-93/116 Method with CARB 435 Prep (Milling) Level A for 0.25% Target Analytical Sensitivity

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
BRD-1-0 090907161-0001		Brown Non-Fibrous Homogeneous		100.00% Non-fibrous (other)	None Detected
LEL-2-0 090907161-0002		Brown Non-Fibrous Homogeneous		100.00% Non-fibrous (other)	None Detected
ELS-1-0 090907161-0003		Brown Non-Fibrous Homogeneous		99.50% Non-fibrous (other)	0.50% Chrysotile
MRD-1-0 090907161-0004		Brown Non-Fibrous Homogeneous		100.00% Non-fibrous (other)	<0.25% Chrysotile

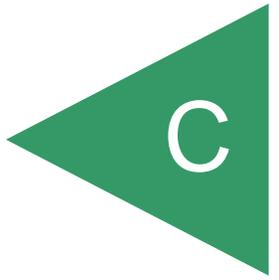
Analyst(s) _____
Adam C. Fink (4)



Baojia Ke, Laboratory Manager
or other approved signatory

This report relates only to the samples listed above and may not be reproduced except in full, without EMSL's written approval. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. EMSL is not responsible for sample collection activities or method limitations. Some samples may contain asbestos fibers below the resolution limit of PLM. EMSL recommends that samples reported as none detected or less than the limit of detection undergo additional analysis via TEM. Samples received in good condition unless otherwise noted.
Samples analyzed by EMSL Analytical, Inc San Leandro 2235 Polvorosa Ave , Suite 230, San Leandro CA

APPENDIX



APPENDIX C - LEAD STATISTICS

Sample ID	total lead	Sample ID	total lead	Sample ID	total lead
BRD-1-0	150	BRD-1-1.5	8.6	BRD-1-2.5	8.2
BRD-2-0	300	BRD-2-1.5	11	BRD-2-2.5	6.2
BRD-3-0	130	BRD-3-1.5	11	BRD-3-2.5	6.2
MIN	130		8.6		6.2
MAX	300		11		8.2
MEAN	193		10		6.9
ELS-1-0	480	ELS-1-1.5	19.0	ELS-1-2.5	17.0
ELS-2-0	380	ELS-2-1.5	47.0	ELS-2-2.5	12.0
ELS-3-0	190	ELS-3-1.5	19.0	ELS-3-2.5	8.0
MIN	190		19		8.0
MAX	480		47		17
MEAN	350		28		12
LEL-1-0	150	LEL-1-1.5	210.0	LEL-1-2.5	7.2
LEL-2-0	26	LEL-2-1.5	7.0	LEL-2-2.5	6.6
LEL-3-0	19	LEL-3-1.5	5.5	LEL-3-2.5	5.8
MIN	19		5.5		5.8
MAX	150		210		7.2
MEAN	65		74		6.5
MRD-1-0	310	MRD-1-1.5	7.9	MRD-1-2.0	6.4
MRD-2-0	32	MRD-2-1.5	29.0	MRD-2-2.5	18.0
MRD-3-0	290	MRD-3-1.5	140.0	MRD-3-2.5	64.0
MRD-4-0	210	MRD-4-1.5	45.0	MRD-4-2.5	17.0
MIN	32		7.9		6.4
MAX	310		140		64
MEAN	211		55		26

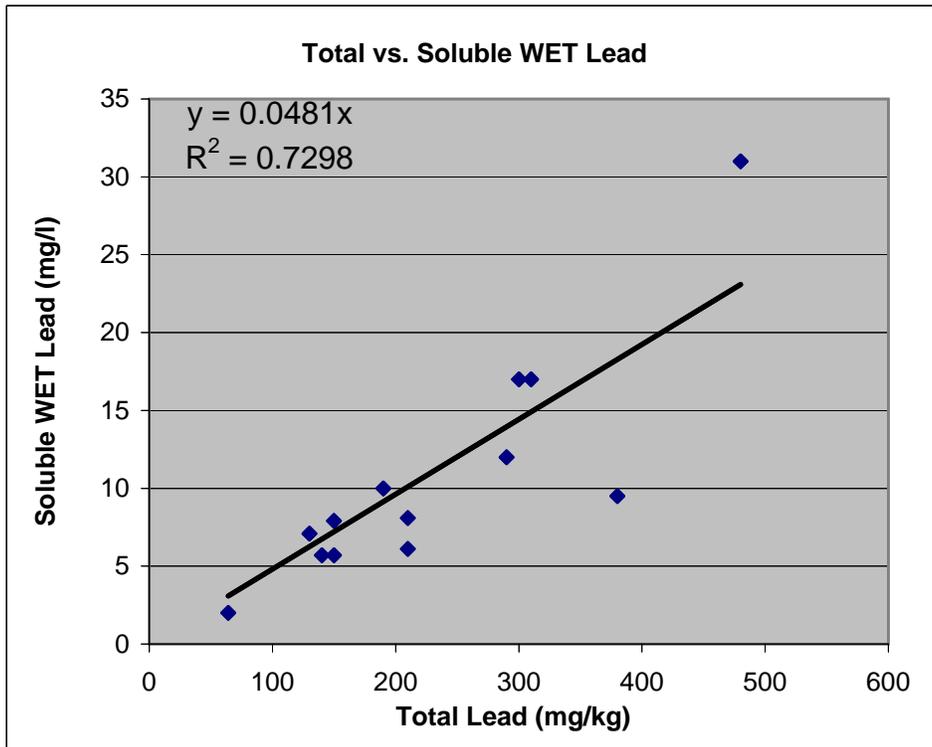
APPENDIX C - METALS UCLs

As	
Number of Valid Observations	24
Number of Distinct Observations	12
Minimum	0.5
Maximum	13
Mean	1.875
Median	0.75
SD	2.773
Variance	7.69
Coefficient of Variation	1.479
Skewness	3.211
Mean of log data	0.0693
SD of log data	0.955
90% Standard Bootstrap UCL	2.577
95% Standard Bootstrap UCL	2.77

V	
Number of Valid Observations	24
Number of Distinct Observations	12
Minimum	32
Maximum	47
Mean	38.29
Median	38.5
SD	4.123
Variance	17
Coefficient of Variation	0.108
Skewness	0.256
Mean of log data	3.64
SD of log data	0.107
90% Standard Bootstrap UCL	39.34
95% Standard Bootstrap UCL	39.58

APPENDIX C - LEAD REGRESSION

Sample ID	Depth (ft)	Total Lead	WET Lead
BRD-1-0	0	150	7.9
BRD-2-0	0	300	17
BRD-3-0	0	130	7.1
ELS-1-0	0	480	31
ELS-2-0	0	380	9.5
ELS-3-0	0	190	10
LEL-1-0	0	150	5.7
LEL-1-1.5	1.5	210	8.1
MRD-1-0	0	310	17
MRD-3-0	0	290	12
MRD-3-1.5	1.5	140	5.7
MRD-3-2.5	2.5	64	2.0
MRD-4-0	0	210	6.1



R = 0.8543

Contract No. 04-150344

HANDOUT INFORMATION

GEOTECHNICAL RECOMMENDATIONS

Memorandum

*Flex your power!
Be energy efficient!*

To: MR. GIANG T. HA
District Branch Chief
Office of Special Projects

Date: July 28, 2009

Attention: Tho D. Tran

File: 04-SCL-280 PM R2.0-L5.0
04-150341
Install Ramp Meters & Extinguishable
Message Signs (EMS)

SA
From: SUJA AHMED
Transportation Engineer
Office of Geotechnical Design – West
Geotechnical Services
Division of Engineering Services

H. Nikouei
HOOSHMAND NIKOUI
Chief, Branch A
Office of Geotechnical Design – West
Geotechnical Services
Division of Engineering Services

Subject: Install Ramp Meters & Extinguishable Message Signs (EMS) at Various Locations.

We have reviewed the submitted plan for installation of ramp meters and EMS by your office at various on-ramp locations in Route 280. We have the following recommendations:

Locations 1,3,5 and 6

Based of our site visit and the available subsurface soil information (old LOTB and CPT test results nearby these locations), the proposed ramp meters at Locations 1, 3, 5 & 6 are located on competent soils. Thus, the standard plans foundations Type 1A for Location 1 and Location 5 & standard plans foundation Type 18-4-100 for Location 3 and 6 are recommended to support these ramp meters.

Location 2

At Location 2, the proposed ramp meter Type 1B and 2-lane mast arm are located on the slope. In addition to the sloping ground condition at this location, the foundation soils near the surface appear to be soft due to the water from irrigation. We recommend a relatively deeper foundation for these two locations as follows:

For the proposed Type 1B, we recommend to increase the foundation depth from 3 feet (specified in the Standard Plans) to 5 feet. For the proposed 2-lane mast arm, we

MR. GIANG T. HA
Attn: Tho D. Tran
July 28, 2009
Page 2

recommend to increase the foundation depth from 9 feet (specified in the Standard Plans) to 12 feet.

For the proposed six Extinguishable Message Signs (EMS) in Location 2, standard plans foundation (36" diameter with 13' CIDH pile) are recommended.

Location- 4

The proposed Type 1A ramp meter is located on the roadway shoulder. Our site visit indicates that the soil near the surface is relatively soft, thus to insure adequate foundation, we recommend to increase the foundation depth from 3 feet (specified in the Standard Plans) to 5 feet.

If you have any questions or need additional information, please call me at 510-286-4752 or Hooshmand Nikoui, Branch Chief at 510-286-4811.

c: TPokrywka, HNikoui, SAhmed, Daily File, Route File

SAhmed/mm